T.C.
UNIVERSITY OF GAZİANTEP
INSTITUTE FOR MIGRATION
DEPARTMENT OF URBAN STUDIES

RESIDENTIAL MOBILITY OF SYRIANS LIVING IN GAZİANTEP

MASTER'S OF ART THESIS

MURAT KAYA
GAZİANTEP
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Supervisor: Assoc. Prof. Sinan Tankut GÜLHAN

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ETHICAL DECLARATION

The data presented in this thesis was obtained in a survey carried out by me in collaboration with Mehmet Nuri GÜLTEKİN, Mesut YÜCEBAŞ, Muhsin SOYUDOĞAN, Reyhan ATASÜ-TOPÇUOĞLU, Mustafa DOĞANOĞLU, Şenay LEYLA KUZU, Sinan Tankut GÜLHAN, Atik ASLAN, Nur İNCETAHTACI, Ayşen UTANIR, Çağrı ASLAN, Harun Cengiz KARAYAKUPOĞLU, Ümran AÇIKGÖZ, and İbrahim ÖZHAZAR by the support of CARE in Turkey and International Organization for Migration (IOM). I played a major role in the design, preparation and execution of the survey, and the data analysis and interpretation are entirely by own work.

I'm aware of and understand the Gaziantep University's policy on plagiarism and I certify that this thesis is my own work, except where indicated by referencing, and the work presented in it has not been submitted in support of another degree or qualification from this or any other university.

Murat KAYA
24.12.2021

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ABSTRACT

RESIDENTIAL MOBILITY OF SYRIANS LIVING IN GAZİANTEP

KAYA, Murat
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Since 2011, many academic studies have been conducted with Syrian refugees living in Turkey. However, both the scope and the number of studies with urban perspective remain limited. While the issues of spatial separation, ghettoization, place belonging and spatial integration came to the fore in the literature, residential mobility is still an unexplored area. The aims of this study are to reveal how the Syrians living in Gaziantep spread to metropolitan residential areas, how, how often, for what reasons and when they move among different residential areas. For these purposes, a survey was applied to 2280 Syrians residing in 174 neighborhoods of Şahinbey and Şehitkâmil districts. In order to show and analyze the distribution of Syrians in urban residential areas, Moran's I and Monte-Carlo simulation indices as spatial autocorrelation methods were calculated within, as well as descriptive methods. The other studies in the literature, found out that the Syrian influx into cities has increased the residential mobility of the locals, and segregated regions have emerged. The dissimilarity index was calculated in order to determine whether the Syrian refugees and the locals live in Gaziantep together or in separate residential regions. Poisson regression model was used to understand whether the time spent in Gaziantep and the size of the household have effects on the mobility behaviors of Syrians. Finally, in order to reveal the spatial mobility patterns, a network analysis was carried out using two different clustering methods, one based on the public appraisal of the land and the other based on the ratio of Syrian refugees to the total neighborhood population. According to the findings, the distribution of Syrians living in Gaziantep is not random and ethnic enclaves have been formed. When the city is analyzed as a whole, spatial segregation is not high. It is revealed that 60 percent of the sample has been living in the first neighborhood they settled in Gaziantep after migration, while the mobile households move among neighborhoods in the same income group and towards neighborhoods with a low Syrian rate.

