

HACETTEPE UNIVERSITY
INSTITUTE OF POPULATION STUDIES

**EXPLORING THE RELATION BETWEEN WOMEN'S
EMPOWERMENT AND REPRODUCTIVE
INDEPENDENCE OF SYRIAN REFUGEES IN TURKEY**

Kardelen GÜNEŞ

Supervisor
Assoc. Prof. Dr. Alanur ÇAVLİN

Department of Demography
Master's Thesis

Ankara
August 2022

Exploring the Relation between Women's Empowerment and Reproductive
Independence of Syrian Refugees in Turkey

Kardelen Güneş

This is to certify that we have read and examined this thesis and in our opinion it fulfills the requirements in scope and quality of a thesis for the degree of Master of Arts in Demography.

Jury Members:
Member (Chair):

Prof. Dr. Ayşe GÜNDÜZ-HOŞGÖR
Middle East Technical University, Department of Sociology

Member (Supervisor):

Assoc. Prof. Dr. Alanur ÇAVLİN
Hacettepe University, Institute of Population Studies, Department of Demography

Member:

Assoc. Prof. Dr. İlknur YÜKSEL-KAPTANOĞLU
Hacettepe University, Institute of Population Studies, Department of Social Research
Methodology

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Tarih: 17/08/2022

Tez Başlığı / Konusu: **Türkiye'deki Suriyeli Mültecilerde Kadının Güçlenmesi ile Üreme Özerkliği arasındaki İlişkinin Araştırılması**

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Statüsü: ☒ Y.Lisans ☐ Doktora ☐ Bütünleşik Dr.

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APPROVED.

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ACKNOWLEDGEMENTS

I would like to thank my thesis advisor Assoc. Prof. Dr. Alanur Çavlin for all the guidance, patience, and effort she put into this process from the beginning. I am still learning how to embrace her excellent solution-oriented approach.

I also would like to thank to the committee members, Prof. Dr. Ayşe Gündüz-Hoşgör and Assoc. Prof. Dr. İlknur Yüksel-Kaptanoğlu, for their crucial contribution for the enhancement of thesis.

I would like to thank all the professors and lecturers at our institute, and all the colleagues for their valuable comments and supports through the writing process. I would like to thank specially to Prof Dr. Sinan Türkyılmaz, Dr. Pelin Çağatay, Dr. Tuğba Adalı, Dr. Melike Saraç, Faruk Keskin and Yaser Koyuncu for their precious guidance and comments for the progress of this thesis.

Also, I would like to show my gratitude to Dilara Cılızoğlu for all her faith and sincerity, and also for teaching me that I should have learnt long before, how to study as if there is no tomorrow in our bachelor's years.

To my family that always believed in me from the little steps I left on the ground for the first time to the little steps I did for this thesis, and now, I am grateful. Their constant support, love and belief made me who I am today.

Last but not least, to Sıla Deniz Beyarslan and Akya Akarsu, for their constant presence from the darkest to the lightest moments of this process, for their constant belief, support and care, I am indebted. I do not know how I get to be so lucky to have two both the most understanding and sarcastic friends.

Finally, Kabeer (1999) mentioned that while the attempts of measuring women's empowerment underly the assumption of forecasting the direction of its change, she also underlines that fact that forecasting actually is not possible due to the incalculable nature of human agency. Indeed, there has been 23 years since Kabeer wrote those lines and just one might think the 'developed' regions of the world is making progress, we all witnessed the change in the legislations of safe abortion rights of women in the United States. So, I would like to end this section with a wish. I hope we see the time in this world in which a human was seen as only human, and not judged according to their genitals or their choices.

ABSTRACT

The empowerment of women is a crucial issue for the world and has been one of the major focuses within the development debates for a long time. There are various theoretical approaches and methods to assess women's empowerment and mostly its relation to other dynamics. The main focus of this study, reproductive independence, is linked to many demographic events. Women's empowerment and reproductive independence are both substantial issues considering that they both enable women the tempo and the quantum of their fertility including childlessness by choice. However, there are rather few studies on the empowerment of refugees and their reproductive independence in this context. This study explores the relation between women's empowerment and the reproductive independence of Syrian refugee women in Turkey. 2018 TDHS Syrian migrant sample data is used as the data source. Principal Component Analysis (PCA) is conducted to construct a women's empowerment index with three dimensions using 10 items. Reproductive independence is conceptualized with three components: sexual relations, healthcare decisions and the need for family planning. Descriptive tables are used as well as binary and multinomial logistic regression models to understand the extent of variance explained by women's empowerment on reproductive independence. Results show that women's empowerment is significant on sexual relations, healthcare decisions and the overall reproductive independence. In further analysis, two out of three dimensions of women's empowerment were significant in logistic regression models in explaining the overall reproductive independence.

Keywords: reproductive independence, Syrian refugee women, women's empowerment

ÖZET

Kadınların güçlenmesi, uzun süredir küresel kalkınma tartışmalarının ana odak noktalarından biri olmakla birlikte uluslararası alanda da hala çalışmaları sürmekte olan önemli bir konudur. Kadının güçlenme durumunu anlamak ve değerlendirmek üzere kullanılan pek çok farklı teorik ve yöntemsel yaklaşım olduğu gibi, güçlenme durumunun başka dinamiklerle etkileşimi de en çok çalışılan alanlardan bir tanesidir. Bu çalışmanın ana odağı olan üreme özerkliği de pek çok demografik olguyla bağlantılıdır. Kadınların güçlenmesi ve üreme özerkliği; kadınların doğumlarının sayısı, doğumları arasındaki süreyi belirlemeleri veya çocuksuzluk tercihini de içermesi açısından temel konulardır. Ancak, mültecilerin güçlenmesi ve üreme özerkliklerine ilişkin bu bağlamda oldukça az çalışma bulunmaktadır. Bu çalışma, kadınların güçlenmesi ile Türkiye'deki Suriyeli mülteci kadınların üreme özerkliği arasındaki ilişkiyi incelemektedir. Veri kaynağı olarak 2018 TNSA Suriyeli Göçmen Örneklemi verileri kullanılmıştır. Kadının güçlenme düzeyini ölçmek için 10 öge ile Temel Bileşen Analizi (PCA) yöntemi kullanılarak üç boyutu kapsayan bir endeks oluşturulmuştur. Üreme özerkliği ise cinsel ilişkiler, sağlık kararları ve aile planlaması ihtiyacı bileşenlerini kapsamaktadır. Kadının güçlenme düzeyinin üreme özerkliğindeki değişimleri açıklayabilme boyutunu anlamak için betimsel tablolar ve ikili ve çoklu lojistik regresyon modelleri kullanılmıştır. Analizler, kadının güçlenmesinin cinsel ilişkiler, sağlık kararları ve üreme bağımsızlığı üzerinde kayda değer etkisi olduğunu göstermektedir. Ayrıca yapılan lojistik regresyon modellerinde de kadının güçlenmesindeki üç ana boyuttan ikisinin genel üreme özerkliğini açıklamakta istatistiksel olarak anlamlı olduğu bulunmuştur.

Anahtar Kelimeler: üreme özerkliği, Suriyeli mülteci kadınlar, kadınların güçlendirilmesi

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ABBREVIATIONS

DHS	Demographic and Health Survey
GBV	Gender-based violence
PCA	Principal component analysis
TDHS	Turkey Demographic and Health Survey
UN	United Nations
WE	Women's empowerment
WEI	Women's empowerment index

CHAPTER 1. INTRODUCTION

There are many ways and approaches to study the empowerment of women. The fact that empowerment of women, or the status of women, or the women's agency / autonomy having no clear-cut definitions enables scholars to study this topic from various angles. Other than the opportunity to examine this issue from various perspectives, women's empowerment is also in relation with many factors and demographic events (fertility, mortality etc.) in life. One of the issues that women's empowerment is closely related to is family planning practices and needs, or more importantly, women's reproductive independence. Women having power on their sexual and reproductive health rights enables them to take the ownership of their lives; control the tempo and quantum of their fertility including the voluntary childlessness. In the Policy and Research Paper titled Female Empowerment and Demographic Processes, Dixon-Muller (1999) stated the studies on empowerment do improve the field of demography by quoting from International Population Conference in Mexico City in 1984 that *"The ability of women to control their own fertility forms an important basis for the enjoyment of other rights"*. That is also why one of the targets of Sustainable Development Goal (SDG) 5: *"Achieve gender equality and empower all women and girls"* is *"ensuring universal access to sexual and reproductive health and reproductive rights ..."* (5.6) (UN, n.d.). These highlight the fact that reproductive health is one of the crucial elements of the women's empowerment process.

It is fundamental at this point to draw attention to the fact that while issues of reproductive health, sexual health, fertility, and family planning are all closely related to each other, they also require different approaches and methods to assess and understand in accordance with their own dynamics and predictors. Reproductive health, for example, while it entails the fertility, and family planning methods and practices within itself, it might also include other issues like sexually transmitted infections (STIs), sexual violence etc. Nevertheless, STIs, or issues like gender-based violence (GBV) can also be analyzed

under the topic of sexual health, apart from the reproductive health. Also, there remains the close link between fertility and family planning considering the fact that the latter is mainly argued to regulate the former. While each issues highlights the different aspects of similar subjects, it is important to clarify the differences. In this thesis, the concept of *reproductive independence* is employed. It is considered as holding three components, the sexual relations, healthcare decisions and need for family planning. These components are used to assess women's ability to reject their husbands when they do not want sexual intercourse, the extent of women's involvement to the decisions regarding their own health and need for family planning methods.

As mentioned above, the same conceptual concerns apply for the empowerment of women, as well. There are various approaches and concepts given to the issue that addresses women's position in the society or the need for efforts to increase women's ability and choices within their lives (Kabeer, 1999). Examining the literature revealed that mainly the concept can be named as autonomy or status or empowerment. Furthermore, while they are sometimes used interchangeably, they may also carry different meanings. There are many studies addressing each of these concepts, either separately or in combination. However, in either way, the number of studies decreases when one tries to find such studies within the context of the refugee population. Even though there is no consensus on which concept should be used in studying empowerment, which indicators show the reality, from which perspective one should approach refugee empowerment, it is clear that there is a need for further research on this topic to deepen our knowledge on this considering this is a multidimensional concept in every level.

Furthermore, although there are many studies exploring the relation between women's empowerment and reproductive health, there is a lack in the literature on the association between women's empowerment and reproductive independence of refugee women. Although very limited, there are studies on the reproductive behavior and reproductive health situation of refugee women, and much fewer of them include the

concept of women's empowerment to their perspective and / or method. The studies which include the empowerment to the context of refugees mainly dwell upon the integration of refugees into the host countries. There should be more studies focusing on the relationship between refugee women's reproductive independence and their level of empowerment since each case presents unique features of women's empowerment, especially refugee women's empowerment, and their life practices mostly include context-specific measures and definitions. This is one of the reasons why reproductive independence and its relation to Syrian refugee women's empowerment in Turkey is explored in this thesis.

Within the context of Syrian refugees, it is seen that large numbers of Syrian citizens escaped from the civil war in Syria to the neighboring countries as refugees since 2011. Latest figures show that the countries hosting the most refugees are Turkey, Lebanon, Jordan, Iraq and Egypt (UNHCR, 2019). According to the data of UNHCR (2021), Turkey hosts 3.8 million people, the utmost number of refugees across the world. According to the registration records of the Ministry of Interior, Presidency of Migration Management (2022), on the other hand, there are currently 3 million 684 thousand 488 Syrians under temporary protection as of June 23, 2022. Unfortunately, the current basic demographic information (i.e., age and sex distribution) of all the Syrian refugees that are registered as under temporary protection are not available to public as it was before. Although there are some studies about Syrian refugees residing in Turkey, few touch upon the Syrian women's empowerment from a broader perspective and even fewer approach the issue within the context of sexual and reproductive health. Fertility level of Syrian refugees are found to be higher than those of the host countries they reside and also higher than the fertility level of Syria before the civil war (Çağatay et al., 2020). Studies have been mainly focusing on the high fertility of refugees considering the common practice of early marriages, son preference of families and reproductive norms (Yüksel-Kaptanoğlu and Dayan, 2020). However, it is hard to capture the impact of empowerment within such studies that focus only on the fertility level of Syrian refugees. Although having high number of children is a norm, this does not mean all women are in a similar place in terms

of their empowerment. That is why, in this thesis, I explore the relation between the empowerment of Syrian refugee women and their reproductive independence through using the dataset of 2018 Turkey Demographic and Health Survey – Syrian migrant sample.

In their paper on measuring women's empowerment, Malhotra et al. (2005) points out that women's empowerment can be used either as an outcome of different elements or as a factor that affects others in a study. I attempt to use women's empowerment twofold. Firstly, I accept it as an outcome of different dynamics in women's lives which is explained in detail in the Data and Methodology chapter. I benefit from many different elements to construct a women's empowerment index which enables me to give each Syrian woman a score, hence a place in the index. Afterwards, empowerment score is used as an independent variable to understand to what extent the empowerment is responsible for the reproductive independence of Syrian refugee women through a series of logistic regression analyses.

There are different examples of assessing women's empowerment through using the DHS data. There are rather few examples on assessing refugee women's empowerment. Also, the variability of dynamics of crises that led people to seek refuge in different countries and the availability of the data from host countries make it difficult for scholars to develop some sort of standard procedures to follow in studying such sensitive issues. However, there are certain methods that are often employed, and I utilize the previous work in this area as much as possible. In the construction of the women's empowerment index, ten different items are used. Women's use of internet, knowledge of their ovulatory cycle, education level, knowledge of Turkish language, the existence of work experience since age 12, age at first cohabitation, the marital decision, the responsibility for household's budget and accounting, the discussion about family planning and the presence of consanguinity are used to assess women's empowerment and construct the index. The principal component analysis and the weighted sum scores

method (DiStefano et al., 2009) are conducted to obtain the index so that each woman in the study population is placed in the rank. As a result, the women's empowerment level is developed with three levels which are low, medium and high.

In this thesis, Literature Review starts with the issue of women's empowerment and the studies conducted on this issue. Later, the relationship between women's empowerment and reproductive health and reproductive independence is discussed. The importance of refugee women's empowerment and its relation to reproductive independence is the last focus of Literature Review chapter. The following chapter titled Data and Methodology starts with the main research question of this thesis and continues with the introduction of the data used to seek answer to that question. Data and Methodology chapter also covers the conceptual ground of this study and for the methods that are benefited in the analyses. Afterwards, the Results chapter unfolds the findings of the descriptive and regression analyses. In this chapter, Syrian migrant women were examined initially with descriptive analyses. How Syrian women diversify in terms of different characteristics and among the three levels of empowerment will be displayed. In the final section of descriptive analyses, the characteristics of women who have reproductive independence in three components separately and together will be presented. After the descriptive analyses, there will be the section for the results of the logistic regression analyses. Both the binary and the multinomial logistic regression analyses are conducted to assess the extent of women's level of empowerment in explaining their reproductive independence for the three components and the overall independence. There are eight other independent variables that are benefited in the logistic regression analyses to understand their impact on reproductive independence and the impact of empowerment level when other variables are controlled. All are explained in detail in the chapter of Data and Methodology. In the last chapter titled Conclusion and Discussion, all the findings of this study will be briefly summarized with discussing the results of the analyses.

CHAPTER 2. LITERATURE REVIEW

The review of the literature is divided into three sections. Firstly, the empowerment of women and related illustrative studies are summarized. In the next section, the relation of women's empowerment with reproductive health and reproductive independence is narrated. Finally, how the refugee women's empowerment and its relationship with reproductive independence are studied is the focus of the last section.

2.1. Women's Empowerment

Empowerment of women is a crucial issue for the world and has been one of the major focuses within the development debates for a long time. Looking back, it can be seen that promoting gender equality and empowering women were the third Millennium Development Goals signed by 189 countries (United Nations, 2000). This issue has been studied from various aspects and from different perspectives. In fact, there is still no clear consensus on the title of this issue. Even when studying the same issue, many scholars may use different concepts for identifying it, i.e., women's empowerment, women's autonomy, women's status, female empowerment etc. Dixon-Mueller (1999) differentiated the concepts of status, autonomy and empowerment in her Policy and Research Paper. According to the author, while status refers to the position of women relative to men and women in other groups within the social context, autonomy implies the ability of the women in terms of taking their decisions independently rather than being subordinated to authority figures (Dixon-Mueller, 1999). Empowerment, on the other hand, signifies the capacity of women standing out against the control of others, attempting to acquire the rights that they were denied, “...*struggle for change against opposition*” (Dixon-Mueller, 1999).

Along with these, however, studying women's empowerment is tricky. As Kishor et al. showed in their study (1996), where they examined the women's status using DHS

data indicators for twenty-five countries, the criteria used to explore the status of women may change in different contexts. Since a condition that shows high status for women in one region may in fact be a sign of low status in another, one should be careful in approaching this issue. In addition, as Mason (1986) clarified, measuring such a concept is difficult because not only it changes its nature in different social locations but also it is a multidimensional concept. Mason (1986) explains the problematic aspects of measuring “the” status of women based on four important issues which are the poor definitions, the context-dependent nature of the indicators, the baseline of comparison and the multiple meanings attributed to the same social phenomena in different cultures. She also summarizes the wide scale of indicators used in studies to assess the status of women in the field of social demography (Mason, 1986).

The changing and context-dependent nature of the status of women while causing various challenges to the scholars, at the same time, it also provides a complex set of relations to explore. Hence, we see different domains e.g., women’s education, labor force participation, mobility, financial autonomy, marital characteristics, participation in household-decision making processes etc. can all be included and / or has been used to assess the place of women in their social settings. Following Mason’s (1986) suggestion, the word “status” was not used in this thesis to avoid the risk of implying as if men were the reference. Instead of that, the word ‘empowerment’ was chosen deliberately. Studying empowerment of women is also critical in the discipline of demography considering the fact that demographic events vary according to the empowerment level. In fact, Blanc (2001) states in her article that not only inequalities between genders but all the other factors in household, community or family level have interplaying effect on sexual and reproductive health, and thus demographic events. Especially in the organizational framework in studying the association between reproductive health and the power in sexual relations, Blanc (2001) shows that all the characteristics of woman, i.e., social and economic (education, residence, occupation etc.), demographic (age, sex, parity), family or household (structure, division of labor) etc. have their share of effects on the ‘gender-

based power' in sexual relations which, in fact, affect the ability of women to act within the reproductive health domains. In other words, all the elements that are used in various studies to assess the empowerment of women are in fact powerful mechanisms that affect fertility, pregnancy, abortion, child health and so on.

The conceptual and methodological discussions of Mason (1986) in her paper about the conceptualization of the status of women and issues related to empirical demographic studies argues that while most of the studies address the gender inequality considering the nature of the topic, they only focus on few basic dimensions of gender inequality, which are mainly “... (1) *prestige*, (2) *power*, or (3) *access to or control over resources*.”. Moreover, the conceptual and methodological approaches of studies that are reviewed in this article are from the field of demography and the demographic issues are mainly mortality and fertility (Mason, 1986).

The main focus of this thesis, reproductive independence, is linked to fertility and also indirectly linked to mortality. The reproductive independence enables women to control the tempo and the quantum of their fertility including childlessness by choice. The lack of reproductive independence could cause (and it does in so many examples) being forced to get (and stay) pregnant or having consecutive pregnancies without the woman's choice. It goes without saying that being forced to sexual intercourse and / or any kind of birth event should be counted as a human rights violation to woman and their body health and integrity. That is one of the reasons why the empowerment of women stands in a crucial place, and it is essential to deepen our knowledge on as many dimensions as possible to specify the areas that need to be addressed and enhanced in each and every way possible.

Women's empowerment is a multidimensional concept not only because it includes different domains within life but also it is a multilevel issue starting from individual level to governmental level (government policies, cultural values, traditions

etc.). Malhotra et al. (2005) summarizes the conceptual frames used, the challenges and illustrations from other studies in their work on measuring and using women's empowerment in international studies for development. They also clarify the differences between approaches of different disciplines in studying women's empowerment (Malhotra et al., 2005). In their paper, they also distinguish the importance of prioritizing either *agency* or *process* in measuring empowerment and underline the fact that process is rather a less touched upon issue in women's empowerment studies considering the challenging nature of such research. When it is studied as an agency, another issue pointed by Malhotra et al. (2005) is that in the empirical studies on women's empowerment, main approaches to WE are either as an independent variable that affect other outcomes or as an "*intermediary factor*" that is affected by other things. As I explained in the introduction, throughout the analysis of this thesis, I operationalized women's empowerment in both ways.

While it is challenging to choose a way or try to set a standard in measuring women's empowerment, it is also equally crucial and challenging to base and provide a solid conceptual frame for empowerment. There are various debates on the conceptual framework and different definitions of women's empowerment. One of the most accepted approaches to women's empowerment is the one elaborated by Kabeer (1999). According to Kabeer (1999), the empowerment process encapsulates three crucial elements; resources, agency and outcomes. She defines empowerment, briefly, as "...*ability to make strategic life choices*", and also promotes the concept "*empowerment*" over "*status*" considering status might lead women to conform the social norms just to secure their positions in the society in which they reside (Kabeer, 1999). Dixon-Mueller (1999) also points out the fact that the concept "*empowerment*" refers to obtaining the rights against the control of others and refers to a "*challenge*". Kabeer (1999) also emphasized the fact that giving opportunities and making enhancements for women does not automatically empower them but open the path for "*functioning achievements*" in the long run; hence

one should be careful in the attempt of measuring the empowerment of women through existing social conditions.

In her paper, Mosedale (2005) questions the meaning of empowerment in the debates of development, criticizes the Western approach of feminism towards the East and follows the path set by Kabeer (1999) with ‘two differences’ in the conceptualization of empowerment. She argues that within the disempowerment debate, women are taken into consideration only with their identity as ‘women’ whereas they actually have more than one identity and within each identity frame, challenge for empowerment is in progress (Mosedale, 2005). As for the second difference, Mosedale (2005) argues that the limits of ‘what is possible’ should be challenged and re-arranged, so the empowerment process should focus beyond the endeavor of obtaining the ability to choose. In the study about the conceptual model for empowerment of women and girls developed by van Eerdewijk et al. (2017) through a comprehensive review of the related literature, it was also stated that empowerment is a process and also the outcome. In their model, van Eerdewijk et al. (2017) argued women and girls should be strengthened in their choices, voices, power and agencies at the individual level and at the institutional level, the structures (laws and policies, norms) should be challenged as well.

One of the examples in the literature of how women’s empowerment is measured as an outcome and understanding the determinants of the level of empowerment is the study conducted by Sharma and Shekhar for selected South Asian countries (2015). In their study, Sharma and Shekhar (2015) conducted Principal Component Analysis (PCA) to measure the women’s empowerment level by using physical movement, and economic and household decision making of women through the DHS dataset for three countries. Afterwards, the three levels of empowerment they categorized from generated PCA are used in multinomial logistic regression analysis to understand which factors are affecting the women’s empowerment level in the selected countries i.e., India, Nepal and Bangladesh (Sharma and Shekhar, 2015). The crucial factors they found for the

empowerment of women were the age of women, the education level, the media exposure, the occupation and the marital duration (Sharma and Shekhar, 2015).

Furthermore, there are also studies conducted solely for the purpose of measuring women's empowerment, generally using DHS dataset. To illustrate, Miedema and others (2018) used DHS data of five East Africa countries in order to construct a measure that can be comparable across countries. In their study, they argue that using the DHS data, they have taken into account three crucial domains of empowerment such as enabling conditions, instrumental agency and intrinsic agency in the process of developing such measures by applying exploratory factor analysis (Miedema et al., 2018). Steele and Goldstein (2006), on the other hand, developed a model for measuring women's status using the Bangladesh Fertility Survey of 1989. In their study of constructing a multilevel factor model for mixed indicators to measure the status of women, they considered two main dimensions which are decision-making power and social independence (Steele and Goldstein, 2006).

2.2. Women's Empowerment and Reproductive Health & Independence

In the International Conference on Population and Development (ICPD) in 1994, reproductive rights were defined for each person and couple *“to decide freely and responsibly the number, spacing and timing of their children and to have information and means to do so, and the right to attain the highest standard of sexual and reproductive health”* (UN, 2014). Reproductive autonomy, on the other hand, is related to sexual and reproductive health of women. Informed decision of women, to be specific, the ability to make such informed decision about reproductive health and sexual matters on their own is crucial since access to reproductive and sexual (in fact, any kind of) health care services depend on autonomy (UNFPA and Hera, 2019). Nevertheless, reproductive autonomy is mostly confronted for the issues related to contraceptive use (Nguyen et al., 2019) or more generally whether women are in line with their *“reproductive intentions”* (Upadhyay et al., 2014) or not. Since the importance of contraceptive use and women's achieving their

childbearing intentions are undeniable, the concept of *reproductive independence* is chosen for this thesis. Other than women's *ability* of deciding the reproductive issues as it is in the reproductive autonomy, reproductive independence is regarded as assessing women's independence in making such decisions. The focus of this concept is designed to put the emphasis on women's independence on the decision-making processes regarding their own health, their ability to reject sex when they do not want, and their need for contraceptive methods. To avoid any confusion, the name of the concept is differentiated from the reproductive autonomy that necessarily includes decisions about the use of contraceptives.