Keywords: residential mobility, Syrian refugees, spatial segregation

ÖZET

GAZİANTEP'TE YAŞAYAN SURİYELİLERİN İKAMETGÂH HAREKETLİLİĞİ

KAYA, Murat
YL Tezi, Kent Çalışmaları A.B.D.
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2011'den bu yana Türkiye'de yaşayan Suriyeli mültecilere yönelik birçok akademik çalışma yürütülmektedir. Ancak, kent çalışmalarının kapsamı ve sayısı sınırlı kalmıştır. Daha çok mekânsal ayrışma, gettolaşma, mekânsal aidiyet ve uyum konuları literatürde ön plana çıkarken, ikametgâh hareketliliği araştırılmamış bir alan olarak kalmıştır. Bu çalışmanın amacı, Gaziantep'te yaşayan Suriyelilerin metropolitan konut alanlarına nasıl yayıldığını, nasıl, hangi sıklıkla, hangi nedenlerden ötürü ve ne zaman konut bölgesi değiştirdiğini ortaya çıkarmaktır. Bu amaçlarla, Şahinbey ve Şehitkâmil ilçelerinde 174 mahallede ikamet eden 2280 Suriyeliye anket uygulanmıştır. Suriyelilerin şehir içi konut bölgelerinde dağılımı göstermek ve analiz etmek için betimleyici yöntemlerin yanı sıra mekânsal özilinti modeli kapsamında Moran's I ve Monte-Carlo simülasyon endeksleri hesaplanmıştır. Literatürdeki diğer çalışmalarda, Suriyelilerin kentlere yerleşmelerinin yerel toplumun kent içi hareketliliğini arttırdığına ve ayrışmış bölgelerin ortaya çıktığına dair işaretler bulunmaktadır. Suriyeli mültecilerin ve yerel toplumun, Gaziantep'te, bir arada ya da ayrı bölgelerde yaşayıp yaşamadıklarını tespit etmek amacıyla benzeşmezlik endeksi hesaplanmıştır. Gaziantep'te geçirilen sürenin ve hane büyüklüğünün, birden fazla mahallede yaşadıkları tespit edilen Suriyeliler ile Gaziantep'e yerleştiklerinden beri aynı mahallede ikamet eden Suriyelilerin hareketlilik davranışlarında etkili olup olmadığının anlaşılabilmesi için Poisson regresyon modeli kullanılmıştır. Son olarak mekânsal hareketlilik desenlerinin ortaya çıkarılabilmesi için biri arsa rayiç bedelleri diğeri mahalle bazında Suriyeli mültecilerin toplam mahalle nüfusuna oranına dayanan iki farklı kümele yöntemi kullanılarak ağ çözümlemesi yapılmıştır. Bulgulara göre, Gaziantep'te yaşayan Suriyelilerin dağılımı rastlantısal değildir ve etnik adacıklar oluşmuştur. Kent geneli göz önüne alındığında mekânsal ayrışmanın yüksek olmadığı da bulunmuştur. Örnekleminin yüzde 60'ının Gaziantep'te yerleştiği ilk mahallede yaşadığı, yer değiştirmiş olanlarınsa aynı gelir grubunda yer alan mahalleler arasında ve Suriyeli oranının düşük olduğu mahallelere doğru hareket ettikleri ortaya çıkarılmıştır.

Anahtar kelimeler: ikametgâh hareketliliği, Suriyeli mülteciler, mekânsal ayrışma

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ABBREVIATIONS

DGMM: Directorate General of Migration Management

TAC: Temporary accommodation center

UNHCR: United Nations High Commissioner of Refugees

NGO: Non-governmental organization

INGO: International non-governmental organization

EU: European Union

MENA: Middle East and North Africa

TP: Temporary protection

ESSN: Emergency Social Safety Net

USA/US: United States of America

UN Women: United Nations Entity for Gender Equality and the Empowerment of Women

CDR: Call data records

D.C.: District of Columbia

CEAS: Common European Asylum System

CARE: Cooperative for Assistance and Relief Everywhere Humanitarian Agency

IOM: International Organization for Migration

COVID-19: Coronavirus Disease 2019

IDE: Integrated development environment

TURKSTAT: Turkish Statistical Institute

TOKI: Housing Development Administration of Turkey

TRY: Turkish Lira

IDP: Internally displaced person

CHAPTER I
INTRODUCTION

1.1. Justification for the study

Starting from 2011, the Syrian Civil War caused millions of people to flee the country or displace internally. Syrian people who had to seek temporary or permanent refuge in other countries mostly resettled to neighboring countries. Turkey was one of the countries which, in this period followed, an 'open door' policy for people coming from Syria and now hosting 3,630,702 Syrians under the status of 'temporary protection'[1](DGMM, 2020).

At the beginning of the migration, Syrians were hosted in 'Temporary Accommodation Centers (TACs)' built along with the bordering cities of Turkey. In time, the Turkish government decided to close TACs and most of the Syrians were relocated to urban areas (İcduygu & Sert, 2019, p. 122). Also, the conditions of TACs forced migrants to leave and settle in urban areas. As the new migrant waves continues, the TACs' capacity to accommodate such numbers of people was inadequate (İçduygu, 2015, p. 8). Leaving TACs means losing the shelter but motives to leave were stronger. Only several TACs remain open today and over 98 percent of refugees live outside of the TACs in urban areas of Turkey according to the latest data provided by UNCHR (2020b). Therefore, the challenges Syrians face in their daily lives must be considered in terms of urban combined with the non-citizen status.

The challenges of urban life are different from those of the TACs. Accommodation support was provided only to those who were staying in these campsites. In urban areas, Syrians converge and diverge at some point regarding the everyday life circumstances with locals. They are, more or less, dependent on their efforts to make

[1] Temporary protection is a status provided by the Turkish Government who came from Syria. Due to the Geneva Convention dated 1951, Turkey does not classify migrants coming from eastern countries as refugees.

a living, accommodate and cope out with other challenges. Syrians who stayed in Turkey have been trying to find ways to live without anyone's help but their own. As opposed to the general idea that Syrians living in Turkey are dependent on aids, only a small number of refugees have access to aids from the government or NGOs (Gültekin et al., 2018).

Gaziantep is one of the cities having a high number of Syrians in Turkey. The city is located next to the Syria-Turkey border and historically connected to Aleppo (the biggest city in Syria). Besides, Gaziantep is relatively a big city and rich in economic activities in contrast to the other cities in the Southeastern part of Turkey. These factors make the city a transition and permanent location for Syrians. Roughly, one-fifth of the population is Syrian in the city. While the city hosts a high number of Syrians, this high number of newcomers created unexpected pressure. Due to its proximity to Syria, historical ties with Aleppo, dynamic economy, and cultural similarities appealed to many refugees to stay in the city instead of resettling in another one.

Several needs of refugees in a new country must be met immediately. One of them is secure housing. Finding a shelter in the first couple of days of migration, which is an acute need for survival, is different than finding one for the rest of the time in the resettled city. The latter is a strong indicator of a successful integration (Ager & Strang, 2008, p. 169). Encampment strategies can be only a temporary solution. In housing markets, there are obstacles to refugees' finding a secure and affordable house. If they are not supported by governments, I/NGOs, or their social networks in the early months of migration, they will have difficult times learning the city and the housing market on their own. Obstruction to access secure housing creates stress, anxiety and affects healthy attachment to the new space (Olliff, 2014, p. 11). Housing and its location in the city are also the keys to a refugee household's sustainable life. Especially, residing in a house at a location facilitating access to school, workplace, health institutions, and recreational areas is vital for households who are with limited resources (Tsavdaroglou et al., 2019).

When this survey took place, it has been 9 years since the first wave of Syrian refugees. Migration has become a very hot debate than it was ever before. It affected the internal and external politics, the economy, and societal relationships. In the academia of Turkey, integration is one of the voluminously studied areas regarding Syrian migration. However, research focusing on the spatial aspects is very limited. The thesis

aims to contribute to the literature by exploring and analyzing the spatial data collected via a survey in Gaziantep.

How mobile Syrians are, in terms of residence, is rather an unexplored area. During the early years of migration, the news covered sea-crossing incidents every day. Onward migration to Europe was at the core of debates when mobility is the topic. During the summer of 2015, the number of Syrians trying to cross the Turkey-Europe border peaked (Içduygu & Şimşek, 2016, p. 61). This resulted in the so-called 'migrant crisis' in Fortress Europe and a set of precautions to stop irregular crossings followed.

The new migration regime both the Turkish governments and the EU mutually agreed on opened a new era in the lives of Syrians. The journeys became more dangerous and deterred Syrians and other refugees to take them. On the other hand, the war in Syria continued. These developments might have forced Syrians to become more serious in their decision to stay and take steps to a permanent life in Turkey. Even 9 years is a very short period to assess mobility, nevertheless, being on the path of permanent stay may have affected mobility decisions.

Furthermore, I believe studying mobility has a pivotal role to establish existing patterns of segregation, ghettoization, and prospects of urban space. Spatial integration is also a key to understanding social cohesion and social mobility, spatial obstructions lead to social immobility (Massey & Denton, 2001, p. 14). Poverty is accumulated in ghettos and ghettos have a self-perpetuating dynamic that generates the vicious circle. While poverty is an inherited dimension of mass migration, perpetuation is not a natural outcome. It is upheld via institutions and in the relations of the current mode of production. To expose the patterns of mobility or immobility of Syrian refugees in Turkey shed light on the way to successful integration and inclusive policies.

This thesis is composed of five main chapters. The first chapter is the introductory section, where justification of the study and background are given. Background describes the previous pieces of research, current conditions of Syrians in Gaziantep. Demographics, legal status, relations of production, spatial aspects of urban Turkey, and housing of Syrians.

In chapter two, I present mobility concepts, theories that attempt to explain residential mobility such as spatial assimilation, place stratification, and life-course. Also, Bourdieu's 'field, habitus, capital', Lefebvre's 'production of space', and Harvey's 'residential differentiation' are briefly explained here. I also review factors found

influential on residential mobility in other countries. Additionally, housing and accommodation of Syrian refugees in Europe and MENA are important for the discussion of results related to Syrians in Gaziantep.

The third chapter two is dedicated to the methodology. It describes how the survey was prepared, applied; how the data was collected and analyzed.