Under the family planning practices, many studies included the contraceptive use (whether ever- or current-) however, women's contraceptive use does not give us any hint about their empowerment level unless we are certain of their intentions. A woman using long-lasting contraception while she wants more children in the near future does not portray an empowered woman. It does not matter whether women are currently using a method, or whether the method in question is modern or not in the context of reproductive independence. What matters is women having a say in such decisions that affects their life. That is why the concept of reproductive independence is one of the crucial aspects that should be examined. Whether women have a say in the decisions that are directly related to their own health, whether they are able to refuse their husband when they do not want to have sexual intercourse and whether they are in a need for family planning method are all important issues that need to be addressed. To illustrate, in the review of the literature about the fertility and women's empowerment conducted by Upadhyay et al. (2014), it was asserted that significant associations had been found between empowerment of women with unintended pregnancies, birth intervals, fertility and fertility preferences.

Following that, in their study about the conceptual framework for women's and girls' empowerment in reproductive health, Karp et al. (2020) stated their expected sexual and reproductive health empowerment outcomes as "*pregnancy by choice and*

contraceptive by choice”, which enable women to take control of their lives. In their study in which they clarify the difference between the existence and the exercise of the choice of women, they underline the prominence of the discussions about family planning with partners and the third parties, and women’s involvement to the decision-making processes as contributing factors for women’s reproductive autonomy in terms of the ‘exercise of the choice’ of women (Karp et al., 2020).

It is clear that women having a voice and power on their sexual and reproductive health rights provides them the ability to control their life as they wish; the tempo and quantum of their fertility including the voluntary childlessness etc. In one of the early studies on the impact of women’s status on fertility and contraceptive use in Kazakhstan, Alsaawi and Adamchak (2000) found that the indicators they used to measure women’s status were significantly correlated to the ever use of contraception method of currently married women in Kazakhstan at the time of the 1995 Kazakhstan DHS. They used three indicators for women’s status which are education level of women, occupation type and discussion of family planning with the partner and all three of those indicators were analyzed separately in assessing their relation to the number of children women had, ever use of contraception and the current use of contraception (Alsaawi and Adamchak, 2000). Interestingly, discussion with partners about family planning was only found weakly related to the current use whereas education and occupation was found to have a significant inverse relation with the number of living children (Alsaawi and Adamchak, 2000).

However, in another study conducted in Bangladesh among young fecund women, Islam (2018) investigated the association between couple’s joint participation in household decision-making and the modern contraceptive use of women. He found that a couple's joint participation in household decision making actually has a significant role in increasing the possibility of modern contraceptive use. Islam suggests (2018) to governments to make strategic interventions to their family planning programs to improve

women's autonomy so that women can achieve desired fertility as they wish and can have a control over their body. Moreover, in another example of the early studies on the impact of women's status on the issues of fertility and use of contraception conducted from the 1999-200 Bangladesh DHS data, Kabir and others (2005) measured the status of women with three indicators which are education level, employment status and discussion with partner about family planning issues. They analyzed each of the indicator separately and revealed that all were strongly associated with the number of children women had and the ever- and current use of contraception (Kabir et al., 2005).

While there are studies that measure the impact of women's status with selected indicators separately on issues related to reproductive health, there are also many scholars who carry similar research interests in their studies with composite indicators for women's autonomy. To illustrate, Do and Kurimoto (2012) conducted an analysis in selected African countries on women's empowerment and choice of contraceptive method with the latest DHS data available then by creating an index for women's empowerment. It was found that women's empowerment in their health-seeking behavior (one of the six dimensions used in index) was not linked to contraceptive use (Do and Kurimoto, 2012). Health-seeking behavior is measured through one of the standard questions in DHS questionnaire, who make the decisions about health care issues of women, and writers accepted joint decisions as a positive indicator for women's empowerment along with the answer "*woman alone*" (Do and Kurimoto, 2012). However, women may answer to such questions "*jointly*" while actually the main decision-maker was the husband so this might distort capturing reality.

In another study conducted with DHS data of Ghana by Atiglo and Codjoe (2019) on the relation of autonomy with women's demand for contraceptives, factor analysis was used to assess women's autonomy by using five questions about the decision-making involvement of women from the 2014 Ghana DHS questionnaire. The dependent variable of contraceptive demand had three categories which were either met demand for

contraceptives, no intention for any contraceptives and unmet demand. Atiglo and Codjoe (2019) found that age of woman, education level, employment situation and the region of residence were significant in whether women were able to meet their demand for contraceptives whereas household decision-making autonomy was “minimally” associated.

However, Blackstone (2017) in her study titled “*Women’s Empowerment, Household Status and Contraception use in Ghana*” found that women’s involvement in the decision-making process actually had a positive influence on contraceptive use by using the same survey (2014 Ghana DHS). Blackstone (2017) measured household status of women with employment status of woman, her relationship to the head of the household, control over economic sources and the ownership of land while to measure women’s empowerment, she constructed two composite indexes based on women’s attitude toward violence from intimate partners and the decision-making. It is a progressive approach to divide women’s position into two parts as empowerment in itself and household status. However, one should be careful in considering attitudes and opinions of women as the indicators of empowerment since they carry the potential of both being the signifiers of empowerment as well as the result of it. Further to the participation in the decision-making processes, wealth, the literacy situation of women and the region they reside in were also found as important elements in contraceptive use (Blackstone, 2017).

Moreover, in a study conducted by Sougou and others (2020) in Senegal to explore the effect of women’s autonomy in decision-making related to health issues on their access to the services of family planning shows a similar result. It is important to note that women’s autonomy in decisions about health was measured with only one proxy indicator and their argument on the change of the unmet need is only based on the state of women’s access to family planning services (Sougou et al., 2020). Still, Sougou and others (2020)

reveals that the improvements in women's autonomy have significant impact on the reduction of the unmet need of women.

In fact, other than the examples illustrated above, there is countless research conducted on this issue of women's empowerment and its relation to contraceptive decisions. In the review James-Hawkins et al. (2018) carried out, it was pointed out that there was a positive relationship between women's agency and contraceptive use. Although their selection of studies to review for their paper is based on the criteria that women's agency is considered as either "decision making" or "freedom of movement" within the low- and middle-income countries, they showed that there is a consistent significant relationship between the current contraceptive use of women and their agency (James-Hawkins et al., 2018). Additionally, it is worthy to note that this relationship is not always found clear in analyses when women's agency is analyzed with composite indicators (James-Hawkins et al., 2018).

Further, in the study published by Singh et al. (2019) using two different rounds of National Family Health Survey conducted in India, the effect of women's empowerment which was constructed with six dimensions on the use of contraception is measured. This study, which analyzes women's empowerment and contraceptive use from both micro and macro perspective, verifies the positive link between women's empowerment indicators with better use of methods despite the fact that both women's empowerment and the results diversify across different states of India (Singh et al., 2019). The results of their study go along with the review done by James-Hawkins et al. (2018) meaning that while women's empowerment as a composite indicator is not found significant in the analyses, the items chosen to build that indicator is found to be significant (Singh et al., 2019) which are the years of education women get and the decision making within the household.

2.3. Empowerment of Refugees and Reproductive Independence

When searching for the studies of refugee empowerment, one will see that studies are mostly related to the programs with participatory approaches that are implemented to “empower” refugees in terms of either their integration to the host communities or the encouragement to participate in working life. This is mostly because of the commonly accepted “vulnerable” position of refugees. Nevertheless, Freedman (2019) explains in her paper that being labeled as vulnerable is actually harmful to women’s autonomy and agency. Freedman saw herself in the borders of Greece and France where refugees are evaluated, and decisions are made about whether they will be denied entrance or be accepted to get protection offered by EU countries on the basis of the “vulnerability” of the refugee in question (Freedman, 2019). However, some refugee women may sometimes strategically use that label of ‘vulnerable’ to benefit from the opportunities and protection provided by EU countries. Although migration journey includes danger of sexual violence to women in so many ways, still, travelling alone is sometimes used by refugee women when they thought they had more chance of getting protection by the refugee-hosting countries and they can bring their families after they got protected, which is also another strategy (Freedman, 2019).

Despite the suggestion of the need for more feminist perspective Freedman (2019) put to the context of refugee women’s agency and empowerment, the main attitude towards refugee women is inclined to accepting them as “vulnerable” and all the efforts by governments and NGOs are pursuing the “empowerment” of them. For example, in the study conducted by Jabbar and Zaza (2016) to evaluate the impact of a vocational program implemented in Zataari refugee camp in Jordan for Syrian women, it was found that through the economic empowerment Syrian refugee women acquired with the skills they learned in the program, their self-confidence and self-efficacy increased. In fact, writers argued that through the deconstruction of the patterns that refugee women normally accommodate, women refugees may construct different gender roles for themselves and can follow their own path (Jabbar and Zaza, 2016). Although this is a promising example

and a positive development in terms of gender equity, one can argue that economic empowerment alone is not enough.

Still, the evaluation of Jabbar and Zaza (2016) does actually support the arguments Hunt (2008) stated in her study about the role of the agencies of women refugees. While exploring the experiences of women refugees and asylum seekers that resided in West Yorkshire, Hunt (2008) observes that despite the constraints women face in each step of the integration process and the “*loss of status*” they experience with the ‘refugee identity’, they still seek ways to do something in return to their acceptance to the UK (host country) because they do not like ‘getting something for nothing’. Therefore Hunt (2008) underlines the power of the refugee women’s agency. This is also parallel to the arguments of Freedman (2019), and I also believe that it is crucial to rearrange the understanding of “vulnerable refugee women” as if the ‘vulnerability’ is a characteristic or individualistic feature instead of a contextually determined and changeable issue. In fact, in a study about the experiences of staff that works in a program in Australia for the empowerment of women with refugee or migrant backgrounds, Louise Whitaker and others (2021) claim that good communication skills accompanied with deep listening to the women and creating specialized solutions to the unmet demands of different groups of such women resulted successful outputs.

Just as refugee women are not one homogeneous group of “vulnerable” women, organizations also differentiate within themselves with their approaches, impacts etc. To exemplify, in the study conducted by Keysan and Şentürk (2021) about the effectiveness of NGOs in empowering refugee women, some of the NGOs are examined to reveal their extent of influence on this issue for Syrian refugee women in Turkey. They interviewed employees of three different NGOs with different orientation i.e., rights-based or needs-based, to refugees and eighteen Syrian refugee women that benefited from those NGOs before in Gaziantep (Keysan and Şentürk, 2021). They found that while needs-based NGOs are providing for needs of Syrian refugee women to which writers call

“empowerment through assistance”, the rights-based NGOs provide, despite their differences, skills and tools for women to improve themselves in the long run, which was named *“empowerment through social integration”* and *“empowerment through raising awareness”* (Keysan and Şentürk, 2021).

In a study conducted by Goulart and others (2021), there is an attempt to develop certain tools for scholars in order to measure *“gender equality and women’s empowerment (GEWE)”* with relevant indicators in humanitarian settings. After they reviewed the literature of studies conducted in humanitarian settings in low- and middle-income countries systematically, they argue that seven domains of women’s empowerment should be assessed in such settings, some of those domains were left behind others in terms of the frequency of being touched upon in the studies while others were overly examined (Goulart et al., 2021). The domains are sociocultural, economic, security and justice, health, human development, psychological and leadership, with respect to the frequency of examination in the studies (Goulart et al., 2021).

Although not limited to the refugee women context, in their review realized by Prata et al. (2017) about women's empowerment and family planning, while indicating the complex relation between empowerment of women and family planning, it also draws attention to the need for additional research on this issue. However, Prata et al. (2017) show in their review that even though ‘current use of contraception’ is one of the most studied family planning outcomes in the literature, the findings on its relation to women’s empowerment is inconsistent. Among the family planning outcomes studied in the literature, the ever- and future intention to use of contraception can be seen as giving more hints about the autonomy of women because the results of ‘current use’ may be affected due to war or separation of the spouses. This may cause a perception as if there is no need to use anything, but ‘ever-use’ provides information backwards.

There are only few studies exploring the different dynamics, and the determinants of, the reproductive health of refugee populations around the world. Gagnon and others (2002) examined the literature on the reproductive health of refugee women and summarized the conflicting opinions about the effects of displacement on fertility levels and family planning. While some scholars argue that forced migration causes high fertility due to the need for the replacement of children or soldiers lost to war, the others claim that it causes lower levels of fertility due to the financial loss, the separation of husbands and wives and unpredictability of future (Gagnon et al., 2002). Although refugee women's reproductive behavior and condition of the family planning practices are partly related to the health services they receive in host countries, their family planning practices should be investigated to improve the knowledge on this issue. Moreover, in their supplement paper, Krause et al. (2002) emphasizes that although there is a need for the health care establishments in humanitarian settings to be strengthened, there is also need for raising awareness of women, men, and adolescents because many women suffer from unwanted pregnancies, unsafe abortions or the consequences of gender-based violence while the 'displaced youth' lacks information about sexual health in accordance with their age.

When we look specifically at the case of Syrian refugees in Turkey, it can be seen that Syrian refugee's total fertility level is higher than not only the host country's fertility level, but also the national fertility levels before the conflict (Çağatay et al, 2020). Further, Dikmen and colleagues' study (2019) about the family planning attitudes of Syrian refugee women found a significant association between attitudes toward family planning with the refugee women and their husbands' education level, social security status and the perceived level of income. The literature on the family planning of refugee populations is rather limited. One of the few studies on this topic showed that (Kabakian-Khasholian et al., 2017) while the aid provided by international organizations' health centers in Lebanon encourage Syrian refugee women to get pregnant, the lack of supply of the appropriate contraceptives in accordance with the refugees' difficult conditions by health centers forms a problem. Briefly speaking, forcibly displaced women's family planning practices

vary contextually and that is why there is a need for more study to gain a deeper understanding.

However, it is obvious that more study is necessary to explore how forcibly displaced women's reproductive independence change with regard to the empowerment level of those women. Although literature demonstrates that the better women's status get, the lower fertility one expects (Upadhyay et al., 2014), there is a need for further research on the issue of the relationship between women's empowerment and reproductive independence among refugees because there are limited studies on this issue. Besides, in the assessment conducted by the Women's Refugee Commission on the services of contraception in humanitarian settings, the significance of contraception as part of essential health services in such settings was also emphasized greatly (2021). The enhancement of access to various methods, eliminating the barriers in front of the marginalized groups, improving supply and strengthening the data collection and usage of those data are highlighted in the assessment (Women's Refugee Commission, 2021).

In a study conducted by Samari (2018), she examined the relationship between women's empowerment and fertility in Jordan while comparing this relationship for both refugee women and host population's women, but this issue evokes few concerns. First of all, forcibly displaced people and host country's citizens have different dynamics in their life and that is why comparing two populations which are experiencing substantially different difficulties in their lives may not be the best option. Secondly, although fertility rate is one solid base to start, we still need more information about the family planning practices so that we can gain a holistic view and a better understanding.

In another qualitative study conducted in Ankara, Albayrak and others (2022) examined the gender-based violence (GBV) exposure and empowerment experiences of Syrian refugee women. As Ward and Vann (2002) explained in their supplement paper that the frequency of gender-based violence (GBV) increases and it often occurs arbitrary

and unsystematically although sometimes sexual violence might be used as a systematic strategy to undermine the ‘enemy’. Still, Ward and Vann (2002) argued that while there was an increase in the awareness of GBV in the international arena by governments and NGOs to support the survivors and assist with their needs, there were rather limited programs targeting the prevention of such criminal activities. Regardless, they stated that in conflict zones and refugee settings, women and the girls were exposed to the utmost risk (Ward and Vann, 2002). In the study of Albayrak and others (2022), while one of the goals was to increase women’s awareness about the GBV, they also assessed the change after the training given by “*Women and Girls Safe Spaces (WGSS)*” program to be health mediator and found that working in a paid job, women did gain more access to resources, interact with the outside world more, increase their self-esteem and start feeling valuable and powerful than before. This is parallel to the findings of Jabbar and Zaza (2016) in terms of being employed in a paid job to boost the self-confidence and power of women. However, it is important to note that the primary focus of this study was the empowerment against violence and the concept of empowerment is generally on the basis of ‘empowerment of refugees’ in terms of attaining occupation to advance the integration in the host country (Albayrak et al., 2022). Still the narratives of women show that they are able to make strategic life choices better after they are equipped with income generating activities, learning the laws and legislations that protect them and with the increased awareness, all through the training programs (Jabbar and Zaza, 2016; Albayrak et al., 2022). Nevertheless, there is still a major lack in the literature that cannot be ignored. Therefore, whether refugee women’s level of empowerment is associated with their reproductive independence, and if so, how, and also, how refugee women’s reproductive independence vary according to their empowerment level should be investigated.



CHAPTER 3. DATA AND METHODOLOGY

3.1. Research Question

In this thesis, I explore the empowerment level of Syrian refugee women in Turkey and its association with reproductive independence of those women. Given the literature, I expected to find some significant associations between indicators chosen to measure the empowerment and components of reproductive independence. Therefore, my research question is

“To what extent the level of empowerment (of women) is responsible for the reproductive independence of Syrian refugee women in Turkey?”

Within this research question, I seek answers to questions underlined:

- Does the likelihood of having reproductive independence among women increase as their empowerment level increases?
- Which component of reproductive independence is affected most from the empowerment of women?
- Which dimensions of empowerment explain the reproductive independence of women the most?
- How much of the variance of reproductive independence can be attributed to the empowerment level of women?
- Does the reproductive independence change in accordance with the characteristics of husbands of women?

The aim of this thesis is to explore whether there is a relation between the level of empowerment and reproductive independence of Syrian refugee women living in Turkey. Women’s Empowerment Index is developed based on 2018 Demographic and Health

Survey - Syrian migrant sample dataset and reproductive independence is measured through women's health care decisions, sexual relations and need for family planning.

3.2. Data Source

The data is drawn from the 2018 Turkey Demographic and Health Survey– Syrian Migrant Sample which was conducted by Hacettepe University Institute of Population Studies (HUIPS, 2019). The DHS has been conducted quinquennially in Turkey to estimate the health indicators of the country's population and provide demographic characteristics. The Syrian migrant sample was designed to reach the Syrian population in Turkey with the same purpose but through a different sample design so that it can provide a representative portrait of the Syrian migrant population residing in Turkey (HUIPS, 2019).

There were two questionnaires for the survey; the first one is Household Questionnaire that provides information about basic characteristics (age, sex, education, marital status, employment situation etc.) of the household members as well as the household characteristics (household composition and facilities like drinking water sources, sanitation, wealth etc.) (HUIPS, 2019). 'Eligible women' is identified through the Household Questionnaire (HUIPS, 2019). Eligible women are the women age between 15-49 and the members of the household or the visitors that stayed at the household the previous night before the interview (HUIPS, 2019). Individual Questionnaires (The Woman's Questionnaire) were applied to those 'eligible women' (HUIPS, 2019). Therefore, an individual level of analysis is employed in this thesis in terms of the measurement of women's empowerment. In this survey, 2,216 Syrian refugee women aged 15-49 were interviewed (HUIPS, 2019). The sample included those who resided in camps as well as those who lived in different urban areas in Turkey (HUIPS, 2019).

3.3. Conceptual Framework for Women's Empowerment

It is critical to acknowledge that women's empowerment, by its nature, is not a situational phenomenon that can be measured for a certain specific time, or that can be presented as levels. It is rather a process. Kabeer (1999) defines it as “...*expansion in people's ability to make strategic life choices in a context where this ability was previously denied...*”. It is a process of change and even defining the concept has been discussed for a long time. However, in this thesis, I embrace the Kabeer's definition of empowerment, a commonly accepted definition that is employed by many scholars in exploring the area of women's empowerment (Kabeer, 1999). It should also be noted that even though status of women and women's empowerment level are used as if they are synonyms, the term ‘status’ is consciously avoided as much as possible due to the distorted image it creates, as if men were the set reference point that is set and that woman should be live up to (Mason, 1986).

Malhotra and others (2005) state that in the attempt for understanding women's empowerment within the existing literature, it is important to differentiate the studies on whether they examine the women's empowerment as a dependent issue that is affected from specific changes, interventions or certain dimensions or as an independent construct that is examined by analyzing its relationship with other issues. Nevertheless, despite the challenging nature of empowerment as a concept to measure, or even define, they also argue that it is not different than any other development concept to study and it is important to see that now, there is an existing literature one can ground her study to “*develop a workable roadmap*” (Malhotra et al., 2005).

There are a few global indices and measurement approaches that are constructed and published to measure and compare empowerment and gender inequality. Gender Development Index (GDI) and Gender Inequality Index (GII) are two crucial examples constructed by UNDP (2020) in this context. Three main dimensions are addressed in

GDI, which are long and healthy life, knowledge and standard of living (UNDP, 2020). The GII, on the other hand, considers three dimensions to show the gender-based disadvantage which are reproductive health, empowerment and the labor market (UNDP, 2020). GII exceeds the GDI in terms of the variation of indicators it includes in its calculations; however, in my humble opinion, they both still need to be improved. Although it is beneficial to be able to compare across countries with such macro measures like maternal mortality ratio or the seats held in the parliament, I believe it is also important to consider other subtle angles. That is why individual level analysis with micro level indicators is employed rather than aggregate data with macro perspective. The macro measures may present an improving picture of countries, and yet, this might also mean the gap between the country average and the disadvantageous or marginalized groups grows. That is why, in this thesis I attempt to capture refugee women's level of empowerment with careful consideration of different perspectives.

3.4. Women's Empowerment Index

While examining women's empowerment, there are studies in which the focus is on only one domain of empowerment so it can be examined through proxy indicators such as education (Woldemicael, 2009), employment (Jejeebhoy, 1991) etc. In this thesis, however, I include several different characteristics to construct a women's empowerment index to see its effect on the overall reproductive independence of Syrian refugee women. Three dimensions of women's empowerment are used in this thesis to analyze their relations with reproductive independence. As other independent variables, I include age, the type of residence (whether in camp or not), the number of children born, contraceptive practice, life satisfaction and certain characteristics of the husband (educational level, knowledge of Turkish language and use of controlling behavior). The chosen variables are accepted at individual level; however, their results can be accepted as reflecting individual and social level characteristics (Loll et al., 2021).

3.4.1. Construction of the Women's Empowerment Index

There were various methods benefited from before in order to construct an empowerment index for women as I mentioned before. I decided the method that suits best for my analysis with regard to my research question was the Exploratory Factor Analysis (EFA). Principal component analysis (PCA), to be specific, was the choice I made. Since I argue that empowerment is a construct that can be measured through the variables I have and choose, it seemed suitable to use the data reduction technique that produces certain components that represent the most logical set of variables I put in the analysis. However, the initial PCA gave me four significant components and therefore four separate factor scores. I wanted each observation – woman- in the sample I study has her own -and only one- index score for the multivariate analysis and the given components were not suitable for interpretation. Therefore, I had to re-examine the indicators and had to remove the ones that represent only a few of the observations so that the statistical analysis can be performed. In PCA, the main goal is to reduce the number of items (variables can also be named components since all the variables became components after running the analysis; however, the term “items” is used for variables in this thesis) to examine through the optimum combination the correlations of items, both with each other and with the components they most relate to. After the elimination of the items that are not appropriate for PCA and many, many trials, the best fitting model with three components whose Eigenvalues are higher than 1 was chosen.

Three components are accepted as the three dimensions of women's empowerment with the items listed as the result of PCA. Three components meant that each observation (each married woman, in this case) had three different factor scores. For those who seek to use all three components to give each observation one WEI score, there are few ways. I chose to use a weighted sum of scores explained by DiStefano and others' study (2009). Each item's item loading is taken into consideration and components are calculated in accordance with the item loading of each item they had. Lastly, I sum the scores of each

component and construct the WEI. Then according to the percentage distribution of components and the empowerment index among sample groups, three empowerment levels (Low, Medium, High) were assigned to the scores.

At the initial phase, based on the literature, I formed four (4) domains of empowerment; economic, socio-cultural, familial-interpersonal, and marital characteristics. I benefited from 19 indicators in the dataset to compose 17 binary indicators for factor analysis. Eight (8) of them were already in binary form, so I prepared the rest for my analysis. However, considering the statistical cut off points and the limitations of principal component analysis, I constructed an Empowerment Index including three (3) dimensions with 10 items. The details are explained below.