In the fourth chapter, descriptive and analytical results of the survey could be found. It is composed of two parts: first part gives the findings on spatial distribution, individual and household descriptive demographics; and the second part is for the intra-urban residential mobility patterns.

In the last chapter, I discussed results based on the findings.

1.2. Background

1.2.1. Syrians in Turkey

1.2.1.1. Demographics, legal status and migration management

Until the 1990s and 2000s, Turkey was known as a source of emigration (Düvell, 2014, p. 89; Içduygu & Şimşek, 2016, p. 62), and also a transit country to European countries for Iranians, Afghanis, Iraqis, Bangladeshis, and Pakistanis; as a final destination for former Soviet Union Countries (İçduygu & Aksel, 2013, p. 175), as a temporary asylum for Bosnians and Kosovars during 90s (Kirişçi, 2003) and as a country where Africans stuck on their way to Europe (Şimşek & Sayman, 2018, p. 13). Currently, Turkey is an interception point of problems resulting from "failed states" (Paker & Keyman, 2020, p. 108). Therefore, the number of irregularized migrants who travel through Turkey; or temporarily or permanently stay, is increasing. Neighbors of Turkey such as Iran, Iraq, Georgia, Armenia, or at a proximal distance like Moldovia, Bulgaria, Libya, and Yemen are generating asylum seekers and irregularized migrants to Turkey. For three decades now, Turkey's net migration has been changing. Even until the mass migration from Syria, it was possible to classify Turkey as an immigration country rather than an emigration one, and after the mass influx of Syrians due to civil war in Syria, Turkey has become the country where the highest number of refugees has been living for last six years (UNHCR, 2021, p. 4). Turkey will keep this classification for decades unless the majority of Syrians are not granted citizenship in near future or go back to their country when it is safe. The global migration manage-

ment regime confines refugees away from the borders of developed countries. Simultaneously, Turkey has retained its position as being a transition country, even the number of people has been going to Europe or any other country of the so-called Global North increased because many Syrians and other nationals continue to take dangerous journeys to these destinations with a hope of finding more dignified and secure living conditions, further, for asylum and international protection. Turkey has become "the most significant mobility hub for onward mobility to Europe" (Sterly et al., 2019, p. 12).

After the Syrian Civil War broke out, in 2011, the first wave of migration of Syrians to neighboring countries has started. In April 2011, the first wave of Syrians crossed the Turkey-Syria border (İcduygu & Sert, 2019, p. 121) and started to wait along the border. The Turkish state decided to follow an open-door policy for Syrians. Until 2014, Syrians mainly clustered around the border in the hope for war's end and to go back (Balkan et al., 2018, p. 2). Meanwhile, the government of Turkey built Temporary Accommodation Centers (TACs) in several cities along the border. Most of the TACs remained open until their capacity is not enough to accommodate more refugees. In 2014, the Turkish government brought a new regulation related to Syrians named 'Regulation on Temporary Protection' into full force. This was the first sign of the change in the government's response related to the nature of the Syrian migration. It was then accepted that the war was not ending soon, and hosting Syrians would prolong. With the 'Temporary Protection' status, some rights were granted to Syrians such as access to social services and the right to stay anywhere in Turkey with the condition of registering with the authorities. The most significant right of this status was *non-refoulement*, which is normally provided to refugees and asylum applicants. Even though there were some advantages of the new status existed, nevertheless, these were not full refugee rights (Baban et al., 2017a, p. 81). It came with some limitations like travel bans, worker quotas, etc. The open-door policy continued until 2015 since the Syrian war continued to generate refugees and inviting the refugees to Turkey boosted the fear of refugees of the EU. The number of transit refugees to the EU was increasing. In 2015, approximately 2.5 million Syrians were living in Turkey under 'Temporary Protection' status (DGMM, 2020). The number of Syrians with TP status increased to 3.6 million in 2020.

Due to the expectations for a swift end to the civil war in Syria, immigrants were called publicly declared to be 'guests'. The wording connotates 'temporariness'

and ‘docility’. Consequently, the Turkish state did not lay the groundwork for policies to integrate Syrians and locals initially. However, the prolonged war and the apparent fact that after 2015 no mass return of the immigrants to Syria was on the horizon forced the government to formulate new solutions to ease both Syrians’ accommodation and the concerns of locals.

‘Temporary protection (TP)’ was one of the solutions, and an alternative to refugee status. As its name suggests, it was not a permanent one like granting citizenship or taking asylum applications to resettle Syrians to a safe third country. Moreover, it is not designed to be a ‘right–based’ approach. TP regulated staying in Turkey, access to social services, residency permission, etc. With the TP regulation, Syrians (all Syrians who have or have not valid documentation of Syria Arabic Republic) cannot be sent back to Syria (*non-refoulement*) without their will and were allowed to reside in cities they decide on condition that they must register to officials in the city they want to reside. After the registration process, they are given an identity card (which is called *kimlik* in Turkish) (UNHCR, 2017). With these temporary protection identity cards, Syrians can benefit from health and educational institutions for free. However, even though identity cards allow Syrians to stay in a certain location, it is not a residency permit. This distinction is important because identity cards (*kimlik)* and residency permits provide different mobility opportunities like traveling abroad etc.

If a Syrian under TP wants to change their city, they need to apply for a new *id card.* Whereas the government of Turkey did not apply any dispersal policy, these restrictions make travel, changing residence and employment difficult. *Kimlik* renewing process takes time, thus blocking their access to services like health, education, employment, etc. during this renewal process. Another downside of the temporary protection, which is considered as one of the most disadvantageous features (Baban et al., 2017b, p. 51), is that it brings along an ambiguity for Syrians’ application for international protection. Some Syrians and some humanitarian organizations assume temporary protection blocks application for international protection, in other words, resettlement to a third country. Therefore, this ambiguity also causes uncertainty among Syrians and keeps them in limbo, moreover, temporary protection legalizes the precarious state of Syrians in Turkey (Baban et al., 2017a, p. 89). Kim Rygiel, Feyzi Baban, and Suzan Ilcan (2018, p. 66) describe the status of Syrians in Turkey as ‘precarious’. Not just because TP does not grant full refugee rights, it is also the source of vulnerabilities. This ‘precarity of status’ overlaps with other forms of precarity. The multiplicity of

precarity obstructs Syrians' behaviors in many areas like travel, housing, social life, labor, and social services. Legally, it is not clear how long will the TP status stay in force and when it will be repealed. Existing political power or a new one may change it anytime unexpectedly or totally revoke it (Rygiel et al., 2018, p. 58; Şanlıer Yüksel & İçduygu, 2018, p. 101). TP status is not the only option for legal stay in Turkey, since 2016 Syrians are granted Turkish citizenship (Kuschminder et al., 2019). Even though this is a big step for integration and setting the environment for equality, the selection process is not transparent to the public, and it seems "arbitrary" and "unequal" (İçduygu & Diker, 2017, p. 20). It is not clear who gets or what should be done to get citizenship, it is known that the invitation for citizenship is sent by the government, but nobody knows how many refugees will be granted citizenship and what the criteria are. Until mid-2018, 30,000 Syrians were granted citizenship, and it is assumed that invitations were sent to Syrians who completed tertiary education and were employed formally (Aksel & İçduygu, 2019, p. 15).

1.2.1.2. Working conditions

Until 2016, no measures have been taken for the integration of Syrians into the formal labor market. In January 2016, a new regulation has been put into force (Kuschminder et al., 2019, p. 25). According to the regulation, Syrians can work after obtaining an identification card '*kimlik*' and living in Turkey for at least 6 months and business must be in the city where they are registered. They are not allowed to get a work permit in a city different from the one they are registered for. Also, in the business they want to work, the number of Syrians under TP cannot exceed 10% of the total employees (Civil Society Organizations, agriculture, and husbandry are exceptions) (İçduygu & Diker, 2017, p. 21) and the employer must apply in the name of the employee. Although these measures can be considered as a step towards integration and pointing out changes in the perception of 'temporariness', they are not adequate to direct Syrians under TP and employers to formal employment.

Previous research informs us that Syrians are in dire straits when their access to legal and secure jobs is concerned. Both young and adult populations usually find jobs outside of the legal scope, in the informal sector. This informality comes with low-wage, long-working hours, no work and workplace security and economic exploi-

tation in different forms. Syrians in Turkey consisted of comparatively young individuals who are at school age or early years of professional careers. According to Luis Pinedo Caro (2020, p. 4), the mean age of Syrians living in Turkey (23) is much lower than the Turkish national population (33). More importantly, the age group between 0-24 of Syrians represent 6.3 percent of the total population aged between 0-24 in Turkey. This share of the young population is much higher than the general share of Syrians to total population in Turkey (4.1 percent). Even though most Syrian youth consists of children of school age, they found themselves working instead of going to school. Among Syrians aged 15, 66.1 percent are working rather than going to high school (Caro, 2020, p. 7). Failure of schools on inclusiveness and other components of the educational system inhibit Syrians' integration to formal education, also Syrian adults' position as low-wage laborers in the informal sector, and poor participation of women into the labor force are among the most crucial reasons for high child employment. It seems that child workers are a coping strategy for families to compensate for income inequality (Kaya & Kıraç, 2016, p. 32).