3.4.2. Preparation of Indicators / Data

The TDHS – Syrian Migrant sample includes 2216 women at their reproductive ages (15-49) regardless of their marital status. However, due to the nature of the dependent variable, reproductive independence, the logistic regression analysis will be conducted for the sample of women who are married / in union (1734) at the time of the survey because the components of reproductive independence can only be calculated for those women. This is also valid for the main independent variable, women's empowerment (index). Considering the same samples (women who are married/ in union at the time of the survey) are used in the phase of logistic regression analysis between reproductive independence and women's empowerment, items that are used to construct empowerment require women to be in union (currently married women: 1734). However, I would like to introduce both the characteristics of all Syrian refugee women and the ever-married women while introducing the study population in the Results chapter along with the distributions of currently married women in accordance with their empowerment level. I examined the percentage distributions of the items used in construction of empowerment index between two groups: ever-married, and currently married. Since Syrian refugee women have high fertility and marital rates, one may expect similar distributions of

women with different marital status and there would not be significant difference in the percentage distributions of women. As it can be seen in the next section, very similar distributions for two groups in all ten items are observed.

Women's Empowerment Dimension 1

Indicators SEDUC (CS-educational attainment), S796E (daily activities – use of internet), V217 (knowledge of ovulatory cycle), and S715\$(1-2-3) (Relationship to husband) were used.

Education: Indicator SEDUC was turned into binary by accepting “no education / primary incomplete” as “0”, and “complete primary”, “complete secondary” and “complete high school / higher” as “1”.

Use of internet: Indicator S796E has 3 categories: “No”, “Irregularly” and “Regularly”. The answer “no” was accepted as “0” while “irregularly” and “regularly” were accepted as “1”.

Knowledge of ovulatory cycle: Indicator V217 had 6 categories. Those who correctly know the ovulatory cycle as “middle of the cycle” are accepted as “1” and all the other answers to the question of ovulatory cycle which are “during her period”, “after the period ended”, “before period begins”, “at any time”, “don’t know” are recoded as “0”.

Consanguinity: Indicator S715\$(1-2-3) were recoded into indicator named “consanguinity” and arranged as including only currently married women (whether they are in their first, second or third marriage). The indicator consanguinity was turned into binary form by accepting “no relation” as “1” and all other types of relation (“son of father’s brother”, “son of father’s sister”, “son of mother’s sister”, “son of mother’s brother”, “other paternal blood relative”, “other maternal blood relative”, “other”) as “0”.

Women's Empowerment Dimension 2

Indicators S115A (Other languages-Turkish), S342 (talked about family planning with someone), and S711\$(1-2-3) (who arranges the marriage) were used.

Knowledge of Turkish language: S115A was already in binary form.

Talked about family planning with anyone: Indicator S342 measures whether responded talked about family planning with anyone including her husband, and it was already in binary form.

Marital Decision: Indicators S711\$(1-2-3) were recoded so as to include only currently married women. Indicators were turned into binary form by accepting “1” as the answers “Ourselves” and “Eloped”, and “0” for the answer “Families”. This indicator was added after the removal of the indicator “consent”.

Women's Empowerment Dimension 3

Indicators V511 (age at first cohabitation) , S797H (housework – preparing the household budget and accounting), and S731 (ever-work since age 12) were used for this domain.

Age at first cohabitation: Indicator V511 was a scale indicator that starts from age 10 and ends at age 46. I recoded this indicator into binary form by accepting women who were 10 to 17 when they first started cohabitation as “0” and others, who started first cohabitation when they are 18 and higher, as “1”.

Household budget and accounting: For the S797H, the answers “Always herself”, “Usually herself” and “Together with her (ex) husband” were accepted as “1” while

“Usually her (ex) husband”, “Other females in the household”, “Other males in the household”, “other”, and “no one” were accepted as “0”.

Ever worked since age 12: Indicator S731 were already in binary form.

The Removed Indicators (Preparation)

Indicators V745A (owns a house alone/jointly) and V745B (owns land alone or jointly) were turned into binary form by accepting the answer “doesn’t own” as “0”, and “alone only” and “jointly only” as “1”. After initial factor analysis, those two indicators were removed from the construction of the index due to their uneven distribution and also their inconsistency with the peculiarity of the state of being a “refugee”.

Indicator S343A (talked about family planning with husband / partner) was in binary form. It was removed because it overlapped with S342 (talked about family planning with someone) and S342 is better in terms of representing whether there is “anyone” that woman speaks.

Indicators S797G (housework – shopping for the kitchen) and S797I (housework – paying the bills, running errands in government agencies) had the same categories. The answers “Always herself”, “Usually herself” and “Together with her (ex) husband” were accepted as “1” while “Usually her (ex) husband”, “Other females in the household”, “Other males in the household”, “other”, and “no one” were accepted as “0”. They were a triple set of question set, however, preparing the household budget and accounting (S797H) was chosen to be kept since it implies an empowerment within the household and family whereas shopping for kitchen and paying the bills implies certain tasks, which does not require much being done.

S725 (husband has other wives) and V505 (other wives) were recoded into one indicator named “polygyny” and arranged as including only currently married women (with the same method used in indicator consanguinity). If the husband already had another wife before the marriage and / or he married again after he had married to the respondent, coded as “0”. If there were no other wife (before or after the marriage with the husband) it was coded as “1”. However, after considering that only 169 women had another wife among 1734 currently married women, this indicator was removed from the index construction process.

S711\$(1-2-3) (who arranges the marriage) and S712\$(1-2) (consent for marriage) indicators were used to create indicator “consent” and it was formed so that it includes only currently married women as it was in the indicator consanguinity. Only the women whose marriages were arranged by their families were asked whether their consent were taken or not. Then, this indicator was recoded into binary form. If they gave their consent to such arranged marriage and if they decided their marriage by themselves, it was accepted as “1”, if they did not give their consent to their marriages, it was accepted as “0”. After the initial factor analysis models, this indicator was removed due to its uneven distribution. More specifically, there were only 43 married women (2.5%) among 1734 currently married women. Therefore, it would not be right to include that indicator in the construction of the empowerment index.

In summary, the selection or the elimination of the dimensions and / or indicators that were often used for other studies in the literature is mostly based on the unique dynamics of the selected population. For example, financial autonomy as a domain would not be useful considering the dynamics of being a refugee. Since they are in a foreign country as refugees, accepting help from various local or international organizations, measuring empowerment of women from such groups while expecting to be economically independent would be unrealistic and hence would not reflect the reality. Reading a newspaper or in a broad manner, interaction with media sources (like watching women

programs on TV etc.) is another important aspect of women's empowerment. However, considering the percentage of women who can speak Turkish is very low (15.5%), interaction with media that require the ability to understand and speak Turkish like reading newspapers or watching TV is eliminated. The use of the internet is included, instead.

Table 3. 1. Initial Indicator List

#	Recoded names (if they recoded)	Variable names & Domains	"0" (%)	"1" (%)
		Economic Domain		
1.	S731	Ever-work since age 12	75.3%	24.7%
2.	S793	Have money to spend by herself	94.4%	5.6%
3.	ownshouse	Owens a house alone or jointly	97.1%	2.9%
4.	ownslan	Owens land alone or jointly	97.8%	2.2%
		Socio-cultural Domain		
5.	Education	Education	19.2%	80.8%
6.	ovulatoryinfo	Knowledge of ovulatory cycle	63.0%	37.0%
7.	S342	Talked about family planning with someone	82.8%	17.2%
8.	internet	Daily activities – use of internet	39.3%	60.7%
9.	S115A	Other languages-Turkish	84.4%	15.6%
		Familial – Interpersonal Domain		
10.	S343A	Talked about family planning with: husband/partner	93.7%	6.3%
11.	shopping	Housework – shopping for the kitchen	32.7%	62.3%
12.	budget	Housework – household budget and accounting	52.0%	48.0%
13.	payingbills	Housework – paying the bills	78.8%	21.2%
		Marital Characteristics Domain		
14.	firstcohab	Age at first cohabitation	49.3%	50.7%
15.	relationtohusb	Consanguinity	46.9%	53.1%
16.	bconsent	Consent	2.6%	97.4%
17.	cowife	Polygyny	9.7%	90.3%

Table 3. 2. Final Indicator List

#	Recoded names	Variable names & Domains	Currently Married Women		Ever-Married Women	
			“0”	“1”	“0”	“1”
		Empowerment Dimension 1				
1.	education	Education	19.1%%	80.9%	18.9%	81.1%
2.	internet	Daily activities – use of internet	40.2%%	59.8%	40.1%	5.9%
3.	ovulatoryinfo	Knowledge of ovulatory cycle	63.0 %	37.0%	63.2%	36.8%
4.	relationtohusb	Consanguinity	46.1%	53.9%	49.4%	50.6%
		Empowerment Dimension 2				
5.	S115A	Other languages-Turkish	84.5%	15.5%	84%	16%
6.	S342	Talked about family planning with anyone	81.6%	18.4%	81.7%	18.3%
7.	whoarranged	Marital decision	77.5%	22.5%	78.9%	21.1%
		Empowerment Dimension 3				
8.	firstcohab	Age at first cohabitation	48.9%	51.1%	49.0%	51.0%
9.	budget	Housework – household budget and accounting	53.7%	46.3%	54.0%	46.0%
10.	S731	Ever-work since age 12	75.1%	24.9%	74.2%	25.8%
			1734 women (78.3%)		1847 women (83.3%)	

Table 3. 3. Comparison of % Distributions of WEI Items among Different Women Groups

Items	All women		Ever Married Women		Currently Married Women	
	“0”	“1”	“0”	“1”	“0”	“1”
Empowerment Dimension 1						
Education	19.2%	80.8%	18.9%	81.1%	19.1%	80.90%
Daily activities – use of internet	39.8%	60.2%	40.1%	59.9%	40.2%	59.8%
Knowledge of ovulatory cycle	68.3%	31.7%	63.2%	36.8%	63.0 %	37.0%
Consanguinity	-	-	49.4%	50.6%	46.10%	53.90%
Empowerment Dimension 2						
Knowledge of Turkish language	80.1%	19.9%	84%	16%	84.50%	15.50%
Talked about family planning with anyone	84.3%	15.7%	81.7%	18.3%	81.60%	18.40%
Marital decision	-	-	78.9%	21.1%	77.50%	22.50%
Empowerment Dimension 3						
Age at first cohabitation	-	-	49.0%	51.0%	48.90%	51.10%
Budget	53.7%	46.3%	54.0%	46.0%	53.70%	46.30%
Ever worked since age 12	75.1%	24.9%	74.2%	25.8%	75.10%	24.90%
Total in numbers	2216 women		1847 women		1734 women	

3.4.3. Factor Analysis (PCA)

Initial PCA Tables

The outcome of the first principal component analysis I run in SPSS can be seen below.

Table 3. 4. KMO and Bartlett's Test for the First PCA

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.580
Bartlett's Test of Sphericity	Approx. Chi-Square	3324.494
	df	136
	Sig.	.000

After the initial principal component analysis, the result for Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO Test) was 0.580. It was important for this test to be higher than 0.05 because this test shows whether the indicators put in analysis are suitable for factor analysis or not. Hence, the result of the KMO test showed that those indicators are in fact suitable for factor analysis. Also, Bartlett's Test of Sphericity is supposed to be significant so that the results can be significant and interpreted and it can be seen in Table 3.4. that it is significant.

Table 3. 5. Total Variance Explained Table for the First PCA

Component	Total	Initial Eigenvalues		Extraction Sums of Squared Loadings		
		% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.072	12.190	12.190	2.072	12.190	12.190
2	1.807	10.631	22.821	1.807	10.631	22.821
3	1.639	9.640	32.461	1.639	9.640	32.461
4	1.315	7.734	40.195	1.315	7.734	40.195
5	1.207	7.100	47.296	1.207	7.100	47.296
6	1.060	6.233	53.529	1.060	6.233	53.529
7	1.006	5.918	59.448	1.006	5.918	59.448
8	0.992	5.838	65.285			
9	0.879	5.171	70.457			
10	0.867	5.100	75.556			
11	0.845	4.972	80.529			
12	0.795	4.674	85.203			
13	0.677	3.981	89.185			
14	0.623	3.667	92.851			
15	0.462	2.719	95.571			
16	0.386	2.269	97.839			
17	0.367	2.161	100.000			

For Table 3.5., the result of components' Initial Eigenvalues should be bigger than "1" for a component to be accepted as significant and explanatory. Through the Extraction Sums of Squared Loadings, we see how many components are created (the line number gives us the number of components created). Through the principal component analysis we run, seven (7) components were created for us to understand the construct 'women's empowerment'. The cumulative variance explained was 59%. This variance shows to what extent the components (seven components formed by the indicators I choose) can explain the construct (Women's Empowerment) I'm trying to understand.

Table 3.6. shows how much each indicator is in relation with each of the components. The higher the value, the stronger the relationship, regardless of its direction.

Table 3. 6. Component Matrix Table for the First PCA

		Component						
	Indicators	1	2	3	4	5	6	7
1	Household budget and accounting	0.633	-0.440	-0.237	-0.106	0.162	0.019	-0.043
2	Paying bills	0.498	-0.428	-0.227	-0.169	0.091	0.018	-0.094
3	Use of internet	0.429	0.359	0.144	0.327	0.268	0.016	-0.003
4	Knowledge of Turkish language	0.426	0.090	0.091	0.080	-0.163	0.375	-0.032
5	Talked about FP with anyone	0.425	0.583	0.073	-0.498	-0.065	-0.093	-0.012
6	Talked about FP with husband/partner	0.372	0.577	0.061	-0.546	-0.117	-0.066	-0.003
7	Shopping for kitchen	0.507	-0.528	-0.226	-0.203	0.072	0.031	-0.052
8	Owens land	0.027	-0.290	0.832	-0.143	0.095	-0.013	0.032
9	Owens a house	0.056	-0.323	0.803	-0.170	0.157	-0.036	0.061
10	Education	0.336	0.120	-0.057	0.406	0.290	-0.218	0.216
11	Knowledge of ovulatory cycle	-0.025	0.169	-0.099	-0.097	0.515	0.192	0.435
12	Ever worked since age 12	0.311	-0.021	0.086	0.205	-0.511	-0.033	0.328
13	Polygyny	0.315	0.296	0.172	0.375	0.434	0.000	-0.196
14	Consent	0.283	0.008	0.114	0.274	-0.341	0.177	0.044
15	Age at first cohabitation	0.164	0.092	0.158	0.190	-0.222	0.599	-0.147
16	Consanguinity	0.181	0.052	0.110	0.207	-0.146	-0.476	-0.579
17	Have money to spend by herself	0.266	-0.074	0.057	0.155	-0.276	-0.415	0.490

Based on the Component Matrix shown in Table 3.6., the seven components and the indicator most strongly related to those components can be seen in the table below.

Table 3. 7. Initial component list and items

Component 1	Component 2	Component 3	Component 4	Component 5	Component 6	Component 7
Household budgets and accounting	Talked about FP with anyone	Owns land	Education	Ever worked since age 12	Consent	Consanguinity
Paying bills	Talked about FP with: husband/partner	Owns a house	Knowledge of ovulatory cycle	Polygyny	Age at first cohabitation	Have money to spend by herself
Use of internet	Shopping for kitchen					
Knowledge of Turkish language						

After the initial results, I rotated the components. Rotations are used to have more interpretable outputs so rotating components does not change the strength of existing relations between indicators and components. There are mainly two types of rotation in principal component analysis: orthogonal and oblique rotation. The choice of rotation depends on whether the factors are correlated with each other or not. Even though there are some strong correlations among factors and indicators; some of them are uncorrelated. That is why I tried both in order to find the suitable method for my research. I started with an orthogonal type of rotation, Varimax. However, even after the Varimax rotation, there were still four components (Component 2, 3, 6 and 7) which had only two indicators. Components that have only two indicators usually reflect that those two indicators have strong significant relations and researchers usually try to avoid that kind of component. That is why, I also tried Direct Oblimin rotation, which is a type of Oblique Rotation. After running the analysis, two matrix outputs were produced: Pattern and Structure. According to the website of IBM (2022), the pattern matrix holds the loadings while the structure matrix shows the correlations between the variables and the factors. Also, Tabachnick and Fidell (2013) says that the loading matrix actually becomes the pattern matrix after we run oblique rotation.

After the initial factor analysis with rotations, there were still components which included only two indicators. This is a situation that is tried to be avoided in factor analysis because factors which only have two components are accepted as they are formed because such two indicators have strong relation with each other. Also, removing the indicators whose categories do not show a balanced distribution is one of the recommended solutions in factor analysis. That is why, I decided to remove the indicators whose either of the categories are less than 5%. This meant that the indicator consent was being removed. However, I strongly thought that there should be an indicator related to the marital arrangements of women. As a result, I added another indicator (the marital decision) as a replacement.

Last Version of PCA Tables

After having revised the items and run the PCA with varimax rotation, firstly, the KMO measure of sampling adequacy value increased a little and the Bartlett's test of sphericity was found significant again.

Table 3. 8. KMO and Bartlett's Test for the Final PCA

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.646
Bartlett's Test of Sphericity	Approx. Chi-Square	649.445
	df	45
	Sig.	0.000

The Table 3.9. showed that three components were found significant through their higher values of Eigenvalues (bigger than 1). Also, it can be seen in the last column of the Table 3.9. that three of the components together explains 40 percent of the variance.

Table 3. 9. Total Variance Explained Table for the Final PCA

		Initial Eigenvalues		Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.798	17.975	17.975	1.798	17.975	17.975	1.490	14.899	14.899
2	1.211	12.106	30.081	1.211	12.106	30.081	1.277	12.770	27.668
3	1.033	10.335	40.416	1.033	10.335	40.416	1.275	12.748	40.416
4	0.993	9.929	50.344						
5	0.941	9.407	59.752						
6	0.924	9.239	68.991						
7	0.861	8.606	77.597						
8	0.813	8.128	85.724						
9	0.773	7.728	93.452						
10	0.655	6.548	100.000						

The item loading values can be seen in Table 3.10. of each item. It is satisfactory to see that almost all of the item loading is higher than 0.3 in its relation to the component it was listed.

Table 3. 10. Rotated Component Matrix Table for the Final PCA

	Indicators	1	2	3
1	Education	0.742	0.075	-0.111
2	Usage of internet	0.644	0.296	-0.001
3	Knowledge of ovulatory cycle	0.606	-0.150	0.328
4	Consanguinity	0.166	0.151	0.130
5	Knowledge of Turkish language	0.072	0.668	0.099
6	Talked about FP with anyone	0.214	0.609	-0.229
7	Marital decision	-0.032	0.406	0.346
8	Age at first cohabitation	0.001	0.018	0.635
9	Household budget and accounting	0.247	-0.068	0.528
10	Ever worked since age 12	-0.125	0.389	0.524

Table 3.11. shows the final components and the items listed for those components. In other words, items whose item loading values are the highest are listed below for that component.

Table 3. 11. Final Component List

Component 1	Component 2	Component 3
Education	Knowledge of Turkish	Age at first cohabitation
Usage of internet	Talked about FP with anyone	Household budgets & accounting
Knowledge of ovulatory cycle	Marital decision	Ever worked since age 12
Consanguinity		

After the final PCA, scale scores of each component are saved as variables in the dataset. Those scores are categorized in accordance with the distribution and the cut-off points so that each component is recoded into a categorical variable with three categories (low, medium, high). Hence, each married woman is placed in one level (either low, medium or high) in each dimension. In the last step, the weighted sum scores method (DiStefano and others, 2009) is used to create one score from the empowerment index for each married women. Through this method, each item is multiplied with its weight (item loading value) so as to regard each item's strength (or weakness) in the analysis. After weighting the items according to their item loading values, the attained scale scores of components are summed so that an overall empowerment score of women can be calculated. This final scale score of women's empowerment index goes through the same categorization process as the previous dimensions did and it is recoded into a categorical variable with three categories i.e., low, medium, high. Thereby, each currently married woman is placed in one level of empowerment and the distribution of women according to the level of empowerment can be seen below.

3.4.4. Women's Empowerment and Dimensions

The components are accepted as dimensions of women's empowerment. The first component is accepted as the Empowerment Dimension 1 (Table 3.12.).

Table 3. 12. The percentage distribution of currently married women between levels of empowerment dimension 1

Empowerment Dimension 1	Frequency	Valid Percent	Cumulative Percent
Low	586	33.8	33.8
Medium	628	36.2	70.0
High	520	30.0	100.0
Total	1734	100.0	

The second component is accepted as the Empowerment Dimension 2 (Table 3.13.).

Table 3. 13. The percentage distribution of currently married women between levels of empowerment dimension 2

Empowerment Dimension 2	Frequency	Valid Percent	Cumulative Percent
Low	591	34.1	34.1
Medium	638	36.8	70.9
High	505	29.1	100.0
Total	1734	100.0	

Lastly, the third component stands for the Empowerment Dimension 3 (Table 3.14.).

Table 3. 14. The percentage distribution of currently married women between levels of empowerment dimension 3

Empowerment Dimension 3	Frequency	Valid Percent	Cumulative Percent
Low	593	34.2	34.2
Medium	655	37.8	72.0
High	485	28.0	100.0
Total	1734	100.0	

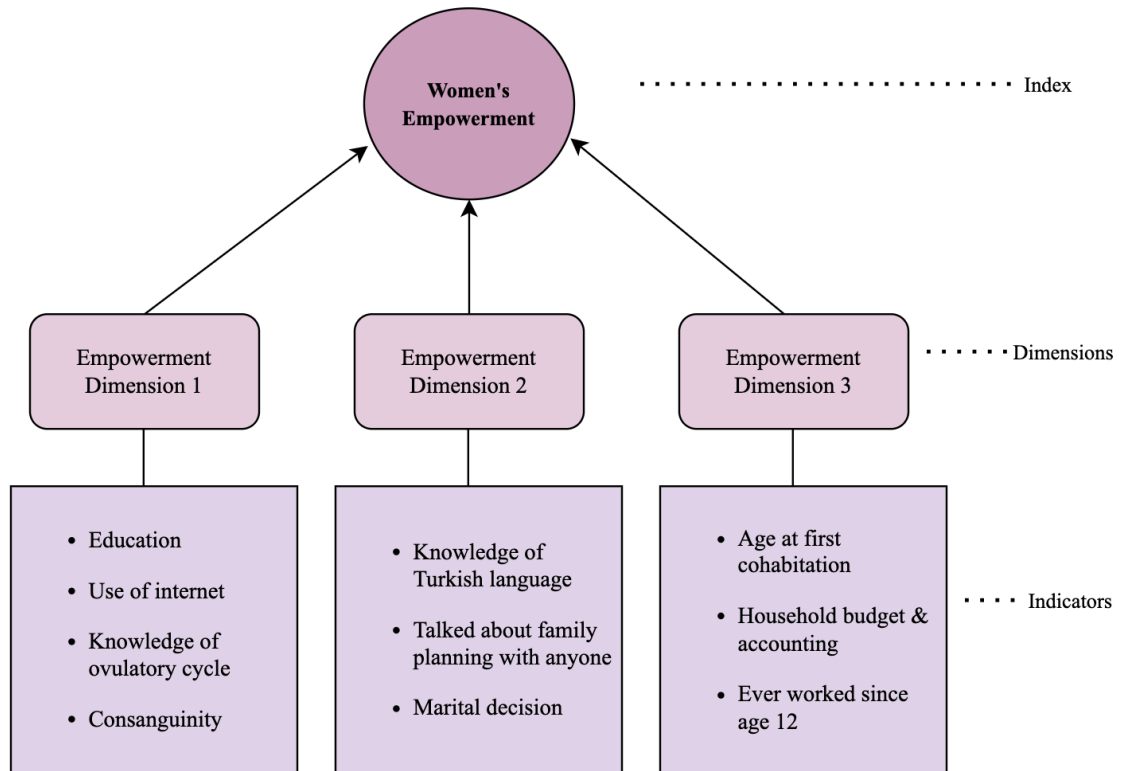
Here is the distribution of women in accordance with the three levels of women's empowerment index (Table 3.15.).

Table 3. 15. The percentage distribution of currently married women between empowerment levels

Women's Empowerment Level	Frequency	Valid Percent	Cumulative Percent
Low	602	34.7	34.7
Medium	647	37.3	72.0
High	485	28.0	100.0
Total	1734	100.0	

The dimensions of empowerment and the indicators listed for those dimensions are displayed as a diagram in Figure 3.1. to provide a clear picture.

Figure 3. 1. Diagram of women's empowerment index



3.5. Reproductive Independence

The concepts and issues studied about reproductive health are diverse and each approach might require its own set of indicators and data. As mentioned in the Literature Review chapter, the indicator that often used is the current use of contraception (Alsaawi and Adamchak, 2000) or the use of a modern method (Islam, 2018). However, I believe the study population of this thesis requires a deliberate approach considering the spouses might get separated due to the war. Besides, focusing on contraceptive methods alone is rather a restrictive frame. That is why reproductive independence is composed of different indicators. *Sexual relations, women's healthcare decisions and need for family planning* are chosen as components of reproductive independence. Through those three components, the main dependent 'composite' variable is coded and used in the analysis.