According to Household Labor Force Survey (Caro, 2020, p. 12), in 2017, 940,921 Syrians were employed in a paid job in Turkey. More than 90 percent of them were in low-skilled or informal jobs. A very high share of the Syrian Labor Force consisted of men. The number of Syrians who were at least 15 years old was 813,781. The top three sectors of employment were manufacturing (48.2 percent), trade and hospitality (17.7 percent), and construction (13.2 percent). It is important to mention that 64.5 percent of manufacturing jobs were in sectors of textile, clothing, leather, and footwear, which can be considered as low-skilled, manual-labor factorial jobs rather than jobs requiring artisanship or specialization. According to the same study, on the ground level, Syrians and locals employed in the formal sector earned the same amount. However, in the formal sector, Syrians earned less. A more critical result from the study is that Syrians with higher education degrees were not able to benefit from their education in the labor market when compared to locals (Caro, 2020, p. 12).

The problem with the work permits mostly stems from the neoliberal restructuring of the labor market, Syrian's precarity of status and lack of mobility. The need for cheap labor and the current economic crisis in Turkey, in addition to the lack of incentives for formal employment, and the failure of control and assessment of workplaces led Syrians to work informally. The number of formally employed Syrians who were in the working-age group was very low, only 1 percent of the total population at

working-age (İçduygu & Diker, 2017, p. 22). Before the work permit regulation was put into force in 2016, it was estimated that the number of Syrians working informally was between 500 thousand and 1 million (Kadkoy, 2017). According to official data, between 2016 and 2019, 132,497 were provided to Syrians by the Turkish Government, including renewals of the previous permits (UNHCR, 2021). The influx of Syrians into the market transformed the supply of labor power and harmed the wages of natives (Balkan & Tumen, 2016, p. 660). Syrians substituted locals in the informal labor market, for every 10 refugees 6 locals (del Carpio & Wagner, 2015, p. 4). Syrians work for less money, are more accommodating with the working conditions, and are abused by employers such as being threatened about being reported to the officials for forced return (Kuschminder et al., 2019, p. 49). If the lack of control and monitoring of workplaces by the government continues the exploitation will also continue and might increase the already ongoing tension between local workers excluded from the informal market.

According to İçduygu and Diker (İçduygu & Diker, 2017, p. 19), a policy change related to working conditions of Syrians in Turkey is needed. The incentives and regulations are not adequate to direct employers and Syrians to the formal market. On the other hand, the temporariness and fear of deportation make the situation worse. The obligation that employers must pay for Syrian's work permit application fee but not for locals deter employers to register Syrians. Moreover, working formally does not bring any advantages for Syrians except salary. For all Syrians under TP, access to health care is free and accidents at workplaces are negligible for them. Working cheap brings about an advantage to Syrians because if they worked in the formal sector with minimum wage, they might not be the first choice of employers, while locals can speak Turkish and do not require extra registration fees. Therefore, Syrians have no choice but to work informally in Turkey.

One another obstacle to the formal employment of Syrians is that financial aids are not provided to Syrians under TP if working formally. However, this might not be a great factor as others since the number of financial aid beneficiaries is less than thought. Financial aids to Syrians living in Turkey take up a decent space in daily newspapers, TV news, social media and there has been still an ongoing debate around the source of this assistance. It is also one of the major sources of social tension between locals and refugees. However, contrary to common belief, the number of Syrians who utilized financial assistance from the government or NGOs is very low. According

to Gültekin et al.(2018, pp. 34, 72), 63 percent of Syrians in Gaziantep has never benefitted from any kind of assistance since their arrival to Turkey and financial assistance provided, most probably were given in TACs, thus the livelihood of refugees living in urban settings depend on their labor. According to Cuevas et al.'s study (2019, p. 27), 90 percent of ESSN[2] eligible refugee households make a living by working. Authors also found that the income of 64 percent of ESSN eligible households comes from unskilled labor whereas only 25 percent from skilled labor. These numbers are much more drastic for Syrians living in the Southeast region of Turkey and Mediterranean regions of Turkey, which are above 70 percent of unskilled labor. Another study on cash and material aids Syrians receive in İstanbul (Kaya & Kıraç, 2016, p. 33) found that most of the aids provided to Syrians are in form of goods like clothing, furniture, food, and drugs. The number of families who received cash assistance in three months before the survey is 4,5 percent. There are also regular seasonal aids like fuel for heating or educational support. 80 percent of the surveyed stated that they had been received regular fuel assistance for winters and 50 percent had been benefitted from educational support. None of the respondents had received shelter assistance of any kind.