As mentioned before, in the 2018 Syrian migrant dataset, 2216 women who are in their reproductive ages (15-49) are interviewed. Among those, 1847 women (83.4 %) were married (or in union) at least once, and 1734 (78.3%) women were currently in union at the time of the interview. Therefore, the reproductive independence is calculated for 1734 currently married Syrian women residing in Turkey.

3.5.1. Components of Reproductive Independence – Dependent Variables

I decided to use three components to understand reproductive independence: sexual relations, women's health care decisions and the need for family planning. The questions and the variables used in DHS set to measure those components, and in this thesis as well, are presented below in detail.

Sexual Relations: This component is constructed through the question (S728B) about respondent's consent on sexual relation with their husband. All women that were in a union at least once were asked about their ability to refuse their partner if they don't want to have sexual intercourse. The answer "Yes" is accepted as "2" meaning woman

has autonomy on sexual relations. The answers “No” and “Depends” are taken as “1” meaning woman does not have independence on sexual relations with her husband.

Table 3. 16. The distribution of answers of the currently married women about their ability to refuse their partner when they do not want to have sexual intercourse

S728B – Refuse sexual intercourse				
	Frequency	Percent	Valid Percent	Cumulative Percent
No	660	38.1	38.1	38.1
Yes	927	53.5	53.5	91.5
Depends	147	8.5	8.5	100.0
Total	1734	100.0	100.0	

Women’s Healthcare Decisions: This component is formed through asking women who usually make decisions about their own health (V743A). The answers “husband/partner alone” and “someone else” are accepted as “1” meaning women do not have any independence for this component. The answer “respondent and partner together” is accepted as “2” and the answer “respondent alone” is accepted as “3”. For the multinomial logistic regression analysis, the reference category is chosen as “1”, someone else.

Table 3. 17. The distribution of the answers of currently married women on being involved in decisions about their own health care

V743A – Person who usually decides on respondent’s health care				
	Frequency	Percent	Valid Percent	Cumulative Percent
Respondent alone	439	25.3	25.3	25.3
Respondent and husband/partner	1185	68.3	68.3	93.7
Husband/partner alone	103	5.9	5.9	99.6
Someone else	7	0.4	0.4	100.0
Total	1734	100.0	100.0	

The need for family planning: This component is calculated through women who are at risk of pregnancy. Among those women, three categories are composed in accordance with their need for family planning. Women who do not need and use any family planning method are coded as “1”, women who have unmet need for family planning are coded as “2” and women whose need for family planning are met, who already use a method are coded as “3”. For the multinomial logistic regression analysis, the reference category is chosen as “2”.

Table 3. 18. The distribution of the currently married women on their needs for family planning

The need for family planning				
	Frequency	Percent	Valid Percent	Cumulative Percent
1 No need for family planning	576	33.2	34.2	34.2
2 Unmet need for family planning	361	20.8	21.4	55.6
3 Met need for family planning	747	43.1	44.4	100.0
Total	1684	97.1	100.0	
System missing	50	2.9		
Total	1734	100		

Reproductive Independence: This composite indicator is composed of all three dependent variables. It is a binary dependent variable that shows all women who can say no to their husband when they do not want to have sexual intercourse, women who are involved in the decisions about their own healthcare (either together with their partner or alone) and women who are in no need for family planning (which means who wish to get pregnant) or who satisfied their need for family planning methods. Those who meet those conditions are coded as “2” with the acceptance of their reproductive independence. Those who do not meet those conditions, on the other hand, are coded as “1” for no independence.

Table 3. 19. The distribution of the currently married women who are reproductively independent

Reproductive Independence				
	Frequency	Percent	Valid Percent	Cumulative Percent
1 No independence	1052	60.7	60.7	60.7
2 Independent	682	39.3	39.3	100.0
Total	1734	100.0	100.0	

3.5.2 Independent Variables for Logistic Regression Analysis

There are three sets of variables composed of nine (9) variables decided to be used as independent variables for logistic regression analysis. All of those nine variables are checked for multicollinearity by using Variance Inflation Factor (VIF) values. 18 dummy variables are coded for each category of 9 variables, except the reference categories. Each component of reproductive independence is being checked with 18 dummy variables in terms of their VIF values. There are no VIF values that are more than 5, hence there is no

multicollinearity among independent variables (Myers, 1990, as cited in Field, 2009). The VIF values can be found at the appendix.

Three models are conducted in all five separate analyses with dependent variables. In the first model, independent variables chosen are empowerment level of woman, woman's age in 5-year age groups and the total number of children women ever give birth to. In the second model, together with the first set of independent variables, the type of residence (whether camp or not), life satisfaction and woman's practice of any contraceptive method (whether none, only traditional or modern) are added. In the final model, all independent variables are used together, joined with the third set. As for the third set of independent variables, husband's education level, knowledge of Turkish language and the presence of controlling behaviors are beneficial. To clarify the models of independent variable sets for logistic regression, Figure 4.2. can be examined in the next chapter of this thesis.

The original set of independent variables were different, however, due to the limitations of the statistical analysis, some changes were required to conduct a proper analysis. Different variations of independent variables set were conducted through the analyses process. Consequently, only the second set required adjustment. The first set is decided regarding the fact that the percentage of different levels of empowerment show visible variation among different age groups and women with different parity so that whether the women's level of empowerment is significant can be seen when age and the number of children are controlled. The last set is decided in that way to see the effect of husband's characteristics after the relation of all other variables is observed separately. The results of other regression analyses with different sets were not included in this thesis to prevent any confusion.

1st Set of Independent Variables

Women's empowerment level: The categorical variable of Women's Empowerment Level is used in logistic regression analysis. The reference category is accepted as "low" to better capture the observed difference when compared with higher levels of empowerment. This is used in four of five logistic regression analyses.

Women's empowerment dimensions: The dimensions of empowerment are used in their categorical forms in the regression analysis. These dimensions are only used in one analysis to understand the relationship of women's empowerment with reproductive independence better. For all of the dimensions, "low" level is used as a reference category.

Age in 5-year groups: This variable, 5-year age groups, is not recoded and used as it is. The reference group is accepted as "15-19" age group because among the Syrian refugee women between those ages, the percentage of women with the high empowerment level is lowest whereas the percentage of women with the low empowerment level is highest compared with women in other age groups (Section 4.2.1).

The number of children ever born: This variable shows the total number of children born to the women interviewed. It ranges from 0 to 13 children. It is recoded into four categories which are "0", "1-2", "3-4" and "5+" children. Since women with no children has the lowest percentage among the women with high empowerment level and the highest percentage of women with low empowerment level, the reference category is chosen as "0" children.

2nd Set of Independent Variables

Type of residence: This variable shows whether the woman interviewed resides in the camp area for refugees or in the urban area. As a reference in regression analysis, “camp” category is chosen.

Life satisfaction: All interviewed women had been asked how much they are satisfied with their lives on a scale from 1 to 10, while 1 meaning completely dissatisfied, 10 means completely satisfied. This variable is also recoded into a variable with three categories, which are “1” dissatisfied, “2” neither dissatisfied nor satisfied, and “3” satisfied. As a reference category, “1” (dissatisfied) is chosen because it has the highest percentage of women with low empowerment level and the lowest percentage of women with high empowerment level, when compared with other categories.

Contraceptive practice: Contraceptive practice indicates whether a woman had ever used any method before the time of the research. The categories can either be “never used”, “only used traditional”, and “modern method used”. The reference category is chosen to be “never used” in all models because women who had never used any method have the highest percentage of women with low level of empowerment and the lowest percentage of women with high level of empowerment. However, this variable is recoded differently for one dependent variable, “need for family planning”. Contraceptive practice had three categories in all other dependent variables which are “never used”, “only traditional method used” and “modern method used”. However, there are no women in the intersection of those who have satisfied their need for family planning and those who had never used any method. Therefore, categories of contraceptive practice in these models are either “never used or only traditional method used” and “modern method used”. For the reference category of those models, “never used or only traditional used” is chosen.

3rd Set Independent Variables

Education level: This variable has originally four categories that shows the education level of the husband. Categories are “no education”, “primary completed”, “secondary completed”, “high school completed and higher” and “don’t know”. It is recoded into three categories which are “no education”, “primary completed” and “secondary completed or higher”. The answer “don’t know” is coded as system missing information and not included into the analysis. As a reference category “no education” is chosen because it has the highest percentage of women with low empowerment level and lowest percentage of women with high empowerment level, compared to other categories.

Knowledge of Turkish language: It shows the husband’s knowledge of Turkish as another language. This variable is binary considering the answer can either be yes or no. It is not recoded and the “doesn’t know Turkish” category is chosen as the reference category.

The use of controlling behavior: In the DHS questionnaire, there are a set of questions to assess whether the husband of the woman interviewed shows any controlling behavior. There are five questions for that purpose (S727A-E). Those are:

- Whether husband prevent woman from seeing her female friends
- Whether he limits woman’s contact with her family
- Whether he insists on knowing where she is going
- Whether he distrust woman with money
- Whether husband blame woman for being unfaithful

The answers to those questions can be “often”, “sometimes” or “never”. This “use of controlling behavior” variable is coded by using those variables. If the husband shows any of those behaviors either “often” or “sometimes”, it falls into the “at least one” category

whereas if the answer to all of those questions is “never” that falls into the “none” category.

Among 10 independent variables explained, 4 of them (woman’s age, the number of children, WEI score and scores of WEI dimensions) could have been used as scale ‘covariate’ variables in the logistic regression models. However, after several trials of such models, it was seen that using those variables in scale form will cause ignoring some of the details. For example, overall reproductive independence of women does not improve as women age. On the contrary, the proportion of women who ensure independence in all components varies in different 5-year age groups. Therefore, I used all independent variables in categorical forms so that I can capture the variation among different categories.

Limitations

It was mentioned before that Malhotra et al. (2005) refers in their paper that the process of women’s empowerment is a much less studied topic. In this thesis, unfortunately I also was unable to study the process of Syrian refugee women’s empowerment due to the lack of the data. Nevertheless, if the Syrian refugee population is again included as another sample in the future for 2023 TDHS, I would love to conduct another study aiming to explore the change of Syrian refugee women’s empowerment and the dynamics behind that. Also, as Furedi (1997) and many other scholars mentioned in their work that women’s empowerment (or women’s status) is multidimensional and it is composed of and affected by many other factors so while exploring its the relationship with family planning practices, or any issue in general, one should be aware of individual level changes as well as wider structural changes. In this study, structural changes are not drawn attention specifically.



CHAPTER 4. RESULTS

In this chapter there are four main sections. First, the basic characteristics of the study population of this thesis are introduced. In this section, Syrian women in reproductive ages are analyzed in terms of their demographic, husband's and reproductive characteristics. The dispersion of those characteristics is presented among all women and sub-groups of women with different marital status.

Demographic characteristics are composed of the type of place of residence, education level, age, and knowledge of Turkish language. For the husband's characteristics, husband's education level, knowledge of Turkish language and husband's use of controlling behavior are presented. For the reproductive characteristics, women's knowledge of contraceptives, their practice of any method of contraceptives, the number of children they have, and the level of unmet need are examined.

The level of empowerment is measured by a women's empowerment index which is composed of three dimensions. In the next section, descriptive analyses of women by their level of empowerment regarding total and different dimensions of empowerment are presented. Afterwards, the characteristics introduced in the first section are examined. How each characteristic is dispersed among three levels (low, medium, high) of empowerment is presented.

In the third section, the components of reproductive independence are covered. Three components of reproductive independence and the composite indicator of overall reproductive independence of women are assessed first. Then, the demographic, husband's and reproductive characteristics are examined. Dispersion of women who have independence in each of the three components and the overall composite indicator are presented for each of those characteristics.

In the last section, the determinants of the different components of reproductive independence are explored by the logistic regression analyses between independent characteristics including women's empowerment and dependent variables of the components of reproductive independence of women are exhibited. There are three binary logistic regression analyses and two multinomial logistic regression analyses. The two components of reproductive independence, which are the need for family planning and the healthcare decision of women, are analyzed using multinomial logistic regression. One component of reproductive independence, sexual relations, is analyzed by conducting binary logistic regression analysis. The composite indicator of overall reproductive independence is analyzed with binary logistic regression analysis. Then, to gain more insight about its relationship with women's empowerment, it is analyzed by using women's empowerment dimensions in the last regression model.

4.1. Introducing the Study Group

In this section, demographic, husband, and reproductive characteristics of Syrian refugee women are introduced to provide a deeper understanding of the study population. The tables present the distributions of women by their marital status.

4.1.1. Demographic Characteristics

When we examine the demographic characteristics of the Syrian refugee women in Turkey, it is seen that almost all Syrian women (96%) are residing in ordinary residential areas of Turkey. This pattern is valid for women in different marital status. A similar pattern is observed for educational level. Almost half of the women completed primary school, regardless of their marital status. Moreover, only one third of the women (33.5%) completed secondary school or higher level of education. In age distribution, we see a density in young age groups. It is interesting to observe slightly less proportion of ever married and currently married women in the youngest age group despite the common

pattern of early marriages in this population. More than half of the women (60%) are between ages 15-29.

Table 4. 1. Percent distribution of women by demographic characteristics according to their marital status

	All women	Ever-married women	Currently married women
Type of residence			
Non-camp	96.0	96.1	96.1
Camp	4.0	3.9	3.9
Education level			
No education	19.2	18.9	19.1
Primary completed	47.2	48.7	48.3
Secondary completed	19.5	19.0	18.8
High school completed & higher	14.0	13.4	13.7
Age			
15-19	21.1	12.3	12.5
20-24	21.5	22.8	23.3
25-29	17.9	20.2	20.8
30-34	14.7	16.3	15.9
35-39	11.1	12.6	12.4
40-44	8.2	9.4	8.9
45-49	5.5	6.4	6.2
Knowledge of Turkish Language			
Does not know Turkish	80.1	84.0	84.4
Knows Turkish	19.9	16.0	15.5
Total			
Count	2216	1847	1734
Percentage	100	83.3	78.3

A striking finding is that the proportion of those who speak Turkish among refugee women is quite low (19.9%). This proportion is even lower among ever married and currently married women (16% and 15.5%, respectively). Women that were in union at least once compose 83.3% of the whole study group, so the proportion married among this population is quite high.

4.1.2. Husband Characteristics of Women

Three aspects of husband characteristics are examined in this thesis. Those are education level, husband's knowledge of Turkish language and the use of controlling behavior. It is seen that husbands are generally more educated than women. Husbands who have no education are around 10 percent in both groups whereas one fifth of women have no education. Knowledge of Turkish language is higher among husbands compared to women, yet still quite low as 33% of the husbands know Turkish. Lastly, about thirty percent of husbands use at least one controlling behavior.

Table 4. 2. Percent distribution of husband's characteristics for currently married women

	Currently married women
Husband's Education Level	
No education	10.2
Primary completed	41.2
Secondary completed	38.6
High school completed & higher	9.5
Don't know	0.5
Knowledge of Turkish Language	
Does not know Turkish	66.6
Knows Turkish	33.4
Husband's Controlling Behavior¹	
At least one	28.6
None	71.4
Total	
Count	1734
Percentage	78.3
¹ "Controlling behavior" consists of a set of five questions in the DHS questionnaire to assess husband's usage of any controlling behavior. See Section 3.5.2 for details.	

4.1.3. Reproductive Characteristics of Women

When we examine the distribution of women by their reproductive characteristics, it is crucial to recognize that over 90 percent of women know a modern contraceptive method. While women who do not know any contraceptive method constitute 5.5 % of all women, for ever-married and currently married women, it decreases to 0.9%. However, it is alarming that almost three of every ten married women had never used any contraceptive method (29%).

Table 4. 3. Percent distribution of reproductive characteristics of women by marital status

	All women	Ever-married women	Currently married women
Knowledge of contraceptives			
Knows no method	5.5	0.9	0.9
Knows only traditional method	0.2	0.3	0.3
Knows modern method	94.3	98.8	98.8
Contraceptive practice			
Never used	41.6	30.0	29.0
Only traditional method used	13.9	16.7	17.1
Modern method used	44.5	53.3	53.9
Number of children born			
0	-	10.9	10.4
1-2	-	34.8	34.9
3-4	-	28.2	28.4
5+	-	26.1	26.2
Unmet Need	-	-	20.8
Mean number of children	2.67	3.20	3.21
Total			
Count	2216	1847	1734
Percentage	100	83.3	78.3

We also see that 17.1% of currently married women used only traditional methods and 20.8% of those women have an unmet need for family planning. There is also a visible change in the variation of the number of children ever born in accordance with the change in the marital status of women. Only one out of ten married women do not have any

children (10.4%). In fact, with marriage, we see a sharp increase in the mean number of children ever born from 2.67 to 3.21. Overall, a similar pattern of distribution is observed between ever-married and currently married women.

4.2. Women's Empowerment

The percent distribution of currently married women in three levels of empowerment can be seen in Table 4.4., 34.7 percent of women are in the low empowerment level whereas 28 percent of women's empowerment level is high. Those final empowerment levels were composed by three dimensions of women's empowerment with 10 items through the principal component analysis, of which the methodological details are explained in the Methodology section.

Table 4. 4. The frequency of empowerment levels among currently married women

Women's Empowerment Level	Frequency	Valid Percent	Cumulative Percent
Low	602	34.7	34.7
Medium	647	37.3	72.0
High	485	28.0	100.0
Total	1734	100.0	

There are three dimensions of empowerment resulted from the analysis to construct composite index of women's empowerment. The percent distribution of currently married women for each dimension of women's empowerment are separately presented in the following tables.

Table 4. 5. The distribution of the empowerment dimension 1 among currently married women

Empowerment Dimension 1	Frequency	Valid Percent	Cumulative Percent
Low	586	33.8	33.8
Medium	628	36.2	70.0
High	520	30.0	100.0
Total	1734	100.0	

Empowerment dimension 1 is composed of women's level of education, usage of internet, knowledge of ovulatory cycle and whether woman is related to her husband.

Table 4. 6. The distribution of the empowerment dimension 2 among currently married women

Empowerment Dimension 2	Frequency	Valid Percent	Cumulative Percent
Low	591	34.1	34.1
Medium	638	36.8	70.9
High	505	29.1	100.0
Total	1734	100.0	

Empowerment dimension 2 has three items, woman's knowledge of Turkish language, whether woman talks about family planning with anyone (partner, mother, friend, doctor etc.) and the marital decision of her marriage (whether the marriage is decided by families or by the couple).

Table 4. 7. The distribution of the empowerment dimension 3 among currently married women

Empowerment Dimension 3	Frequency	Valid Percent	Cumulative Percent
Low	593	34.2	34.2
Medium	655	37.8	72.0
High	485	28.0	100.0
Total	1734	100.0	

Empowerment dimension 3 has also three items. Woman's age at first cohabitation, whether woman shares the responsibility (or the only responsible person) for accounting and budget of the household, and whether woman has ever worked since age 12.

4.2.1. Women's Empowerment by Demographic Characteristics

When the empowerment level of women is examined in accordance with their type of residence, it is seen that there is no observable difference between the women in residential areas and women in camps. However, it might be beneficial to note that there are only 67 women in camps.

Table 4. 8. Percentage distribution of the empowerment levels of currently married women according to the type of residence

Women's Empowerment Level	Non-Camp	Camp
Low	34.8	33.0
Medium	37.3	37.7
High	27.9	29.3
Total		
Percentage	100.0	100.0
Count	1667 women	67 women

When the distribution of empowerment level of currently married women is examined in terms of the regions they live in, it is seen that there is no significant difference in the distribution of refugee women living in Istanbul and other regions according to their level of empowerment, only the high empowerment level of women living in Istanbul is slightly higher. This situation suggests that the effect of the facilities of the settlement is limited besides the options and opportunities İstanbul are higher compared with other regions.

Table 4. 9. Percentage distribution of the empowerment levels of currently married women according to the region

Women's Empowerment Level	İstanbul	Other regions
Low	36.2	34.4
Medium	33.9	38.1
High	29.9	27.5
Total		
Percentage	100.0	100.0
Count	321 women	1413 women

When the empowerment level of women is examined among each age group of women, it is seen that the age group who have the highest proportion of women with low level of empowerment (51.6%) is the youngest 15-19. There is a decrease in the amount of women with low empowerment as the women get older until 40. The highest proportion of women with a high empowerment level is in the 35-39 age group, we see that one third of them (35%) have a high level of empowerment. However, this is a disadvantageous situation considering the crowded group of women has the lower levels of empowerment.

Table 4. 10. Percentage distribution of the empowerment levels of currently married women according to age groups

Women's Empowerment Level	15-19	20-24	25-29	30-34	35-39	40-44	45-49
Low	51.6	34.3	31.3	28.4	28.4	35.0	42.7
Medium	32.8	39.8	36.1	38.0	36.5	38.1	39.6
High	15.6	25.9	32.6	33.6	35.0	26.9	17.7
Total							
Percentage	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Count	216	404	361	275	216	154	107

When the empowerment level of currently married women is examined according to their satisfaction with life, it is seen that three of the ten women who are satisfied with their life also have a high empowerment level (32.6%). Whereas only close to one fourth of women have a high empowerment level among the women who are dissatisfied with their life (23.2%). We see the proportion of women with a high empowerment level increases from dissatisfied to the satisfied.

Table 4. 11. Percentage distribution of the empowerment levels of currently married women according to the life satisfaction

Women's Empowerment Level	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied
Low	40.2	36.6	28.7
Medium	36.6	36.1	38.7
High	23.2	27.3	32.6
Total			
Percentage	100.0	100.0	100.0
Count	622 women	422 women	689 women

4.2.2. Husband Characteristics according to the Levels of Empowerment

This section exhibits the distribution of husband characteristics within the three levels of empowerment. As the empowerment level of women gets high, we see that the ratio of husbands with no education decreases. Also, we see that the ratio of husbands that completed high school or higher education level for women with high empowerment level is close to five times more than women with low empowerment level.

Table 4. 12. Percentage distribution of the husband characteristics of currently married women among the empowerment level of women

	Low level of empowerment	Medium level of empowerment	High level of empowerment
	%	%	%
Husband's education level			
No education	18.3	7.5	3.8
Primary completed	43.1	43.7	35.5
Secondary completed	34.2	40.8	41.0
High school completed & higher	3.9	7.7	19.0
Don't know	0.6	0.4	0.7
Total	100.0	100.0	100.0
Knowledge of Turkish language			
Does not know Turkish	78.7	67.3	50.8
Knows Turkish	21.3	32.7	49.2
Total	100.0	100.0	100.0
Husband's controlling behavior			
At least one	31.2	26.8	27.7
None	68.8	73.2	72.3
Total	100.0	100.0	100.0
Count	598	616	520

The ratio of husbands of women with a high empowerment level that knows Turkish (49.2%) is higher than low and medium levels (32.7 and 49.2% respectively) of empowerment. Women with a high empowerment level that experiences at least one controlling behavior from their husband (27.7%) is slightly less than women with low empowerment level (31.2%).

4.2.3. Reproductive Characteristics according to the Levels of Empowerment

Even though there are very few women that do not know any contraceptive method in all levels, we still see a decrease as the empowerment level increases. When the distribution of the contraceptive practice is examined, the difference between empowerment levels is more pronounced. Among the women with low empowerment, we see that nearly half of the women (48.4%) used modern contraceptive methods at least

once before whereas for the women with high empowerment level, this proportion is more than half (55.4%).

Table 4. 13. Percentage distribution of the reproductive characteristics of currently married women among the empowerment level of women

	Low level of empowerment	Medium level of empowerment	High level of empowerment
	%	%	%
Knowledge of contraceptives			
Knows no method	2.1	0.5	0.0
Knows only traditional method	0.2	0.5	0.2
Knows modern method	97.7	99.0	99.8
Total	100.0	100.0	100.0
Contraceptive practice			
Never used	36.7	26.7	22.6
Only traditional method used	14.9	15.5	22.0
Modern method used	48.4	57.8	55.4
Total	100.0	100.0	100.0
Number of children born			
0	11.2	8.6	11.8
1-2	30.3	35.2	40.3
3-4	27.1	29.6	28.5
5+	31.4	26.6	19.4
Total	100.0	100.0	100.0
Count	598	616	520
Unmet need	20.8	22.4	18.8
Mean number of children	3.51	3.28	2.73

Furthermore, the largest proportion of women who had never used any method before (36.7%) is in the low empowerment level category while the lowest proportion (22.6%) is among the women with high empowerment level. When the number of children born is examined in the frame of empowerment, we see that women who have 1 or 2 children comprise 30.3% of the women with low empowerment. Also, the women who had never given birth to any children constitute 12% of women in the high empowerment level category. It is important to remember the dispersion of empowerment levels among different age groups, at this point. It is only when women are at least 25 years old, then

the proportion of women who have a high empowerment level reaches an important level. Considering the fact that Syrian women marry at early ages and have high fertility rates, the result of 12% of women with no children born in the high level of empowerment can be said to be an expected result under these terms. The effect of age is also observed when we look at the difference of the mean number of children among three levels of empowerment. For the unmet need of family planning methods, we see a slightly positive change between low and high empowerment levels. 20.8% of women stated that they have an unmet need for a family planning method among women with low empowerment level while this percentage is 18.8 for women with high empowerment level.

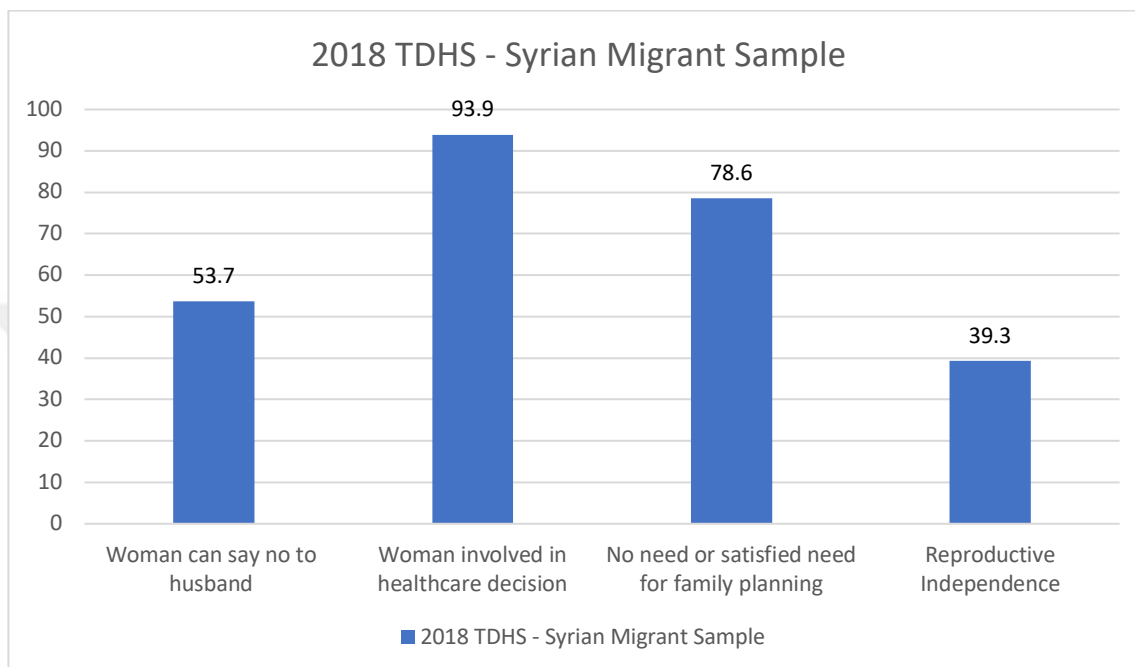
4.3. Reproductive Independence and Its Components

In the 2018 Syrian dataset, 2216 women who are in their reproductive ages (15-49) are interviewed. Among those, 1847 women (83.4 %) were ever married (or ever in union). 1734 women, on the other hand, were currently in union (or married), which is the main sample for this thesis. When those 1734 women were examined in terms of the components of reproductive independence, 771 women can refuse their husband when they do not want to have sexual intercourse, 439 women make decisions alone about their own health while 1185 women make those decisions together with their partner. 576 women do not need any family planning methods and 747 women satisfy their needs for family planning methods. Overall, there are 682 women (39%) who can say no to their husband, who have a say in decisions regarding their own health and who have either no need or met need for family planning.

Table 4. 14. Three components and its categories for women's reproductive independence

Component 1-Sexual Relations	Component 2-Healthcare Decision	Component 3-Need for family planning
Can say no to your husband/partner if women do not want to have sexual intercourse.	Who usually decides on things concerning women's health.	Among women who are currently married and fertile.
• Yes • No	• Herself • Together • Someone else	• No need • Unmet need • Met need

Figure 4. 1. Proportion of Syrian migrant women aged 15-49 who make their own decisions regarding their own health care, who can say no for sex to their husband and who do not have unmet need in Turkey (2018-TDHS)



4.3.1. Demographic Characteristics according to Reproductive Independence

Table 4.15. presents the proportion of currently married women who can say no to her husband when she does not want to have sexual intercourse (Sexual Relations), who make decisions about her own health by herself or together with her husband (Healthcare Decision), who has either no need or met need for family planning (Need for Family Planning), and who ensure independence in all three components of reproductive independence (Reproductive Independence) by demographic characteristics.

To begin with, we see that there is no distinct difference for women to have independence in different aspects of reproductive independence according to the type of residence. However, when we look at the education, we see that as the education level goes up, the proportion of women who can say no to their husbands when they do not want to have sex increases; from 39 percent for women with no education to 68 percent for women that completed high school or higher. Also, the overall reproductive

independence is higher for women who completed high school and higher than women with no education (50.0% and 26.9%, respectively).

When the differences between age groups are examined, we see that the proportion of women with reproductive independence is highest in the 35-39 age group. It is also the same age group which includes the highest proportion of women with a high level of empowerment. Also, as the age of women increases, the proportion of women that make decisions about her own health by herself or with her husband increases, as well. The age group of 35-39 also has the highest proportion of women who can say no to husband with 58 percent. There is an interesting variation among different age groups of women who have no need for family planning or who have satisfied their needs for family planning. While the proportion of no need or satisfied need is 81.5 % for the younger age group 20-24, this proportion decreases dramatically in older age groups 40-44 and 45-49 (71.3 and 60.7 percent, respectively).

Table 4. 15. Percentage distribution of currently married women who have reproductive independence in overall and in components according to their demographic characteristics

	Sexual relations	Healthcare decisions	Need for family planning	Reproductive independence	Number of women
Type of residence					
Non-camp	53.5%	93.5%	78.4%	39.4%	1667
Camp	51.8%	96.9%	82.2%	37.7%	67
Education level					
No education	39.4%	92.3%	77.9%	26.9%	331
Primary completed	53.0%	94.0%	78.4%	39.2%	838
Secondary completed	58.1%	94.2%	80.4%	43.8%	327
High school completed & higher	68.0%	93.8%	77.6%	50.9%	238
Age					
15-19	48.5%	90.7%	79.1%	38.6%	216
20-24	53.2%	92.9%	81.5%	41.5%	404
25-29	55.0%	93.5%	81.1%	40.9%	361
30-34	52.0%	95.8%	80.1%	41.1%	275
35-39	57.7%	93.0%	78.6%	42.2%	216
40-44	56.8%	95.2%	71.3%	36.8%	154
45-49	49.3%	97.1%	60.7%	20.7%	107
Knowledge of Turkish Language					
Does not know Turkish	50.0%	93.4%	78.8%	37.2%	1465
Knows Turkish	72.2%	94.9%	77.3%	51.1%	269
Total	53.5%	93.7%	78.6%	39.3%	1734

Whether women know Turkish or not does not create a prominent difference for the components of healthcare decisions and women with no need or satisfied need for family planning. However, there is a clear disparity in sexual decision that while 72 percent of women who know Turkish can say no to their husband, only 50 percent of women who do not know Turkish can say no to sexual intercourse. One can say this difference reflects itself to overall reproductive independence, as well.

The dispersion of women whether they know Turkish or not is rather uneven, though. Hence it would be more reliable to make inference through multivariate analysis, at this point.

4.3.2. Husband Characteristics according to Reproductive Independence

This section presents how the husband characteristics disperse for currently married women who have reproductive independence both for its components and in overall. Husband's level of education seems to create a remarkable difference. In sexual relations, only 34 percent of women whose husbands have no education can say no to sexual intercourse whereas 53 percent of women whose husbands completed primary school and 67 percent of women whose husbands completed high school or higher can say no.

Table 4. 16. Percentage distribution of currently married women who ensure reproductive independence in overall and in components according to their husband's characteristics

	Sexual relations	Healthcare decisions	Need for family planning	Reproductive independence	Number of women
Husband's education level					
No education	33.8%	89.6%	74.4%	20.2%	177
Primary completed	52.9%	93.3%	78.4%	39.0%	714
Secondary completed	55.6%	94.8%	79.3%	41.8%	669
High school completed & higher	67.4%	94.9%	80.4%	50.1%	165
Don't know	*	*	*	*	9
Knowledge of Turkish language					
Does not know Turkish	48.6%	93.0%	76.7%	34.1%	1156
Knows Turkish	63.1%	95.0%	82.2%	49.8%	578
Husband's controlling behavior					
At least one	47.9%	92.7%	75.9%	34.1%	496
None	55.7%	94.1%	79.6%	41.4%	1238
Total	53.5%	93.7%	78.6%	39.3%	1734

*Asterisk indicates that there are fewer than 25 unweighted cases.

Although the disparity is not as high as in sexual relations, we see a difference in healthcare decisions and family planning need in terms of husband education as well. The difference is salient in overall reproductive independence, though. While women whose

husbands get no complete education are only 20%, women with husbands that completed high school are higher comprises 50% of women that ensure overall reproductive independence.

It is seen that whether the husband knows Turkish or not does not create a distinct difference for women's independence of healthcare decisions. However, in the component of sexual relations, while 63% of women whose husband knows Turkish can say no to sexual intercourse, only 49 percent of women whose husband do not know Turkish can say no. Also, there is a slight difference in need for the family planning component, as well. 82% of women whose husbands know Turkish have no need or satisfied need for family planning whereas for women whose husbands do not know Turkish, this amount is 77%. The effect of dispersion can be observed in the proportion of women who have independence in all components, as well.

There seems to be no evident difference of husbands showing any of the controlling behavior or not; however, the proportion of husbands that shows at least one controlling behavior is rather few, compared to other categories. Still, there is around a 7 percent difference in overall reproductive independence.

4.3.3. Reproductive Characteristics and Reproductive Independence

In this section, the dispersion of the reproductive characteristics of women who have independence for each component and the overall reproductive independence is displayed. It is seen that almost all women know modern methods. While women who had never practice any contraceptive method largely involve the healthcare decisions, however, only half of them (48%) can say no when they do not want to have sexual intercourse. Women who had practiced only traditional methods involved in healthcare decisions (93%) than other components and the proportion of those women are highest among women who ensure reproductive independence (43%). As one might expect, the

proportion of women who had never tried any method before is the lowest among those who have reproductive independence (32%).

When the women are examined in terms of the number of children born, it is seen that women with no children have the highest proportion among those who have no need or satisfied need for family planning (89%) than women who have 5 children or more (72%). The similar pattern is also observed in sexual relations. While 61% of women with no children can say no to their husband, 52% of women who had 5 children or more can say no. In terms of healthcare decisions, we see that the number of children women ever gave birth does not make a distinct effect. In overall reproductive independence, it is seen that whereas 50 percent of women with no children are independent in all components, only 33.5 percent of women among women with 5 children or more have independence in all components.

Table 4. 17. Percentage distribution of currently married women who ensure reproductive independence in overall and in components according to their reproductive characteristics

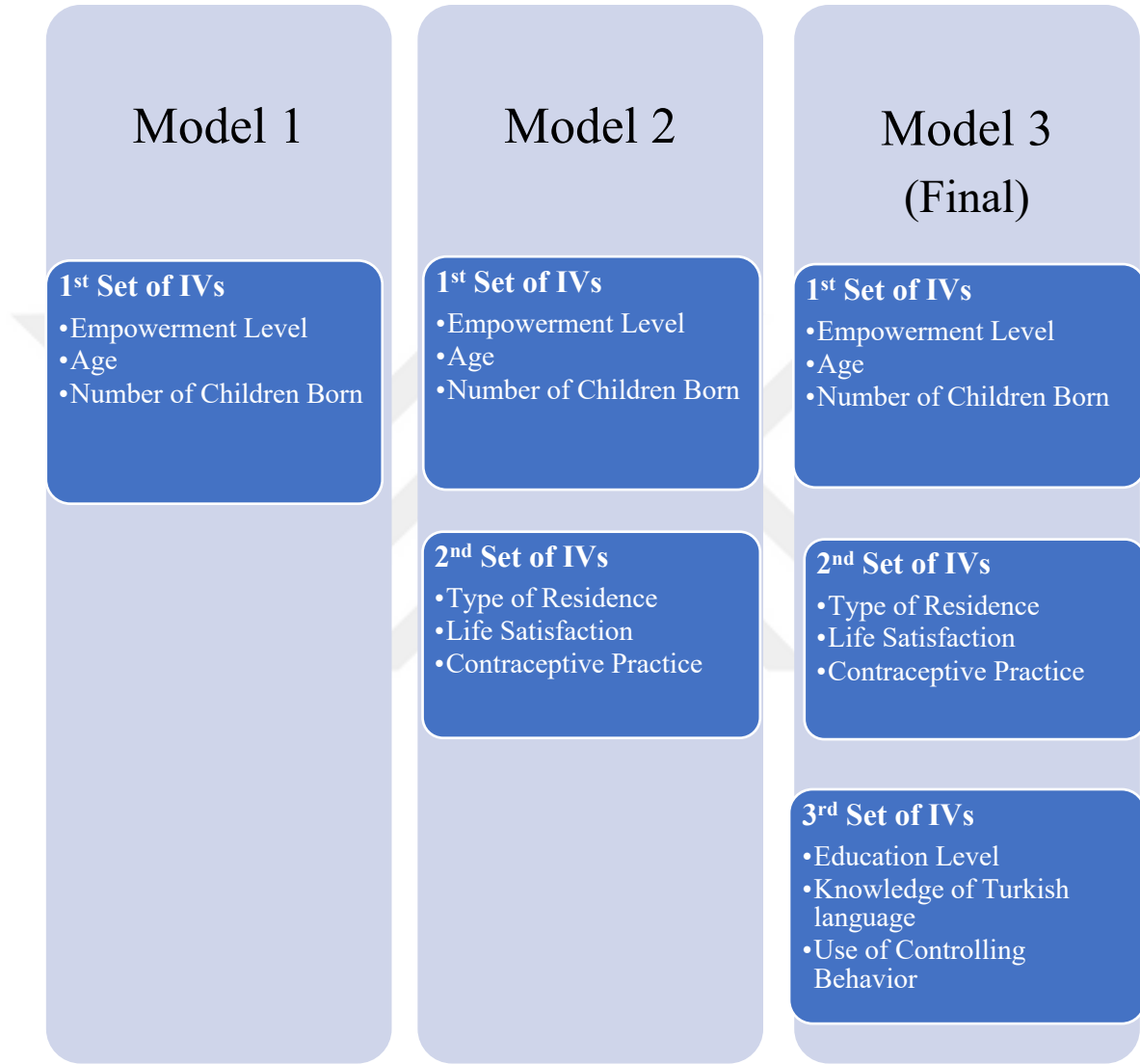
	Sexual relations	Healthcare decisions	Need for family planning	Reproductive independence	Number of women
Knowledge of contraceptives					
Knows no method	*	*	*	*	16
Knows only traditional method	*	*	*	*	5
Knows modern method	53.9%	93.7%	78.7%	39.6%	1713
Contraceptive practice					
Never used	48.8%	93.3%	71.0%	31.6%	503
Only traditional method used	54.4%	93.1%	82.9%	43.4%	296
Modern method used	55.7%	94.0%	81.1%	42.2%	935
Number of children born					
0	61.1%	93.4%	89.1%	50.3%	181
1-2	54.5%	93.1%	78.2%	40.6%	605
3-4	51.1%	94.1%	81.1%	39.1%	493
5+	51.6%	94.1%	71.8%	33.5%	455
Mean number of children	3.08	3.23	3.04	2.92	1734
Total	53.5%	93.7%	78.6%	39.3%	1734
*Asterisk indicates that there are fewer than 25 unweighted cases.					

It is worth mentioning that the mean number of children is the lowest among women who ensure reproductive independence in all categories with 2.92. It is highest, on the other hand, within the women who are involved in decisions about their own healthcare.

4.4. Multinomial Logistic Regression Analysis between Women's Empowerment and Reproductive Independence

In this section, sexual relations, woman's healthcare decisions, need for family planning and overall reproductive independence are analyzed by using logistic regression analysis. There are five regression analyses in order to explain those dependent variables, respectively. As explained in the Data and Methodology chapter, three independent variable sets composed of 9 independent variables are used. In each of the analyses, there are three models. In the first model, the first set of independent variables which are the empowerment level of women, age and the number of children born are put in the analysis to understand their predicting power on the dependent variable. In addition to those, the second set of independent variables are added in the second model. Those are the place of residence, life satisfaction and contraceptive practice. In the third, and the final model, the third set of independent variables which are the education level of the husband, knowledge of Turkish language and husband's use of controlling behavior are added to the rest of the independent variable set. The same process which is shown in Figure 4.2. is followed through for all the three of the dependent variables separately and the overall reproductive independence variable. Furthermore, in the final analysis, the overall reproductive independence is analyzed with the dimensions of women's empowerment to understand whether any dimension is found significant, and if so, which dimension has the most predicting power on reproductive independence. The women's empowerment level is replaced with three women's empowerment dimensions. The rest of the independent variables remain the same and are included in the analysis in the same order.

Figure 4. 2. Independent Variable Sets for Logistic Regression Analysis in the Proposed Models



4.4.1. Binary Logistic Regression - Sexual Relations

The dependent variable of these set of models is a binary variable that shows whether women can say no their husband when they do not want sexual intercourse. The reference category is taken as “cannot say no”. We see that women’s empowerment level is found to be significant variables in all three models. Life satisfaction is only significant in the second model whereas number of children born and contraceptive practice are significant in the second and the final model. The contribution of women’s empowerment

level to predicting power of the model for sexual relations decreases as other sets of independent variables are added to the analysis. However, it can be seen in the final model that empowerment level is still the most powerful variable. We also see that husband's education level, husband's knowledge of Turkish language, and husband's use of controlling behavior are also found significant in the final model. In fact, while husband's knowledge of Turkish is making the second highest contribution to the predicting power of the model for the sexual relations, use of controlling behavior is in the third line. It is also observed that while age of women is not found significant in the model, there are significant variations in two of the age groups. Women between ages of 35-39 and 40-44 are more likely to say no to their husbands compared to women between ages of 15-19 with 77 percent and 87 percent, respectively.

Table 4. 18. Test of Model Effect for Sexual Relations

Independent Variables	Model 1		Model 2		Model 3	
	Sig.	Wald F	Sig.	Wald F	Sig.	Wald F
Empowerment Level	0.000	31.742	0.000	28.667	0.000	20.108
Number of Children Born	-	-	0.005	4.614	0.003	4.896
Life Satisfaction	-	-	0.008	5.121	(0.066)	(2.805)
Contraceptive Practice	-	-	0.036	3.443	0.042	3.270
Husband's Education Level	-	-	-	-	0.033	3.538
Knowledge of Turkish language	-	-	-	-	0.008	7.295
Husband's Controlling Behavior	-	-	-	-	0.028	4.983
- Not in the model						
() Parentheses are used to show the variables that are no longer significant in the model.						

In the final model, when all other variables are controlled, we see that women's empowerment has a remarkable impact on the ability of women saying no to their husband. Women whose level of empowerment is medium rather than low have a 67% higher chance of saying no to their husbands. Women who have a high level of

empowerment have three times more chance to say no to their husband compared to women whose level of empowerment is low.

Table 4. 19. Sexual relations - Binary logistic regression analysis results

Independent Variables	Model 1	Model 2	Model 3
Empowerment level			
Low (ref)			
Medium	1.944*	1.828*	1.671*
High	4.117*	3.724*	3.152*
Age			
15-19 (ref)			
20-24	1.131	1.156	1.290
25-29	1.224	1.273	1.467
30-34	1.073	1.136	1.299
35-39	1.359	1.497	1.766*
40-44	1.447	1.532	1.868**
45-49	1.168	1.231	1.412
Number of children born			
0 (ref)			
1-2	0.684**	0.601*	0.595*
3-4	0.586**	0.450*	0.425*
5+	0.634	0.471*	0.468*
Type of residence			
Non-camp	NA	1.079	1.056
Camp (ref)			
Life satisfaction			
Dissatisfied (ref)			
Neither satisfied nor dissatisfied	NA	1.354**	1.251
Satisfied	NA	1.526*	1.386**
Contraceptive practice			
Never used (ref)			
Only traditional method used	NA	1.224	1.184
Modern method used	NA	1.464*	1.440**
Husband's education level			
No education (ref)			
Primary completed	NA	NA	1.611*
Secondary completed and higher	NA	NA	1.627**
Knowledge of Turkish language			
Does not know Turkish (ref)			
Knows Turkish	NA	NA	1.441*
Husband's controlling behavior			
At least one (ref)			
None	NA	NA	1.358**
Nagelkerke R ²	0.102	0.118	0.136
Overall Classification Ratio	61.9 %	62.8%	63.8 %
NA: Not applicable because not in the model (*) statistically significant, p<0.01. (**) statistically significant, p<0.05.			

It was also observed that while life satisfaction is no longer significant in the final model, women who are satisfied with their lives compared to women that are dissatisfied are 39% more likely to have independence in this component. Also, women who gave birth to 1-2 children have 40% lower chance of saying no to their husbands compared to women with no children. While women with 3-4 children are 58 percent less likely to say no to their husbands, women with five children and more are 43 percent less likely to reject their husbands compared to women who have no children. Women who tried a modern method before have 44% more likelihood of saying no to their husband when compared to women who had never tried any method.

Husbands' education is another significant matter in sexual relations. Husband's completed primary school rather than no completed education level increases 61 percent of women's likelihood of being able to say no to their husband. Husband's having completed secondary education level or higher points 63% more chance of independence in sexual relations for women compared to women whose husbands completed no education level. Husband's speaking Turkish is also another significant factor in women's independence in sexual relations. Women are 44% more likely to reject their husbands when their husbands know Turkish compared to those whose husbands cannot speak Turkish. Also, women whose husbands do not use any controlling behavior have 36 percent more chance to say no to their husbands compared to women whose husbands use at least one of the controlling behavior.

4.4.2. Multinomial Logistic Regression - Healthcare Decisions

The dependent variable of these set of models measures the decision maker for women's own health issues. There are three categories for this variable; women can either make decisions about their own health "alone", either "together with their husband / partner" or "someone else" would make the decisions about women's own health for them. The reference category is decided to be "someone else".

Table 4. 20. Test of Model Effects for Women's Healthcare Decision

	Model 1		Model 2		Model 3	
Independent Variables	Sig.	Wald F	Sig.	Wald F	Sig.	Wald F
Empowerment Level	0.017	3.198	0.002	4.775	0.001	5.498
Life Satisfaction	-	-	0.000	12.234	0.000	9.921
Knowledge of Turkish language	-	-	-	-	0.000	8.300
- Not in the model () Parentheses are used to show the variables that are no longer significant in the model.						

In the first model, women's empowerment level is the only significant independent variable in predicting the decisions about healthcare of women. In the second model, we see empowerment level and life satisfaction are found to be significant. It is interesting to see that life satisfaction has the highest coefficient in the second model. In the final model, we see that women's empowerment level has the lowest contribution to the model. Still, according to the final model, the most powerful independent variables in predicting the decisions about healthcare of women are life satisfaction, husbands' knowledge of Turkish language and empowerment level. In all three regression models, the independent variable of the age of women is not found to be significant. However, there are significant variations among the certain categories of the 5-years age groups (30-34, 40-44 and 45-49). When we look at the final model, we see that when other factors are controlled, women's empowerment level, life satisfaction and husband knowledge of Turkish is significant in the overall model. Nevertheless, women in the 30-34 age group compared to women between 15-19 ages, are 3.5 times more likely to make decisions about their own health by themselves instead of someone else making those decisions. The likelihood of women making their own decisions about their healthcare matters rather than someone else is making those decisions is increasing in age groups of 40-44 and 45-49 compared to ages 15-19, as can be seen in Table 4.21. (almost 4 times more and 7 times higher, respectively).

In the final model, it is also seen that women with medium level of empowerment compared to low level of empowerment are more than two times more likely to make decisions about their own health by themselves rather than someone else is making decisions for them. Also, women with high level of empowerment are 2.6 times more likely to make the decisions about their health alone rather than someone else compared to women with low empowerment level. It is seen in the final model that the empowerment level of women is only significant for the likelihood of women to make the decisions about her own health alone.