1.2.2. Gaziantep: Migration, Space, Housing, and Mobility

Immigration is not an unusual phenomenon for Gaziantep. Starting from the 1950s, rural-to-urban type of immigration occurred in Turkey and Gaziantep was among the cities of destination of rural migration, and these kinds of migratory movement continued till the 2000s (Geniş, 2011, pp. 338–339; Karadağ, 2011, pp. 398, 400–401; Yüksel, 2011, pp. 378–379). Syrian immigration, the latest migratory movement to Gaziantep, stands in a different place among other migratory experiences due to its size and how it transformed the urban space.

Demographic transformation that occurred in Gaziantep starting from the late Ottoman period to the present can be explained by the formation of the nation-state, agricultural modernization and rural disintegration, globalization, industrialization, and political encounters among different ethnic groups, and finally the Syrian migration. The change of the demographic structure of the city brought urban transfor-

[2] ESSN stands for the Emergency Social Safety Net, a humanitarian program based on cash transfer and it is the biggest program in the history of EU (European Commission, 2021)

mation. In the late Ottoman Era, the urban space was fragmented, and different locations were occupied by Turks, Kurds, Armenians, and Jews. In 1915, the Armenian population of Turkey was deported, thus Gaziantep lost its Armenian population. The houses and other built assets of Armenians were repossessed by other groups (Karadağ, 2011; Keyder, 2000b, p. 174). The urban space became more homogenized in terms of ethnicity. This was, also, the process of building the "imagined community" (Anderson, 2006) of the new 'republican' transformation of Turkey.

In the first years of Turkish republican regime, the urbanization in Gaziantep was relatively rapid in contrast to other cities of Turkey, but the urbanization and population increase was slowed down between 1935-45 due to militarization as a cautionary act for II. World War (Koyuncu, 2019). In 1925, with a law that came into force in 1925, Gaziantep was determined as an independent industrial zone and 7 provinces in the region were connected to it and entered a rapid industrialization process (Kopar, 2019). Even though this rapid urbanization, until mid-50s, the agricultural production and people employed in agriculture were the major part in production and population (Karadağ, 2011, p. 395).

The 1950s were the era of urban turn in Turkey. It was a significant period when the modernization of agriculture caused rural-to-urban migration. Industrial urbanization followed agricultural transformation in the countryside in Gaziantep. Agricultural modernization of Turkey after World War II resulted in peasants losing their jobs and income. According to İlhan Tekeli (2011, p. 49), industrial-led urbanization in Turkey was late but rapid in contrast to Europe. Urbanization in such a short time caused problems because cities of Turkey were not ready to integrate the internal migrants coming from rural areas in terms of employment and city infrastructure. Between 1950 and 1990 the migration from rural to urban areas continued by increasing exponentially (Tekeli, 2011, p. 50). In contrast to North American or European cities under the process of urbanization where industrialization was the main reason from rural to urban migration, in Turkey, migration was not a result of attractiveness (employment opportunities, housing conditions, etc.) of cities but a result of disassociation in rural areas (Adıgüzel, 2012, p. 194; Tekeli, 2011, p. 51).

Migration from the hinterland to the core urged cities to open new spaces to resettle newcomers. During the first years of the Republic, Turkey has developed new city plans as a necessity of modernization. However, they were not meant to absorb a massive influx of migrants from rural villages. Therefore, city plans were failed to

provide legal ways of housing to internal migrants and resulted in large areas of squatter settlements (Tekeli, 2011, pp. 54–55). In Gaziantep, the city expanded from the center (marked by the Gaziantep Castle) to the peripheries in the south and north. In the north, Karşıyaka neighborhood was squatted by the newcomers; in the south, Düztepe and Hoşgör neighborhoods became the areas for new houses. Today, these neighborhoods still stand as residential areas as a part of the city center but decaying, there are ongoing or finished gentrification projects in these areas. Syrian refugees are very crowded in these areas.

Until 1980s, the changes in urban space of Gaziantep can be briefly explained as follows: With the transition to Republican regime, a change occurred in both the economic and socio-cultural aspects of the Gaziantep. The modernization effort of the Republic affected public space and relations with the decline of agricultural production over time and the coming to the forefront of the industrial production. However, it was observed that the changes in the spatial structure was not intensely until 1950. While the number of public buildings constructed with a modernist style increased, the shanty houses built by the rural immigrants have changed the appearance of the urban space (Karadağ, 2011, p. 401).