Table 4. 21. Healthcare decisions - Multinomial logistic regression analysis results

	Model 1		Model 2		Model 3	
	Together with partner	Woman alone	Together with partner	Woman alone	Together with partner	Woman alone
Empowerment level						
Low (ref)						
Medium	1.713**	2.331*	1.697**	2.543*	1.522	2.374*
High	1.799	2.417**	1.773	2.850*	1.448	2.613*
Age						
15-19 (ref)						
20-24	1.283	1.141	1.376	1.115	1.494	1.128
25-29	1.358	1.686	1.492	1.593	1.659	1.648
30-34	2.044	3.562**	2.295	3.334**	2.597**	3.419**
35-39	1.283	2.029	1.464	1.798	1.709	1.876
40-44	1.860	4.205**	1.976	3.735**	2.383	3.930**
45-49	3.401	7.284**	3.751	6.646**	4.342	6.815**
Number of children born						
0 (ref)						
1-2	0.904	0.661	0.999	0.761	1.041	0.778
3-4	0.836	0.741	0.953	0.913	0.977	0.920
5+	0.683	0.590	0.769	0.729	0.819	0.731
Type of residence						
Non-camp	NA	NA	0.501	0.497	0.499	0.504
Camp (ref)						
Life satisfaction						
Dissatisfied (ref)						
Neither satisfied nor dissatisfied	NA	NA	2.315*	1.496	2.103**	1.415
Satisfied	NA	NA	1.424	0.549**	1.244	0.511*
Contraceptive practice						
Never used (ref)						
Only traditional method used	NA	NA	0.838	0.614	0.775	0.600
Modern method used	NA	NA	0.814	0.755	0.757	0.716
Husband's education level						
No education (ref)						
Primary completed	NA	NA	NA	NA	1.265	1.573
Secondary completed and higher	NA	NA	NA	NA	1.588	1.694
Knowledge of Turkish language						
Does not know Turkish (ref)						
Knows Turkish	NA	NA	NA	NA	1.555**	1.004
Husband's controlling behavior						
At least one (ref)						
None	NA	NA	NA	NA	1.179	1.048
Nagelkerke R ²	0.049		0.090		0.101	
Overall Classification Ratio	68.3 %		68.1 %		67.6 %	
NA: Not applicable because not in the model (*) statistically significant, p<0.01. (**) statistically significant, p<0.05.						

In terms of life satisfaction, we see that women who are neither satisfied nor dissatisfied with their lives compared to those who are dissatisfied are 2 times more likely to make decisions about their health together with their partner rather than someone else is making those decisions. However, women who are satisfied with their lives compared to women who are dissatisfied are 49% less likely to make decisions about their own health alone compared to women whose healthcare decisions are made by someone else. Even though a husband knowing Turkish instead of not knowing is significant in the model, it can be seen that it is only significant in making women's healthcare decisions together with her partner rather than someone else, which is 55 percent.

4.4.3. Multinomial Logistic Regression - Need for family planning

The dependent variable of these models has three categories, those who do not have any need for family planning (which means those who wish to get pregnant and infertile), those who have unmet need for family planning and those whose needs for family planning are met. The reference category is chosen to be those who have “unmet need for family planning”. As explained in detail in the Data and Methodology chapter before, the categories of contraceptive practice in these models are “never used or only traditional method used” and “modern method used”.

In the first model the empowerment level of women, age, the number of children born were found significant in the model. It can be seen that the coefficient of the number of children born is quite high which means it is a really strong predictor among the first set of independent variables. In the second model, in addition to previous variables found significant, residence and contraceptive practice were found to be significant. We see that the predicting power of contraceptive practice surpasses the number of children born. Also, we see that explanatory power of the model increased (Nagelkerke value increased from 0.272 to 0.339). In the final model, again, the empowerment level, the age of women, the number of children born, residence and contraceptive practice were found to be significant contributors to the model in predicting the need for family planning. As one

may have expected, contraceptive practice and the number of children born are two most powerful variables as predictors of the need for family planning. None of the husband characteristics in the third set of independent variables were found to be having a significant impact on predicting the need for family planning in those models.

Table 4. 22. Test of Model Effects for Need for Family Planning

Independent Variables	Model 1		Model 2		Model 3	
	Sig.	Wald F	Sig.	Wald F	Sig.	Wald F
Empowerment Level	0.004	4.185	0.027	2.879	0.036	2.686
Age	0.034	1.996	0.028	2.064	0.020	2.169
Number of Children Born	0.000	26.112	0.000	17.379	0.000	16.912
Type of residence	-	-	0.024	3.899	0.015	4.380
Contraceptive Practice	-	-	0.000	45.715	0.000	42.767
- Not in the model () Parentheses are used to show the variables that are no longer significant in the model.						

In the final model, we see that while age of women is significant for the model, there are no significant variations among the age groups. It is found that compared to women with low level of empowerment, women with high level of empowerment are 37% less likely to have no need for family planning (less likely to wish getting pregnant or being infertile) instead of having unmet need. Also, having given birth to children compared to zero children born decreases the likelihood of women wishing to get pregnant (or being infertile) compared to having an unmet need for family planning. The odds of having no need for family planning instead of having an unmet need for family planning are 78% for women who gave birth to 1-2 children, 87% for 3-4 children and 94% for 5 or more children, compared to women with no children. In terms of residence, women living in residential areas instead of camps are 41% less likely to have a desire for getting pregnant rather than having an unmet need for family planning.

Table 4. 23. Need for family planning - Multinomial logistic regression analysis results

	Model 1		Model 2		Model 3	
Independent Variables	No need for family p.	Met need for f.p.	No need for family p.	Met need for f.p.	No need for family p.	Met need for f.p.
Empowerment level						
Low (ref)						
Medium	0.735	1.007	0.747	0.884	0.718	0.860
High	0.693**	1.334	0.695	1.163	0.631**	1.071
Age						
15-19 (ref)						
20-24	1.461	1.368	1.476	1.257	1.529	1.278
25-29	1.445	1.431	1.461	1.210	1.530	1.238
30-34	1.551	1.388	1.582	1.194	1.615	1.226
35-39	1.256	1.447	1.280	1.278	1.343	1.323
40-44	0.480	1.160	0.479	0.949	0.506	0.974
45-49	0.550	0.696	0.556	0.539	0.553	0.532
Number of children born						
0 (ref)						
1-2	0.229*	6.734*	0.235*	4.753*	0.220*	4.462*
3-4	0.139*	12.346*	0.144*	5.755*	0.132*	5.460*
5+	0.058*	10.410*	0.062*	4.433**	0.059*	4.325**
Type of residence						
Non-camp	NA	NA	0.609*	0.776	0.592*	0.766
Camp (ref)						
Life satisfaction						
Dissatisfied (ref)						
Neither satisfied nor dissatisfied	NA	NA	1.063	1.361*	1.005	1.293
Satisfied	NA	NA	1.130	1.205	1.084	1.130
Contraceptive practice						
Never used or only traditional used (ref)						
Modern method used	NA	NA	0.908	3.795*	0.920	3.757*
Husband's education level						
No education (ref)						
Primary completed	NA	NA	NA	NA	1.196	1.004
Secondary completed and higher	NA	NA	NA	NA	1.077	1.131
Knowledge of Turkish language						
Does not know Turkish (ref)						
Knows Turkish	NA	NA	NA	NA	1.290	1.228
Husband's controlling behavior						
At least one (ref)						
None	NA	NA	NA	NA	1.344	1.320
Nagelkerke R ²	0.272		0.339		0.343	
Overall Classification Ratio	56.5 %		61.2 %		61.1 %	
NA: Not applicable because not in the model (*) statistically significant, p<0.01. (**) statistically significant, p<0.05.						

The changes in the odds for women having a met need for family planning rather than having an unmet need in terms of the total children ever born is quite different. Women who gave birth to 1-2 children instead of none have four and a half times higher chance of satisfying their needs for family planning instead of having an unmet need. The odds for women that had 5 or more children rather than none are almost the same (4.3). However, women who had 3-4 children rather than none are 5.5 times more likely to have satisfied their need for family planning instead of having an unmet need. The contraceptive practice is found to be significant in comparing women having satisfied needs for family planning rather than having an unmet need for family planning. Women who tried modern contraceptive methods before instead of never having used any method or used only traditional methods have the likelihood of satisfying their needs for family planning more than 3.5 times rather than having an unmet need.

4.4.4. Binary Logistic Regression – Reproductive Independence

The dependent variable here, reproductive independence, has only two categories. Women can either be reproductively independent or not. It is a composite indicator of all three dependent variables analyzed before. Women who can say no to their husband when they do not want to have sexual intercourse, women who are involved in the decisions about their own healthcare (either together with their partner or alone) and women who are in no need for family planning or who satisfied their need for family planning methods are accepted as reproductively independent. All other women who do not meet those conditions are not counted as reproductively independent and accepted as a reference category in this regression model.

Table 4. 24. Test of Model Effect for Reproductive Independence

	Model 1		Model 2		Model 3	
Independent Variables	Sig.	Wald F	Sig.	Wald F	Sig.	Wald F
Empowerment Level	0.000	32.778	0.000	25.382	0.000	15.219
Number of Children Born	0.029	3.131	0.000	10.403	0.000	10.297
Life Satisfaction	-	-	0.006	5.353	0.044	3.229
Contraceptive Practice	-	-	0.000	13.832	0.000	13.188
Husband's Education Level	-	-	-	-	0.030	3.642
Knowledge of Turkish Language	-	-	-	-	0.010	6.847
Husband's Controlling Behavior	-	-	-	-	0.018	5.809
- Not in the model () Parentheses are used to show the variables that are no longer significant in the model.						

In the first model we see that among the first set of independent variables, women's empowerment and number of children born are found to be significant. In the second model, life satisfaction and contraceptive practice are joined to those. After introducing the second set of independent variables, the explanatory power of the model increased (Nagelkerke R² value increased from 0.088 to 0.125) and we also see that the number of children born contributes more to the model. While the empowerment level of women is the major independent variable contributing to the explanatory power of the model, contraceptive practice has the second place. In the last model, with the addition of the third set of independent variables, the empowerment level of women is still the most powerful variable in predicting reproductive independence. It is also observed that all the characteristics of husbands are significant for the model. After the empowerment level, the contraceptive practice and the number of children born are the three powerful predictors for explaining reproductive independence. Husband's knowledge of Turkish language and husband's use of controlling behavior are also strong contributors to the model. Although their coefficient is rather low, life satisfaction and husband's education level is also found to be making a significant contribution to the model.

Furthermore, while age is not found significant in any of the models, the last 5-year age group category (45-49) is found significant. Based on the last model, it is found

that women between 45-49 ages are 50% less likely to be reproductively independent compared to women between 15-19.

In the final model, it is seen that women who are satisfied with their lives compared to their dissatisfied counterparts are found 36 percent more likely to be reproductively independent. The final model also indicates that women whose empowerment level are medium rather than low are 40 percent more likely to have reproductive independence. Those whose empowerment level are high, on the other hand, are almost 2.5 more likely to ensure reproductive independence compared to the women with low empowerment level. The variation in the contraceptive practice categories seems to be similar to the empowerment level. Women who practiced traditional contraceptive methods before are 93 percent more likely to have reproductive independence compared to women who had never used any method. Women that practiced modern methods before are almost 2.5 times more likely to be independent reproductively, as well.

When we look at the husband's characteristics, we see that an increase in the education level of the husband also slightly increases the odds of women to have reproductive independence. Women whose husbands have completed secondary school or higher are 84 percent more likely to ensure independence in reproductive components compared to women whose husbands did not complete any education level. Women whose husbands know Turkish compared to those whose husbands do not, on the other hand, are 41 percent more likely to have reproductive independence. Also, women whose husbands use none of the controlling behaviors have 41% more chance to have reproductive independence compared to women whose husbands use at least one of the controlling behaviors.

Table 4. 25. Reproductive Independence - Binary logistic regression analysis results

Independent Variables	Model 1	Model 2	Model 3
Empowerment level			
Low (ref)			
Medium	1.670*	1.527*	1.401**
High	3.286*	2.825*	2.378*
Age			
15-19 (ref)			
20-24	1.085	1.051	1.160
25-29	1.029	1.003	1.134
30-34	1.043	1.042	1.164
35-39	1.087	1.138	1.304
40-44	0.943	0.949	1.123
45-49	0.453**	0.449**	0.495**
Number of children born			
0 (ref)			
1-2	0.617*	0.425*	0.407*
3-4	0.614**	0.324*	0.300*
5+	0.603**	0.301*	0.294*
Type of residence			
Non-camp	NA	1.034	1.008
Camp (ref)			
Life satisfaction			
Dissatisfied (ref)			
Neither satisfied nor dissatisfied	NA	1.544*	1.423**
Satisfied	NA	1.502*	1.365**
Contraceptive practice			
Never used (ref)			
Only traditional method used	NA	1.967*	1.930*
Modern method used	NA	2.434*	2.426*
Husband's education level			
No education (ref)			
Primary completed	NA	NA	1.823*
Secondary completed and higher	NA	NA	1.842*
Knowledge of Turkish language			
Does not know Turkish (ref)			
Knows Turkish	NA	NA	1.408*
Husband's controlling behavior			
At least one (ref)			
None	NA	NA	1.415**
Nagelkerke R ²	0.088	0.125	0.146
Overall Classification Ratio	64.1 %	64.9 %	65.4 %
NA: Not applicable because not in the model (*) statistically significant, p<0.01. (**) statistically significant, p<0.05.			

When we look at the number of children born, its impact is quite opposite compared with the previous variables. The more children women gave birth, the less likely for them to ensure the conditions of reproductive independence components. The most striking and lowest ratio belongs to the both “3-4” children and “5 or more children”

categories. Women with three to four, or five or more children instead of none are found to be 70% less likely to be reproductively independent.

4.4.5. Binary Logistic Regression – Reproductive Independence – Further Analysis

The dependent variable of reproductive independence is the same that is used in the previous analysis, so it has only two categories. Women can either be reproductively independent or not. What is different in this analysis is the independent variable used for women's empowerment. Instead of using the overall empowerment level of women, the three dimensions of women's empowerment that are explained in both Data and Methodology chapter and 4.2 Women's Empowerment section are used to gain a deeper understanding of the impact of women's empowerment on reproductive independence.

In the first model, all three empowerment dimensions are found to be significant. It can be seen that the most powerful predictor in the first model is the first dimension. In the second model, after introducing the second set of independent variables into the analysis, we see that number of children born, life satisfaction and contraceptive practice are found to be significant. Although the first empowerment dimension is still the most powerful independent variable for the model, we see its coefficient decreased and the coefficient of contraceptive practice is increased to the second powerful predictor by replacing the dimension 2. In the final model, however, we see that the first empowerment dimension, the contraceptive practice and the third empowerment dimensions are powerful predictors for reproductive independence along with the husband's knowledge of Turkish language and the number of children born. Although their coefficients are rather low, empowerment dimension 2, life satisfaction, husband's education level and husband's use of controlling behavior are also found to be significant predictors for reproductive independence.

Table 4. 26. Test of Model Effects for Reproductive Independence with WEI Dimensions

Independent Variables	Model 1		Model 2		Model 3	
	Sig.	Wald F	Sig.	Wald F	Sig.	Wald F
Empowerment Dimension 1	0.000	29.197	0.000	21.971	0.000	15.947
Empowerment Dimension 2	0.012	4.606	(0.059)	(2.910)	(0.149)	(1.943)
Empowerment Dimension 3	0.000	12.758	0.000	12.050	0.000	9.563
Number of Children Born	-	-	0.000	8.420	0.000	8.461
Life Satisfaction	-	-	0.008	5.073	0.049	3.119
Contraceptive Practice	-	-	0.000	13.374	0.000	12.647
Husband's Education Level	-	-	-	-	0.037	3.406
Knowledge of Turkish language	-	-	-	-	0.004	8.738
Husband's Controlling Behavior	-	-	-	-	0.034	4.600
- Not in the model () Parentheses are used to show the variables that are no longer significant in the model.						

Age of women is not found significant in any of the models. However, the last age group (45-49) shows a significant variation in a reverse direction. Especially in the final model, we see that women between ages 45-49 are 61% less likely to have reproductive independence than women between 15-19 age group. While empowerment dimension 2 is found significant in the first and the second model, no significant variation is found among its categories in those models.

In the final model, it is observed that women with medium level in the first empowerment dimension have 50 percent more chance to have reproductive independence compared to women with low level in this dimension. We also see that women that score high in the first empowerment dimension are 2.3 times more likely to have reproductive independence compared to those whose scores are low in this dimension.

Table 4. 27. Reproductive Independence with WEI Dimensions - Binary logistic regression analysis results

Independent Variables	Model 1	Model 2	Model 3
Empowerment dimension 1			
Low (ref)			
Medium	1.888*	1.669*	1.496*
High	3.061*	2.607*	2.304*
Empowerment dimension 2			
Low (ref)			
Medium	0.853	0.819	0.800
High	1.167	1.054	0.946
Empowerment dimension 3			
Low (ref)			
Medium	1.587*	1.583*	1.525*
High	2.075*	2.099*	1.965*
Age			
15-19 (ref)			
20-24	0.999	0.951	1.053
25-29	0.943	0.895	1.002
30-34	0.950	0.913	1.011
35-39	0.946	0.939	1.062
40-44	0.792	0.760	0.902
45-49	0.378*	0.352*	0.392**
Number of children born			
0 (ref)			
1-2	0.618*	0.431*	0.414*
3-4	0.601**	0.327*	0.303*
5+	0.615**	0.317*	0.314*
Type of residence			
Non-camp	NA	1.056	1.037
Camp (ref)			
Life satisfaction			
Dissatisfied (ref)			
Neither satisfied nor dissatisfied	NA	1.508*	1.402**
Satisfied	NA	1.520*	1.389**
Contraceptive practice			
Never used (ref)			
Only traditional method used	NA	1.946*	1.913*
Modern method used	NA	2.384*	2.383*
Husband's education level			
No education (ref)			
Primary completed	NA	NA	1.791**
Secondary completed and higher	NA	NA	1.761**
Knowledge of Turkish language			
Does not know Turkish (ref)			
Knows Turkish	NA	NA	1.490*
Husband's controlling behavior			
At least one (ref)			
None	NA	NA	1.364**
Nagelkerke R ²	0.113	0.147	0.167
Overall Classification Ratio	64.4 %	66.2 %	66.6 %
NA: Not applicable because not in the model (*) statistically significant, p<0.01. (**) statistically significant, p<0.05.			

In the third empowerment dimension, the likelihood of the ensuring of reproductive independence components increases as the category of the scores of women that fall into increases compared to those whose level in this dimension are low (52 and 96 percent of increases for the medium and high categories, respectively).

For the life satisfaction, it is seen that those who are neither dissatisfied nor satisfied with their life and those who are satisfied are 60% more likely to have reproductive independence compared to women who are dissatisfied with their lives. The number of children born, contraceptive practice, husband's education level, husband's knowledge of Turkish language and husband's use of controlling behavior are all observed to have similar odds with the same direction as they were in the previous analysis, as well.



CHAPTER 5. CONCLUSION AND DISCUSSION

In this study, the relationship between the empowerment level of Syrian refugee women in Turkey and their reproductive independence is explored by using the 2018 TDHS Syrian Migrant Sample data. Principal component analysis is conducted in SPSS to construct a women's empowerment index for the married women at the time of the survey. After each married woman attains a continuous empowerment score as the result of principal component analysis, the scores are divided into three categories regarding their dispersion through sample. Hence each woman is placed into one of the three empowerment levels which can either be low, medium, or high. Afterwards the logistic regression analyses are conducted to explore the relationship between women's empowerment level and reproductive independence. Reproductive independence consists of three components which are the sexual relations, healthcare decisions and the need for family planning. Through logistic regression analyses, the relation between women's empowerment with each component of reproductive independence and the overall reproductive independence of women are examined. While multinomial logistic regression analysis is used for the healthcare decision and the need for family planning methods, for the sexual relations and the overall reproductive independence the binary logistic regression analysis is conducted. Lastly, the further analysis is performed to assess which dimension of women's empowerment is more related to the overall reproductive independence by using binary logistic regression. The age of women, the number of children born, type of residence, life satisfaction, contraceptive practice, husband's education level, husband's knowledge of Turkish language, and husband's use of controlling behaviors are used as independent variables in the analyses.

Women's empowerment is a multifaceted and multilevel topic, and also changes with respect to the location and the context of the study. There are many concepts in the literature used for women's empowerment in studies. Autonomy, status, empowerment have all been used and discussed in a broad framework. While Kabeer (1999) defines it

as a process, there are rather few studies on the assessment of that process (Malhotra et al., 2005). There might be uses of proxy indicators to measure it (Woldemicael et al., 2009), some scholars might prefer to construct composite indices (Do and Kurimoto, 2012). Among those that use composite indicators, it can also be observed that scholars sometimes prefer the concept autonomy (Atiglo and Codjoe, 2019) or empowerment (Blackstone, 2017) even though they are approximately examining the same thing. Therefore, while there is no clear-cut definition, there is also no consensus on the operationalization of the concept for the research. I believe this is both the weakness and the strength of studying women's empowerment. I chose to use the concept of empowerment because it underlies the meaning of gaining power against opposition (Dixon-Mueller, 1999). While this meaning intrinsically implies process as Kabeer (1999) underlines, I merely tried to take a snapshot of the Syrian refugee women's empowerment in Turkey at best.

Empowerment of women and its theoretical relation to reproductive independence are touched upon in the Literature Review chapter of this thesis. I would like to emphasize one more time that women's power in the decisions they make on their lives still needs further improvements. This especially applies for the decisions of tempo and the quantum of their fertility, including childlessness by choice. Compelling women to unwanted pregnancies and / or unsafe abortions stands one step away from violation of human rights. Hence, there is still need for further research on this. I hope this thesis provides a contribution to the literature with this regard.

In general, results of the analyses show that women's empowerment level is significantly related to all of the components and the overall reproductive independence. In terms of sexual relations, it was found that women being able to reject sexual intercourse is more possible when their empowerment level is higher, when they are satisfied with their lives, when they used modern contraceptive method before, when their husbands' education is higher, when their husbands know Turkish and when their

husbands use none of the controlling behavior. The number of children decreases the odds of women saying no to their partners. It is crucial to acknowledge here that social dynamics are complex and interrelated. “The more children woman has the less likely she is able to say no to her husband to refuse sex” is one way to put it but there is a possibility of women not being able to say no actually means marital rape (probably without using any method) hence increases the possibility of women’s (unwanted) pregnancy. Life satisfaction also undergoes the same condition, we do not know which one comes first, the life satisfaction or the sexual relations. In terms of statistically explanatory powers, we see that husband’s knowledge of Turkish and women’s empowerment level are by far the two most powerful independent variables to explain the sexual relations.

When the women’s healthcare decisions are analyzed, it was found that until the husband characteristics are put into the model, women’s empowerment level was significant for both women making decisions together with their partner and alone compared to the condition of decisions made by a third party. However, in the final model it was found that while women’s empowerment is found significant in the model, it is only significant for women to make the decisions about her own health alone. Compared to the women with low empowerment level, women with medium level of empowerment are 2.4 times and women with high level of empowerment are 2.6 times more likely to decide alone rather than decisions are made by another person. Also, while age itself as a variable is not significant in the model, the age groups of 30-34, 40-44 and 45-49 are found significant for women making decisions about their own health alone rather than someone else is making such decisions. Further, compared to women between ages of 15-19, women who are between ages of 30-34 are 2.6 times more likely to decide issues about their health together with their partners rather than decisions are made by someone else.

Things get complicated when we examine the need for family planning. It is crucial to acknowledge that women who have no need for family planning or women who had already satisfied their need for family planning in one category (with the acceptance that

they have independence in the context of need for family planning) might be controversial. Women who have no need for family planning are those who have the desire to get pregnant or who are infertile. Accepting those women as having independence is tricky considering there are cultural forces that expect women to give birth to many children. Also, whether the desire for more children might be the woman's desire or it might actually be yielding to husband's desire is another aspect. On the contrary, accepting women who want to get pregnant or who are infertile as not having independence would be another controversial issue. Since we do not know the reasons behind women's desire for more children, assuming they have no choice or voice in wishing for more children would be another approach that puts women in a subordinate position, as if they do not have the ability to make calculated choices. I wish I had the data to make such a distinction among women who want more children to see whether it is their own desire or not. However, under the circumstances, I chose to accept women who want children and / or are infertile and therefore no need for family planning as having independence in family planning needs along with those who satisfied their needs with a family planning method and compared them to those who are in unmet need for family planning methods in the analyses.

It was found in the models that empowerment level, age, number of children, type of residence, and contraceptive practice are significant in the likelihood of women's need for family planning. While contraceptive practice and the number of children have the highest power in statistical analysis in terms of explaining the odds of women's having need for family planning, the type of residence, empowerment level and the age have rather less explanatory power in this regard (See Table 4. 22.). Empowerment level is only found significant for women who have no need for family planning compared to having unmet need. In fact, it is seen that women whose empowerment level is high rather than low are 37% less likely to have no need for family planning methods (less likely to wish for getting pregnant) rather than having unmet need. Also, women who used modern contraceptive methods before rather than used only traditional methods or never used are

almost 4 times more likely to have met their need for family planning instead of having an unmet need. Moreover, the number of children is found to be significant in all two categories of the need for family planning. To illustrate, while women who gave birth to one or two children instead of none are almost 4.5 times more likely to have met their needs for family planning rather than having an unmet need. It is also found significant that they are 78% less likely to have no need for family planning rather than having unmet need. In other words, women with 1-2 children rather than none are found significant in both more likely to have satisfied their needs and less likely to wish to get pregnant compared to having an unmet need.

The significance of women's empowerment level is rather low in its relation with the need for family planning in any of the models. In the review of James-Hawkins et al. (2018) it was stated that composite measures about women's agency might lead to overlooking its relationship with contraceptive use while within the literature of women's empowerment and reproductive health, it was consistent in various research that there is a relationship between those two. In this thesis as well, while there was a little significant explanatory power of women's empowerment level on the need of family planning, a powerful significant relationship was found between the reproductive independence and the empowerment level of women.

The overall reproductive independence of women is composed of three components analyzed above. Women who can reject their husbands when they do not wish to have sexual intercourse, who get involved in the healthcare decisions about their own health (either together with their partner or alone), and those who either state they do not need for family planning methods or who have met their needs for family planning methods are accepted as having reproductive independence. The rest, meaning women who cannot reject their husband, who do not get to be involved in the healthcare decisions about their own health and those who have an unmet need for family planning are accepted as not having reproductive independence.

It was found that empowerment of women, contraceptive practice, the number of children, husband's knowledge of Turkish, husband's use of controlling behavior, husband's education level, and life satisfaction are all significant contributors with this respect in understanding women's reproductive independence. It was found that women whose level of empowerment is medium rather than low are 40% more likely to have reproductive independence while women with high level of empowerment are almost 2.5 times more likely to have reproductive independence when all other variables are controlled. In terms of contraceptive practice, it was found that even women who only used traditional methods before rather than never used any method are 93% more likely to have reproductive independence. This odds of having reproductive independence increases to 2.5 times for women who used modern methods before compared to those never used any method. For the number of children, we observe a negative impact. The increase in the number of children a woman gives birth to rather than having no children decreases the likelihood of women's having the reproductive independence. It was found that women with one or two children compared to none are 59% less likely to have reproductive independence while women with five or more children compared to 0 children are 71% less likely to have reproductive independence. Just as it was discussed before, complexity and interrelatedness of social dynamics should be kept in mind in these types of findings. Whether the number of children women have decreases the possibility of women ensuring the criteria for reproductive independence or on the contrary, whether women who do not have reproductive independence end up with more children is a crucial issue that needs further research. Also, women who are neither satisfied nor dissatisfied with their lives and women who are satisfied with their lives are more likely to have reproductive independence compared to women who are dissatisfied with their lives. Husband's characteristics also have an important role in the likelihood of women having reproductive independence. Women whose husbands know Turkish are 41 percent more likely to have reproductive independence compared to women whose husbands do not know Turkish language. In terms of husband's education level, it is also observed that the

increase in the education level of husbands also slightly increases the odds of women having reproductive independence. Lastly, it is found that women whose husbands use none of the controlling behavior are 41 percent more likely to have reproductive independence compared to women whose husbands used controlling behavior at least one time.

In further analysis, it is found that the overall reproductive independence is significantly related to the two out of three dimensions of women's empowerment along with the contraceptive practice, husband's knowledge of Turkish, number of children, husband's use of controlling behavior, husband's education level and life satisfaction. While the second empowerment dimension was found significant in the first model, after the addition of the second and the third set of independent variables, it lost its significance for the model. Nevertheless, the first empowerment dimension is found to be the most powerful predictor for reproductive independence. It includes women's education, usage of internet, knowledge of ovulatory cycle and whether women are related to their husbands. The other empowerment dimension that is found significant is the third one that includes women's age at first cohabitation, participation to the household budget and accounting and whether women have ever worked since age 12. The increase in the level of the first and the third empowerment dimensions resulted in the increase in the likelihood of women having reproductive independence. All of the husband's characteristics are found significant which means that women whose husbands are educated, know Turkish and use none of the controlling behaviors are more likely to have reproductive independence compared to women whose husbands completed no level of education, do not know Turkish and uses at least one of the controlling behaviors.

In brief, in terms of research questions exhibited in the Data and Methodology chapter, one can say that the increase of the level of empowerment does also increase the likelihood of having reproductive independence. Results of the analyses show that the level of empowerment women attain significantly changes the odds for women having

reproductive independence. Women with a high level of empowerment are almost 2.5 times more likely to ensure reproductive independence than women with a low level of empowerment. Moreover, the component that is affected the most from the change in the level of empowerment of women is the sexual relations. It was found that while women with a medium level of empowerment are 68%, women with a high level of empowerment are three times more likely to be able to reject their husbands compared to women with a low level of empowerment.

Also, in the further analysis, two out of three dimensions of women's empowerment is found significant in explaining reproductive independence. The first dimension of women's empowerment is found to be the most explanatory variable for the reproductive independence such that women who are placed in high level in the rank of first empowerment dimension are 50% more likely to have reproductive independence compared to women with low level. The other dimension that was found significant was the third empowerment dimension. While women with medium level in the third empowerment dimension have 52 percent more chance, women with a high level in the third dimension are found to be 96% more likely to ensure reproductive independence compared to women with a low level in the same dimension. Although it is not directly possible to reveal how much of the variance of reproductive independence can be attributed to the empowerment level of women, the Nagelkerke values of the regression models are satisfactory for social sciences. Furthermore, certain husband's characteristics are also found significant in different regression analysis. For the reproductive independence analysis, husband's knowledge of Turkish language, the education level and husband's use of controlling behavior are found significant in changing the odds for women to have reproductive independence.

Last but not least, although women's empowerment level and the dispersion of women with different empowerment levels are not the main focus of this thesis, descriptive analyses show that empowerment levels vary greatly among women within

different age groups. While younger age groups have a lower proportion of women with high empowerment levels, the older age groups show different diversity within themselves. Also, there is a clear observable variation in the characteristics of husbands among the three empowerment levels. Women with a high empowerment level have the highest proportion of husbands that completed secondary school and higher whereas women with low empowerment level have the highest proportion of husbands that used at least one controlling behavior.

Besides being an attempt to fulfill a gap in the literature, this thesis is also important for three reasons. Firstly, the empowerment level of women has been investigated for many countries through several domains. However, it is essential to acquire as much information as possible about the empowerment level of refugee women. Despite refugee women's commonly accepted vulnerable position, as Erden (2017) points out in her study, they are also strong individuals who somehow managed to escape from a war and in a process of surviving in a whole another country with their effort. Secondly, although there are studies about Syrian refugees and their reproductive health (Samari, 2017), or their family planning attitudes (Dikmen et al., 2019) in Turkey, the data used for this study is 2018 TDHS – Syrian migrant sample (HUIPS, 2019) data which is representative for Syrian migrants in Turkey. Lastly, since 2011, there has been a great influx of Syrian refugees to Turkey, and currently there are 3.6 million refugees hosted in Turkey, which is the largest number of refugees a country has around the world (UNHCR, 2020). That is also one of the reasons why I hope this thesis will be beneficial for policy-makers and other governmental institutions to provide more information about the approximately half of such refugee population for future studies. Especially when it is considered all the husband's characteristics are found significant in explaining the relation of women's empowerment with reproductive independence, including husbands, or men in general, to the fieldwork of the institutions (from NGOs to government studies) for empowering women seems to be crucial.



REFERENCES

- Alan Dikmen, H., Cankaya, S., & Dereli Yilmaz, S. (2019). The attitudes of refugee women in Turkey towards family planning. *Public Health Nursing*, 36(1), 45–52. <https://doi.org/10.1111/phn.12553>
- Albayrak, H., Cankurtaran, Ö., Bahar-Özvarış, Ş., & Erdost, T. (2022). “ They taught us not only our rights as women, but also how to live.” Gender-based violence and empowerment experiences of Syrian women in Turkey and the role of women and girls safe spaces: A qualitative study . *Health Care for Women International*, 43(7–8), 1–18. <https://doi.org/10.1080/07399332.2021.1975120>
- Alsaawi, M., & Adamchak, D. J. (2000). Women’s status , fertility and contraceptive use in Kazakhstan. *Genus*, 56(1/2), 99–113. <https://www.jstor.org/stable/29788631>
- Atiglo, D. Y., & Codjoe, S. N. A. (2019). Meeting women’s demand for contraceptives in Ghana: Does autonomy matter? *Women and Health*, 59(4), 347–363. <https://doi.org/10.1080/03630242.2018.1500413>
- Blackstone, S. R. (2017). Women’s empowerment, household status and contraception use in Ghana. *Journal of Biosocial Science*, 49(4), 423–434. <https://doi.org/10.1017/S0021932016000377>
- Blanc, A. K. (2001). The effect of power in sexual relationships on sexual and reproductive health: An examination of the evidence. In *Studies in Family Planning* (Vol. 32, Issue 3, pp. 189–213). <https://doi.org/10.1111/j.1728-4465.2001.00189.x>
- Çağatay, P., Keskin, F., & Ergöçmen, B. (2020). *Fertility behavior of Syrian women in Turkey*. Çavlin, A. Syrian Refugees in Turkey (86–102), New York.
- Erden, O. (2017). Building Bridges for Refugee Empowerment. *Journal of International Migration and Integration*, 18(1), 249–265. <https://doi.org/10.1007/s12134-016-0476-y>
- Do, M., & Kurimoto, N. (2012). Women’s empowerment and choice of contraceptive methods in selected African countries. *International Perspectives on Sexual and Reproductive Health*, 38(1), 23–33. <https://doi.org/10.1363/3802312>
- DiStefano, C., Zhu, M., & Mîndrilă, D. (2009). Understanding and using factor scores: Considerations for the applied researcher. *Practical Assessment, Research and Evaluation*, 14(20).
- Dixon-Mueller, R. (1999). Policy and Research Paper N 16.
- Field, A. (2009). *Discovering Statistics Using SPSS*. SAGE Publications.
- Freedman, J. (2019). The uses and abuses of “vulnerability” in EU asylum and refugee protection: protecting women or reducing autonomy? *Papeles Del CEIC*, 1(204), 1–15.
- Furedi, F. (1997) *Population and Development: A Critical Introduction*. St. Martin’s Press. New York.

- Gagnon, A. J., Merry, L., & Robinson, C. (2002). A Systematic Review of Refugee Women's Reproductive Health. *Refuge: Canada's Journal on Refugees*, 6–17. <https://doi.org/10.25071/1920-7336.21279>
- Goulart, C. M., Purewal, A., Nakhuda, H., Ampadu, A., Giancola, A., Kortenaar, J. L., & Bassani, D. G. (2021). Tools for measuring gender equality and women's empowerment (GEWE) indicators in humanitarian settings. *Conflict and Health*, 15(1), 1–16. <https://doi.org/10.1186/s13031-021-00373-6>
- Göç İdaresi Genel Müdürlüğü. 2021. Geçici Koruma Kapsamında Bulunan Suriyelilerin Yaş ve Cinsiyet Dağılımı. Retrieved from <https://www.goc.gov.tr/gecici-koruma5638#>.
- Hacettepe University Institute of Population Studies. (2019). *2018 Turkey Demographic and Health Survey Syrian Migrant Sample*. Hacettepe University Institute of Population Studies, T.R. Presidency of Turkey Directorate of Strategy and Budget and TÜBİTAK, Ankara, Turkey.
- Hunt, L. (2008). Women Asylum Seekers and Refugees: Opportunities, Constraints and the Role of Agency. *Social Policy and Society*, 7(3), 281–292. <https://doi.org/10.1017/s1474746408004260>
- IBM. (2022). IBM Support. *Pattern Matrix and Structure Matrix Definition in SPSS FACTOR output*. Accessed at 14 March 2022. Retrieved from: <https://www.ibm.com/support/pages/pattern-matrix-and-structure-matrix-definition-spss-factor-output>
- Islam, A. Z. (2018). Factors affecting modern contraceptive use among fecund young women in Bangladesh: Does couples' joint participation in household decision making matter? *Reproductive Health*, 15(1), 1–9. <https://doi.org/10.1186/s12978-018-0558-8>
- Jabbar, S. A., & Zaza, H. I. (2016). Evaluating a vocational training programme for women refugees at the Zaatari camp in Jordan: women empowerment: a journey and not an output. *International Journal of Adolescence and Youth*, 21(3), 304–319. <https://doi.org/10.1080/02673843.2015.1077716>
- James-Hawkins, L., Peters, C., VanderEnde, K., Bardin, L., & Yount, K. M. (2018). Women's agency and its relationship to current contraceptive use in lower- and middle-income countries: A systematic review of the literature. *Global Public Health*, 13(7), 843–858. <https://doi.org/10.1080/17441692.2016.1239270>
- Jejeebhoy, S. J. (1991). Women's Status and Fertility: Successive Cross-Sectional Evidence from Tamil Nadu, India, 1970-80. *Studies in Family Planning*, 22(4), 217. <https://doi.org/10.2307/1966478>
- Kabakian-Khasholian, T., Mourtada, R., Bashour, H., El Kak, F., & Zurayk, H. (2017). Perspectives of displaced Syrian women and service providers on fertility behaviour and available services in west Bekaa, Lebanon. *Reproductive Health Matters*, 25, S75–S86. <https://doi.org/10.1080/09688080.2017.1378532>

- Kabeer, N. (1999). Resources, Agency, Achievements : Reflections on the Measurement of Women's Empowerment. *Development and Change*, 30(May), 435–464.
- Kabir, M. A., Khan, M. M. H., Kabir, M., Rahman, M. M., & Patwary, M. F. K. (2005). Impact of Woman's Status on Fertility and Contraceptive Use in Bangladesh : Evidence From Bangladesh Demographic and Health Survey ,. *The Journal of Family Welfare*.
- Karp, C., Wood, S. N., Galadanci, H., Sebina Kibira, S. P., Makumbi, F., Omoluabi, E., Shiferaw, S., Seme, A., Tsui, A., & Moreau, C. (2020). 'I am the master key that opens and locks': Presentation and application of a conceptual framework for women's and girls' empowerment in reproductive health. *Social Science and Medicine*, 258(May), 113086. <https://doi.org/10.1016/j.socscimed.2020.113086>
- Kishor, Sunita and Katherine Neitzel. 1996. *The Status of Women: Indicators for Twenty-Five Countries*. DHS Comparative Studies No. 21. Calverton, Maryland: Macro International Inc.
- Krause, S. K., Otieno, M., & Lee, C. (2002). Reproductive health for refugees. *The Lancet*, 360 (Supp.1): 15–16. Accessed from <https://www.womensrefugeecommission.org/research-resources/rh-lanski/>
- Loll, D., Fleming, P. J., Stephenson, R., King, E. J., Morhe, E., Manu, A., & Hall, K. S. (2021). Factors associated with reproductive autonomy in Ghana. *Culture, Health and Sexuality*, 23(3), 349–366. <https://doi.org/10.1080/13691058.2019.1710567>
- Louise Whitaker, Hughes, M., & Rugendyke, B. (2021). Capturing Practice Wisdom: Advancing the Empowerment of Women from Refugee and Migrant Backgrounds. *British Journal of Social Work*, 51(4), 1296–1313. <https://doi.org/10.1093/bjsw/bcab038>
- Malhotra, A., Schuler, S. R., & Boender, C. (2005). Measuring women's empowerment as a variable in International Development. *World Bank.Org*, 71–88. <http://books.google.com/books?hl=en&lr=&id=BzXyApyTGOYC&pgis=1>
- Mason, K. O. (1986). The status of women: Conceptual and methodological issues in demographic studies. *Sociological Forum*, 1(2), 284–300.
- Miedema, S. S., Haardörfer, R., Girard, A. W., & Yount, K. M. (2018). Women's empowerment in East Africa: Development of a cross-country comparable measure. *World Development*, 110, 453–464. <https://doi.org/10.1016/j.worlddev.2018.05.031>
- Mosedale, S. (2005). Assessing women's empowerment: Towards a conceptual framework. *Journal of International Development*, 17(2), 243–257. <https://doi.org/10.1002/jid.1212>
- Nguyen, N., Londeree, J., Nguyen, L. H., Tran, D. H., & Gallo, M. F. (2019). Reproductive autonomy and contraceptive use among women in Hanoi, Vietnam. *Contraception: X*, 1, 100011. <https://doi.org/10.1016/j.conx.2019.100011>

- Özgür Keysan, A., & Şentürk, B. (2021). Philanthropists, Professionals and Feminists: Refugee NGOs and the Empowerment of Syrian Women in Gaziantep, Turkey. *International Migration*, 59(1), 143–164. <https://doi.org/10.1111/imig.12728>
- Prata, N., Fraser, A., Huchko, M. J., Gipson, J. D., Withers, M., Lewis, S., Ciaraldi, E. J., & Upadhyay, U. D. (2017). Women's empowerment and family planning: A review of the literature. *Journal of Biosocial Science*, 49(6), 713–743. <https://doi.org/10.1017/S0021932016000663>
- Republic of Turkey. Ministry of Interior, Presidency of Migration Management. (2022). Up-to-date Statistics. Temporary Protection. <https://en.goc.gov.tr/temporary-protection27>. Accessed 25 June 2022.
- Samari, G. (2017). Syrian Refugee Women's Health in Lebanon, Turkey, and Jordan and Recommendations for Improved Practice. *World Medical and Health Policy*, 9(2), 255–274. <https://doi.org/10.1002/wmh3.231>
- Samari, G. (2018). Syrian Refugee Women's Empowerment and Fertility: Evidence from Jordan. *Interciencia*, 489(20), 1–9.
- Sharma, B., & Shekhar, C. (2015). Level of Women Empowerment and It's Determinates in Selected South Asian Countries. *IOSR Journal Of Humanities And Social Science*, 20(4), 2279–2845. <https://doi.org/10.9790/0837-204594105>
- Singh, S. K., Sharma, B., Vishwakarma, D., Yadav, G., Srivastava, S., & Maharana, B. (2019). Women's empowerment and use of contraception in India: Macro and micro perspectives emerging from NFHS-4 (2015–16). *Sexual and Reproductive Healthcare*, 19(November 2018), 15–23. <https://doi.org/10.1016/j.srhc.2018.11.003>
- Sougou, N. M., Bassoum, O., Faye, A., & Leye, M. M. M. (2020). Women's autonomy in health decision-making and its effect on access to family planning services in Senegal in 2017: A propensity score analysis. *BMC Public Health*, 20(1), 1–9. <https://doi.org/10.1186/s12889-020-09003-x>
- Steele, F., & Goldstein, H. (2006). A Multilevel Factor Model for Mixed Binary and Ordinal Indicators of Women's Status. *Sociological Methods & Research*, 35(1), 137–153. <https://doi.org/10.1177/0049124106289112>
- Tabachnick, B. G. & Fidell, L. S. (2013). *Using Multivariate Statistics*. UK: Pearson New International Edition.
- UNDP (United Nations Development Programme). *Human Development Reports*. Documentation and Downloads. HDR 2020 Tables and Dashboards. <https://hdr.undp.org/data-center/documentation-and-downloads>. Accessed 25 June 2022.
- UNFPA and Hera (2019). *Research on what determines women's ability to decide on their SRHR and the relationship between this and other aspects of their lives*. Volumes 1 and 2: Final report, October 2019

- UNHCR (2019). 3RP Regional Strategic Overview 2020 – 2021. Available at: <https://data.unhcr.org/en/documents/details/73116>
- UNHCR. (2020). Trends at a glance: Global trends forced displacement in 2019. *UNHCR The UN Refugee Agency*, 1–84. <https://www.unhcr.org/5ee200e37.pdf>
- UNHCR (2021). Refugee Data Finder. *UNHCR The UN Refugee Agency*. <https://www.unhcr.org/refugee-statistics/>. Accessed 24 June 2022.
- United Nations. (2014). Programme of Action of the International Conference on Population and Development (20th Anniversary Edition). *UNFPA*, 296. <https://doi.org/10.2307/j.ctv125jpdf.60>
- United Nations. (2000). United Nations Millennium Declaration. United Nations *General Assembly* Resolution 55/2. United Nations, New York.
- United Nations. (n.d.). *Goals 5 Achieve gender equality and empower all women and girls*. United Nations Department of Economic and Social Affairs Sustainable Development . Retrieved June 12, 2022, from <https://sdgs.un.org/goals/goal5>
- Upadhyay, U. D., Dworkin, S. L., Weitz, T. A., & Foster, D. G. (2014). Development and validation of a reproductive autonomy scale. *Studies in Family Planning*, 45(1), 19–41. <https://doi.org/10.1111/j.1728-4465.2014.00374.x>
- Upadhyay, U. D., Gipson, J. D., Withers, M., Lewis, S., Ciaraldi, E. J., Fraser, A., Huchko, M. J., & Prata, N. (2014). Women’s empowerment and fertility: A review of the literature. *Social Science and Medicine*, 115, 111–120. <https://doi.org/10.1016/j.socscimed.2014.06.014>
- van Eerdewijk A, Wong F, Vaast C, Newton J, Tyszler M, Pennington A. White paper: A conceptual model on women and girls’ empowerment. Amsterdam: Royal Tropical Institute (KIT); 2017
- Ward, J., & Vann, B. (2002). Gender-based violence in refugee settings. *The Lancet*, 360 (Supp.1): 13–14. Accessed from <https://www.womensrefugeecommission.org/research-resources/rh-lanjw/>
- Women’s Refugee Commission. (2021). *Contraceptive Services in Humanitarian Settings and in the Humanitarian-Development Nexus: Summary of Gaps and Recommendations from a State-of-the-Field Landscaping Assessment*.
- Woldemicael, G. (2009). Womens autonomy and reproductive preferences in Eritrea. *Journal of Biosocial Science*, 41(2), 161–181. <https://doi.org/10.1017/S0021932008003040>
- Yüksel-Kaptanoğlu, İ., & Dayan, C. (2020). *Child, early and forced marriages among Syrian migrant women in Turkey*. Çavlin, A. Syrian Refugees in Turkey (68–85), New York.

APPENDIX

Appendix A – Initial principal component analysis output

This appendix presents the initial principal component analysis output tables that conducted with 17 items.

1. Shopping for kitchen
2. HH budget and accounting
3. Paying bills
4. Education
5. Use of internet
6. Have money to spend by herself
7. Ever worked since age 12
8. Age at first cohabitation
9. Talked about family planning with anyone
10. Knowledge of Turkish language
11. Consanguinity
12. Polygyny
13. Knowledge of ovulatory cycle
14. Owns a house
15. Owns land
16. Talked about family planning with husband/partner
17. Consent

Table A. 1. Component Score Coefficient Matrix Table of the Initial PCA

Indicators	Components						
	1	2	3	4	5	6	7
shopping for kitchen	0.255	-0.294	-0.112	-0.114	0.105	0.040	0.010
hh budget and accounting	0.317	-0.241	-0.112	-0.013	0.136	0.056	0.020
paying bills	0.253	-0.238	-0.113	-0.084	0.091	-0.025	-0.056
education	0.148	0.171	0.110	0.375	0.223	-0.090	-0.174
use of internet	0.204	0.205	0.092	0.305	0.082	-0.096	-0.014
have money to spend by herself	0.070	0.054	0.090	0.082	-0.242	-0.375	0.405
ever worked since age 12	0.139	-0.010	0.047	0.039	-0.512	-0.028	0.226
age at first cohabitation	0.121	-0.035	0.042	0.074	-0.292	0.458	0.190
talked about fp with anyone	0.211	0.323	0.044	-0.371	0.047	0.027	-0.100
knowledge of Turkish language	0.198	0.053	0.055	0.015	-0.148	-0.248	0.220
consanguinity	0.082	0.035	0.071	0.139	-0.226	0.297	-0.549
polygyny	-0.003	0.096	-0.049	0.056	0.472	0.132	0.477
knowledge of ovulatory cycle	0.164	0.068	-0.029	0.367	0.071	-0.026	-0.094
owns a house	0.021	-0.164	0.502	-0.080	0.133	0.003	-0.006
owns a land	0.004	-0.146	0.516	-0.079	0.079	-0.032	-0.016
talked about fp with husband	0.184	0.321	0.038	-0.413	0.032	0.093	-0.030
consent	-0.012	0.062	0.082	0.120	0.023	0.626	0.333
Extraction Method: Principal Component Analysis.							

Table A. 2. Components and Items resulted from the Initial PCA (without rotation)

Component 1	Component 2	Component 3	Component 4	Component 5	Component 6	Component 7
Household budgets and accounting	Talked about FP with anyone	Owens land	Education	Ever worked since age 12	Consent	Consanguinity
Paying bills	Talked about FP with: husband/partner	Owens a house	Knowledge of ovulatory cycle	Polygyny	Age at first cohabitation	Have money to spend by herself
Use of internet	Shopping for kitchen					
Knowledge of Turkish language						

Table A. 3. Component Score Covariance Matrix Table of the Initial PCA

Component	1	2	3	4	5	6	7
1	1.000	0.000	0.000	0.000	0.000	0.000	0.000
2	0.000	1.000	0.000	0.000	0.000	0.000	0.000
3	0.000	0.000	1.000	0.000	0.000	0.000	0.000
4	0.000	0.000	0.000	1.000	0.000	0.000	0.000
5	0.000	0.000	0.000	0.000	1.000	0.000	0.000
6	0.000	0.000	0.000	0.000	0.000	1.000	0.000
7	0.000	0.000	0.000	0.000	0.000	0.000	1.000

Table A. 4. Rotated Component Matrix Table (after Varimax rotation) of the Initial PCA

		Components						
	Indicators	1	2	3	4	5	6	7
1	hh budget and accounting	0.813	0.011	-0.004	0.132	0.044	-0.024	0.069
2	Shopping for the kitchen	0.793	-0.020	0.032	-0.062	0.013	-0.005	0.016
3	paying bills	0.718	0.014	-0.004	0.014	0.027	0.040	-0.054
4	Talked about FP with partner	-0.013	0.887	-0.026	0.007	0.048	-0.023	0.045
5	Talked about FP w/ anyone	0.016	0.879	-0.017	0.099	0.056	0.019	-0.028
6	owns a house	0.045	-0.021	0.895	-0.006	0.003	0.004	0.031
7	owns land	-0.019	-0.021	0.894	-0.019	0.048	0.047	0.010
8	education	-0.043	0.051	0.081	0.750	-0.032	-0.017	-0.053
9	Use of internet	-0.014	0.163	0.014	0.674	0.190	-0.023	0.039
10	Knowledge of ovulatory cycle	0.122	-0.080	-0.114	0.582	0.055	0.050	0.050
11	Have money to spend by herself	-0.093	-0.037	0.046	0.069	0.661	-0.119	-0.066
12	Ever worked since age 12	0.064	0.010	-0.043	-0.050	0.610	0.279	0.259
13	Knowledge of Turkish language	0.154	0.163	0.031	0.172	0.503	-0.025	-0.033
14	Polygyny	-0.001	0.062	-0.040	0.162	-0.147	-0.731	0.172
15	Consanguinity	-0.002	0.067	0.023	0.248	-0.195	0.642	0.203
16	Consent	-0.121	0.004	0.054	0.048	-0.124	-0.192	0.733
17	age at first cohabitation	0.132	0.010	-0.008	-0.012	0.175	0.182	0.629
Extraction Method: Principal Component Analysis.								
Rotation Method: Varimax with Kaiser Normalization (Rotation converged in 6 iterations)								

Table A. 5. Components and Items resulted from the Initial PCA (after Varimax rotation)

Component 1	Component 2	Component 3	Component 4	Component 5	Component 6	Component 7
Household budgets and accounting	Talked about FP with husband / partner	Owens a house	Education	Have money to spend by herself	Polygyny	Consent
Shopping for kitchen	Talked about FP with anyone	Owens a land	Use of internet	Ever worked since age 12	Consanguinity	Age at first cohabitation
Paying bills			Knowledge of ovulatory cycle	Knowledge of Turkish language		

Table A. 6. Pattern Matrix (after Direct Oblimin rotation) Table of the Initial PCA

		Component						
	Indicators	1	2	3	4	5	6	7
1	hh budget and accounting	0.814	-0.001	0.002	0.103	0.005	0.054	0.055
2	Shopping for the kitchen	0.802	-0.020	0.037	-0.087	0.028	0.006	0.034
3	paying bills	0.722	0.010	0.001	-0.007	0.015	-0.069	-0.017
4	Talked about FP with partner	-0.019	0.896	-0.024	-0.072	0.002	0.034	0.019
5	Talked about FP w/ anyone	0.007	0.884	-0.014	0.024	0.000	-0.044	-0.025
6	owns a house	0.058	-0.019	0.895	0.000	0.009	0.032	-0.004
7	owns land	-0.009	-0.019	0.894	-0.011	-0.039	0.010	-0.048
8	education	-0.061	0.011	0.086	0.759	0.058	-0.073	0.006
9	Use of internet	-0.042	0.122	0.017	0.661	-0.161	0.019	0.022
10	Knowledge of ovulatory cycle	0.100	-0.116	-0.110	0.588	-0.033	0.031	-0.047
11	Have money to spend by herself	-0.119	-0.059	0.039	0.058	-0.676	-0.063	0.131
12	Ever worked since age 12	0.023	-0.005	-0.049	-0.081	-0.604	0.243	-0.253
13	Knowledge of Turkish language	0.129	0.141	0.029	0.141	-0.484	-0.043	0.040
14	Consent	-0.117	-0.003	0.053	0.023	0.113	0.748	0.213
15	age at first cohabitation	0.111	0.000	-0.011	-0.048	-0.164	0.620	-0.151
16	Polygyny	0.029	0.051	-0.037	0.149	0.129	0.208	0.738
17	Consanguinity	-0.029	0.062	0.025	0.248	0.233	0.162	-0.648
Extraction Method: Principal Component Analysis.								
Rotation Method: Oblimin with Kaiser Normalization (Rotation converged in 12 iterations).								

Table A. 7. Components and Items resulted from the Initial PCA (after Direct Oblimin rotation)

Component 1	Component 2	Component 3	Component 4	Component 5	Component 6	Component 7
Household budgets and accounting	Talked about FP with husband / partner	Owens a house	Education	Have money to spend by herself	Consent	Polygyny
Shopping for kitchen	Talked about FP with anyone	Owens a land	Use of internet	Ever worked since age 12	Age at first cohabitation	Consanguinity
Paying bills			Knowledge of ovulatory cycle	Knowledge of Turkish language		

Appendix B - Final principal component analysis output

This appendix presents the final principal component analysis output tables that conducted with 10 items.

1. Education
2. Usage of internet
3. Knowledge of ovulatory cycle
4. Relationship to husband (consanguinity)
5. Knowledge of Turkish language
6. Talked about family planning with anyone
7. Marital decision
8. Age at first cohabitation
9. Household budget and accounting
10. Ever worked since age 12

Table B. 1. Correlation Matrix Table of the Final PCA

	1	2	3	4	5	6	7	8	9	10
1	1.000	0.308	0.183	0.069	0.095	0.103	0.066	0.016	0.061	-0.044
2	0.308	1.000	0.182	0.081	0.134	0.161	0.078	0.047	0.067	0.100
3	0.183	0.182	1.000	0.044	0.055	0.074	0.043	0.069	0.141	0.082
4	0.069	0.081	0.044	1.000	0.040	0.049	0.052	0.058	0.030	0.043
5	0.095	0.134	0.055	0.040	1.000	0.145	0.130	0.048	0.114	0.119
6	0.103	0.161	0.074	0.049	0.145	1.000	0.026	0.013	0.028	0.060
7	0.066	0.078	0.043	0.052	0.130	0.026	1.000	0.091	0.066	0.119
8	0.016	0.047	0.069	0.058	0.048	0.013	0.091	1.000	0.085	0.137
9	0.061	0.067	0.141	0.030	0.114	0.028	0.066	0.085	1.000	0.082
10	-0.044	0.100	0.082	0.043	0.119	0.060	0.119	0.137	0.082	1.000

Significance (1-tailed) (continue)

	1	2	3	4	5	6	7	8	9	10
1		0.000	0.000	0.002	0.000	0.000	0.003	0.256	0.006	0.033
2	0.000		0.000	0.000	0.000	0.000	0.001	0.024	0.002	0.000
3	0.000	0.000		0.033	0.011	0.001	0.038	0.002	0.000	0.000
4	0.002	0.000	0.033		0.048	0.021	0.015	0.008	0.107	0.038
5	0.000	0.000	0.011	0.048		0.000	0.000	0.023	0.000	0.000
6	0.000	0.000	0.001	0.021	0.000		0.140	0.301	0.125	0.006
7	0.003	0.001	0.038	0.015	0.000	0.140		0.000	0.003	0.000
8	0.256	0.024	0.002	0.008	0.023	0.301	0.000		0.000	0.000
9	0.006	0.002	0.000	0.107	0.000	0.125	0.003	0.000		0.000
10	0.033	0.000	0.000	0.038	0.000	0.006	0.000	0.000	0.000	

Table B. 2. Component Matrix (before rotation) Table of the Final PCA

	1	2	3
1	0.623	-0.336	-0.024
2	0.489	-0.155	0.484
3	0.258	0.028	-0.003
4	0.350	0.556	-0.099
5	0.524	-0.526	0.133
6	0.281	0.486	0.297
7	0.350	0.367	-0.168
8	0.394	-0.179	-0.531
9	0.464	0.170	-0.465
10	0.364	0.235	0.395

Table B. 3. Component Transformation Matrix Table of the Final PCA

Component	1	2	3
1	0.714	0.556	0.426
2	-0.616	0.207	0.760
3	0.334	-0.805	0.490

Table B. 4. Communalities Table of the Final PCA

	Initial	Extraction
education	1.000	0.569
Usage of internet	1.000	0.502
knowledge of ovulatory cycle	1.000	0.498
consanguinity	1.000	0.067
Knowledge of Turkish language	1.000	0.461
talked about fp with someone	1.000	0.469
Marital decision	1.000	0.286
Age at fist cohabitation	1.000	0.403
Hh-budget	1.000	0.344
Ever worked	1.000	0.442

Appendix C – Indicator list for WEI with reasons of exclusion

Table C. 1. DHS variables included in the empowerment index and reasons for exclusion from final item list

	Variable	Included	Reason for exclusion
1	Ever worked since age 12	✓	
2	Have money to spend by herself	X	Those who have money to spend by herself were only 100 women among 1734 women (less than 10%)
3	Talked about FP with someone	✓	
4	Talked about FP with husband / partner	X	Conceptually, talking about family planning with someone (anyone including husband) were much more inclusive than only to husband).
5	Polygyny	X	Those whose husband have another wife were 169 women among 1734 women (less than 10%).
6	Owens a house	X	Those who own a house were less than 5% of all women.
7	Owens land	X	Those who own land were less than 5% of all women.
8	Education	✓	
9	Knowledge of ovulatory cycle	✓	
10	Other languages (Turkish)	✓	
11	Use of internet	✓	
12	Shopping for kitchen	X	Among the housework in a household, the work that requires utmost autonomy is considered to be the household budget.
13	HH budget and accounting	✓	
14	Paying bills	X	Among the housework in a household, the work that requires utmost autonomy is considered to be the household budget.
15	Age at first cohabitation	✓	
16	Consanguinity	✓	
17	Consent	X	Those who gave consent were less than 5% of all women. That is why the below indicator is constructed to measure the involvement of women into marital decision.
18	Who arranged the marriage	✓	

Appendix D – Variance Inflation Factor (VIF) Values

Table D. 1. Variance Inflation Factor Values of Sexual Relations, Healthcare Decisions and Reproductive Independence for the Logistic Regression Analysis

	Sexual Relations	Healthcare Decision	Reproductive Independence
Independent Variables	VIF	VIF	VIF
Empowerment level			
Low (ref)			
Medium	1.401	1.401	1.401
High	1.605	1.605	1.605
Age			
15-19 (ref)			
20-24	2.436	2.436	2.436
25-29	2.718	2.718	2.718
30-34	2.716	2.716	2.716
35-39	2.676	2.676	2.676
40-44	2.366	2.366	2.366
45-49	2.039	2.039	2.039
Number of children born			
0 (ref)			
1-2	3.283	3.283	3.283
3-4	4.157	4.157	4.157
5+	4.963	4.963	4.963
Type of residence			
Non-camp	1.013	1.013	1.013
Camp (ref)			
Life satisfaction			
Dissatisfied (ref)			
Neither satisfied nor dissatisfied	1.314	1.314	1.314
Satisfied	1.381	1.381	1.381
Contraceptive practice			
Never used (ref)			
Only traditional method used	1.517	1.517	1.517
Modern method used	2.075	2.075	2.075
Husband's education level			
No education (ref)			
Primary completed	3.119	3.119	3.119
Secondary completed and higher	3.269	3.269	3.269
Knowledge of Turkish language			
Does not know Turkish (ref)			
Knows Turkish	1.189	1.189	1.189
Husband's controlling behavior			
At least one (ref)			
None	1.026	1.026	1.026

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Table D. 2. Variance Inflation Factor Values of the Need for Family Planning for the Logistic Regression Analysis

	Need for family planning
Independent Variables	VIF
Empowerment level	
Low (ref)	
Medium	1.399
High	1.588
Age	
15-19 (ref)	
20-24	2.397
25-29	2.698
30-34	2.706
35-39	2.663
40-44	2.299
45-49	1.923
Number of children born	
0 (ref)	
1-2	3.105
3-4	3.962
5+	4.683
Type of residence	
Non-camp	1.014
Camp (ref)	
Life satisfaction	
Dissatisfied (ref)	
Neither satisfied nor dissatisfied	1.312
Satisfied	1.379
Contraceptive practice	
Never used or only traditional used (ref)	
Modern method used	1.460
Husband's education level	
No education (ref)	
Primary completed	3.167
Secondary completed and higher	3.327
Knowledge of Turkish language	
Does not know Turkish (ref)	
Knows Turkish	1.171
Husband's controlling behavior	
At least one (ref)	
None	1.026

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Table D. 3. Variance Inflation Factor Values of the Reproductive Independence for the Further Logistic Regression Analysis

	Reproductive Independence
Independent Variables	VIF
Empowerment Dimension 1	
Low (ref)	
Medium	1.519
High	1.546
Empowerment Dimension 2	
Low (ref)	
Medium	1.393
High	1.494
Empowerment Dimension 3	
Low (ref)	
Medium	1.523
High	1.668
Age	
15-19 (ref)	
20-24	2.532
25-29	2.878
30-34	2.927
35-39	2.950
40-44	2.549
45-49	2.176
Number of children born	
0 (ref)	
1-2	3.294
3-4	4.206
5+	5.053
Type of residence	
Non-camp	1.017
Camp (ref)	
Life satisfaction	
Dissatisfied (ref)	
Neither satisfied nor dissatisfied	1.319
Satisfied	1.389
Contraceptive practice	
Never used (ref)	
Only traditional method used	1.529
Modern method used	2.105
Husband's education level	
No education (ref)	
Primary completed	3.208
Secondary completed and higher	3.422
Knowledge of Turkish language	
Does not know Turkish (ref)	
Knows Turkish	1.208
Husband's controlling behavior	
At least one (ref)	
None	1.041

Appendix E – Logistic Regression Tables

Table E. 1. Significance, Exp(B) and C.I. for Exp (B) Values for the Final Model of Sexual Relations

Independent Variables	Sig.	Exp(B)	Confidence Interval 95%	
			Lower	Upper
Empowerment level				
Low (ref)				
Medium	0.000	1.671*	1.268	2.200
High	0.000	3.152*	2.204	4.508
Age				
15-19 (ref)				
20-24	0.149	1.290	0.911	1.826
25-29	0.106	1.467	0.920	2.337
30-34	0.237	1.299	0.840	2.008
35-39	0.029	1.766*	1.060	2.942
40-44	0.054	1.868**	0.990	3.525
45-49	0.242	1.412	0.789	2.526
Number of children born				
0 (ref)				
1-2	0.007	0.595*	0.410	0.864
3-4	0.000	0.425*	0.270	0.667
5+	0.002	0.468*	0.292	0.751
Type of residence				
Non-camp	0.810	1.056	0.677	1.647
Camp (ref)				
Life satisfaction				
Dissatisfied (ref)				
Neither satisfied nor dissatisfied	0.139	1.251	0.929	1.685
Satisfied	0.023	1.386**	1.046	1.837
Contraceptive practice				
Never used (ref)				
Only traditional method used	0.385	1.184	0.807	1.738
Modern method used	0.015	1.440**	1.076	1.927
Husband's education level				
No education (ref)				
Primary completed	0.010	1.611*	1.124	2.309
Secondary completed and higher	0.016	1.627**	1.098	2.410
Knowledge of Turkish language				
Does not know Turkish (ref)				
Knows Turkish	0.008	1.441*	1.102	1.886
Husband's controlling behavior				
At least one (ref)				
None	0.028	1.358**	1.034	1.782

Table E. 2. Significance, Exp(B) and C.I. for Exp (B) Values for the Final Model of Healthcare Decisions

	Women's Healthcare Decisions							
	Together with partner				Women alone			
			95% Confidence Interval				95% Confidence Interval	
Independent Variables	Sig	Exp(B)	Lower	Upper	Sig	Exp(B)	Lower	Upper
Empowerment level								
Low (ref)								
Medium	0.068	1.522	0.968	2.391	0.000	2.374*	1.477	3.815
High	0.273	1.448	0.744	2.819	0.004	2.613*	1.367	4.996
Age								
15-19 (ref)								
20-24	0.178	1.494	0.831	2.686	0.708	1.128	0.598	2.129
25-29	0.156	1.659	0.822	3.350	0.208	1.648	0.753	3.605
30-34	0.034	2.597**	1.075	6.273	0.016	3.419**	1.261	9.269
35-39	0.220	1.709	0.722	4.046	0.210	1.876	0.697	5.046
40-44	0.104	2.383	0.833	6.814	0.021	3.930**	1.232	12.535
45-49	0.083	4.342	0.824	22.885	0.033	6.815**	1.175	39.510
Number of children born								
0 (ref)								
1-2	0.919	1.041	0.476	2.278	0.546	0.778	0.342	1.770
3-4	0.963	0.977	0.358	2.664	0.876	0.920	0.319	2.657
5+	0.731	0.819	0.259	2.585	0.614	0.731	0.213	2.506
Type of residence								
Non-camp	0.144	0.499	0.196	1.274	0.124	0.504	0.210	1.211
Camp (ref)								
Life satisfaction								
Dissatisfied (ref)								
Neither satisfied nor dissatisfied	0.013	2.103**	1.177	3.756	0.302	1.415	0.729	2.746
Satisfied	0.378	1.244	0.763	2.028	0.016	0.511*	0.296	0.882
Contraceptive practice								
Never used (ref)								
Only traditional method used	0.440	0.775	0.404	1.487	0.176	0.600	0.285	1.262
Modern method used	0.356	0.757	0.417	1.373	0.336	0.716	0.361	1.422
Husband's education level								
No education (ref)								
Primary completed	0.494	1.265	0.641	2.494	0.288	1.573	0.678	3.649
Secondary completed and higher	0.164	1.588	0.825	3.056	0.212	1.694	0.737	3.864
Knowledge of Turkish language								
Does not know Turkish (ref)								
Knows Turkish	0.063	1.555	0.975	2.479	0.989	1.004	0.598	1.684
Husband's controlling behavior								
At least one (ref)								
None	0.408	1.179	0.796	1.746	0.837	1.048	0.669	1.641

Table E. 3. Significance, Exp(B) and C.I. for Exp (B) Values for the Final Model of Need for Family planning

Independent Variables	Need for family planning							
	No need for family planning				Met need for family planning			
			95% Confidence Interval of Exp(B)				95% Confidence Interval	
	Sig	Exp(B)	Lower	Upper	Sig	Exp(B)	Lower	Upper
Empowerment level								
Low (ref)								
Medium	0.075	0.718	0.498	1.034	0.413	0.860	0.598	1.237
High	0.031	0.631**	0.415	0.958	0.746	1.071	0.706	1.624
Age								
15-19 (ref)								
20-24	0.120	1.529	0.893	2.618	0.352	1.278	0.759	2.150
25-29	0.165	1.530	0.837	2.794	0.487	1.238	0.675	2.269
30-34	0.156	1.615	0.830	3.141	0.531	1.226	0.644	2.336
35-39	0.400	1.343	0.872	2.686	0.382	1.323	0.703	2.493
40-44	0.109	0.506	0.219	1.168	0.938	0.974	0.493	1.924
45-49	0.156	0.553	0.243	1.259	0.077	0.532	0.264	1.071
Number of children born								
0 (ref)								
1-2	0.000	0.220*	0.115	0.420	0.009	4.462*	1.460	13.640
3-4	0.000	0.132*	0.061	0.285	0.005	5.460*	1.702	17.514
5+	0.000	0.059*	0.027	0.127	0.014	4.325**	1.357	13.780
Type of residence								
Non-camp	0.006	0.592*	0.410	0.854	0.345	0.766	0.438	1.339
Camp (ref)								
Life satisfaction								
Dissatisfied (ref)								
Neither satisfied nor dissatisfied	0.978	1.005	0.694	1.455	0.122	1.293	0.932	1.794
Satisfied	0.649	1.084	0.763	1.542	0.433	1.130	0.830	1.540
Contraceptive practice								
Never used or only traditional used (ref)								
Modern method used	0.587	0.920	0.680	1.245	0.000	3.757*	2.661	5.303
Husband's education level								
No education (ref)								
Primary completed	0.474	1.196	0.729	1.964	0.988	1.004	0.620	1.625
Secondary completed and higher	0.763	1.077	0.661	1.754	0.638	1.131	0.675	1.893
Knowledge of Turkish language								
Does not know Turkish (ref)								
Knows Turkish	0.135	1.290	0.922	1.805	0.231	1.228	0.876	1.722
Husband's controlling behavior								
At least one (ref)								
None	0.064	1.344	0.983	1.837	0.119	1.320	0.930	1.873

Table E. 4. Significance, Exp(B) and C.I. for Exp (B) Values for the Final Model of Reproductive Independence

Independent Variables	Sig.	Exp(B)	Confidence Interval 95%	
			Lower	Upper
Empowerment level				
Low (ref)				
Medium	0.020	1.401**	1.056	1.857
High	0.000	2.378*	1.719	3.289
Age				
15-19 (ref)				
20-24	0.451	1.160	0.786	1.711
25-29	0.626	1.134	0.681	1.889
30-34	0.561	1.164	0.694	1.952
35-39	0.323	1.304	0.767	2.215
40-44	0.706	1.123	0.612	2.060
45-49	0.041	0.495**	0.253	0.972
Number of children born				
0 (ref)				
1-2	0.000	0.407*	0.281	0.591
3-4	0.000	0.300*	0.183	0.492
5+	0.000	0.294*	0.182	0.474
Type of residence				
Non-camp	0.975	1.008	0.624	1.626
Camp (ref)				
Life satisfaction				
Dissatisfied (ref)				
Neither satisfied nor dissatisfied	0.023	1.423**	1.051	1.926
Satisfied	0.031	1.365**	1.030	1.810
Contraceptive practice				
Never used (ref)				
Only traditional method used	0.001	1.930*	1.314	2.836
Modern method used	0.000	2.426*	1.722	3.417
Husband's education level				
No education (ref)				
Primary completed	0.010	1.823*	1.159	2.870
Secondary completed and higher	0.010	1.842*	1.162	2.919
Knowledge of Turkish language				
Does not know Turkish (ref)				
Knows Turkish	0.010	1.408*	1.086	1.826
Husband's controlling behavior				
At least one (ref)				
None	0.018	1.415**	1.063	1.884

Table E. 5. Significance, Exp(B) and C.I. for Exp (B) Values for the Final Model of Reproductive Independence and Women's Empowerment Dimensions (Further Analysis)

Independent Variables	Sig.	Exp(B)	Confidence Interval 95%	
			Lower	Upper
Empowerment Dimension 1				
Low (ref)				
Medium	0.002	1.496*	1.158	1.931
High	0.000	2.304*	1.721	3.086
Empowerment Dimension 2				
Low (ref)				
Medium	0.094	0.800	0.615	1.040
High	0.695	0.946	0.717	1.249
Empowerment Dimension 3				
Low (ref)				
Medium	0.004	1.525*	1.151	2.021
High	0.000	1.965*	1.445	2.673
Age				
15-19 (ref)				
20-24	0.802	1.053	0.699	1.587
25-29	0.994	1.002	0.583	1.721
30-34	0.968	1.011	0.586	1.743
35-39	0.834	1.062	0.599	1.886
40-44	0.752	0.902	0.473	1.719
45-49	0.011	0.392**	0.191	0.804
Number of children born				
0 (ref)				
1-2	0.000	0.414*	0.279	0.615
3-4	0.000	0.303*	0.180	0.510
5+	0.000	0.314*	0.191	0.516
Type of residence				
Non-camp	0.875	1.037	0.652	1.650
Camp (ref)				
Life satisfaction				
Dissatisfied (ref)				
Neither satisfied nor dissatisfied	0.031	1.402**	1.032	1.906
Satisfied	0.025	1.389**	1.043	1.850
Contraceptive practice				
Never used (ref)				
Only traditional method used	0.001	1.913*	1.293	2.830
Modern method used	0.000	2.383*	1.693	3.354
Husband's education level				
No education (ref)				
Primary completed	0.011	1.791**	1.149	2.790
Secondary completed and higher	0.017	1.761**	1.109	2.798
Knowledge of Turkish language				
Does not know Turkish (ref)				
Knows Turkish	0.004	1.490*	1.140	1.948
Husband's controlling behavior				
At least one (ref)				
None	0.034	1.364**	1.023	1.817