The 1980s were marked as the integration of the national economy with the international neoliberal market and globalization. The speed of urbanization and growth in the construction sector was noteworthy. Two distinct periods are significant in the urbanization period of Turkey after the 1980s. During these two periods, 1982-1988 and 2002-2008, the construction sector increased its share in the Turkish national economy (Balaban, 2017, pp. 22–23). For the period after 2000, Genç et al. (2021, p. 72) make a similar distinction. They divide the period from 2000 to the present day into two parts: 2002-2009, when pragmatic liberalism was dominant in the political economy, and 2009-to-present, the authoritarian and more centralist approaches were dominant. Starting from 1980, with the help of the free market, Anatolian cities like Gaziantep, started to create new job opportunities in the cities, expanded towards their hinterlands, and pull people living in rural areas toward themselves (Genç et al., 2021, p. 63). However, the economic growth was due to exploiting workers, utilizing cheap land prices, and selling goods to near transnational markets (Arat & Pamuk, 2019, p. 36).

The share of agricultural production within the total production decreased in time and was replaced by industrial production (Karadağ, 2011). After the 80s, when

national politics started to support free-market rules, the growth of Gaziantep accelerated (Yüksel, 2011). In addition to the advantages (flexible production, cheap labor, precarious working conditions, state subsidies) of neoliberal restructuring for capitalists, the opening of the Iraqi market after the USA's second invasion in 2003 was a great opportunity such that in 2008, one-fourth of the total export of Gaziantep was to Iraq. The geographic position of the Gaziantep, being close to foreign markets like Syria, Iraq, Iran, and Saudi Arabia (Keyman & Koyuncu-Lorasdağı, 2020, p. 104) and the cultural closeness gives the advantage over other cities of Turkey in terms of export to neighboring markets. After the beginning of war, selling unsophisticated, basic, and primitive products of the Gaziantep industry to Syria, and the very voluminous flow of Syrian capital to the city boosted the economic growth (Genç et al., 2021, p. 97).

During the 1990s, a new influx to cities occurred due to armed conflicts in South-East of Turkey. Kurds living in rural areas were forced to relocate to cities (Keyder, 2000a, p. 35). Gaziantep became both a destination and a transition city for Kurdish IDPs (Genç et al., 2021, p. 66; Geniş, 2011, pp. 335–336). With the increase of the population in the city, new residential areas were opened like İbrahimli and Kızılhisar. This is a classic example of 'white flight', Turks with high income left the city core to avoid the same space. This also led to an increase in speculative urban rent (Ay, 2001, p. 44).

The growth of the construction sector between 2002-2008 changed the view in almost all the cities of Turkey. Policies and practices aiming at a rapid economic gain in short term blocked the long-term forward-looking city plans become the growth factor of urbanization (Penpecioğlu, 2017, p. 163).

According to the latest data (DGMM, 2020), 453,409 Syrians are living in Gaziantep. As I stated earlier, Syrian refugees are living in urban environments, and they must take care of housing most of the time on their own. Unless they are not staying in TACs, they need to find a way to pay the rent. There was/is no government program to aid them with housing; no social housing, no intermediator institutions, or no service assisting them in finding houses in the private housing market or no financial aid for rents. According to Balkan et. al (2018, pp. 2–3) after Syrian refugees' influx into Turkish cities (until 2014, they were mostly clustered around the Turkey-Syria border with the hope of resolution and going back to Syria the housing rents escalated in cities next to the border where Syrians densely populated. This increase was 20.6 percent in these areas whereas 11.7 percent in other cities of Turkey (Balkan

et al., 2018, p. 9). Syrians' resettlement in the cities of Turkey set the locals in motion. According to the authors, this is an indication of residential segregation, and locals in lower-rent neighborhoods were replaced with Syrian refugees. The inflation in the rental market was not due to the increased rents among higher-rent houses rather than those in the lower-rent neighborhoods. Not surprisingly, this inflation affected local markets throughout Turkey differently (Bertoli et al., 2019, p. 196). Rental prices increased most in İstanbul while the lowest increase took place in South-East of Turkey. This might be explained by several factors: First, rapid supply of newly built houses, secondly, increased number of sales and decreased sale prices of existing homes in South-East of Turkey. Even though the rental increase is low or none for impoverished neighborhoods, the rents were high enough for Syrian households not to afford.

According to Cuevas et al (2019, p. 22), in Turkey, 25.9 percent of the total Syrian household's expenditure consists of rent; in İstanbul, this ratio is as high as 32 percent, and it is 25 percent in South-east of Turkey. Therefore, several strategies had to be utilized by Syrian refugees to survive in the harsh private rental market, some of these strategies are still in use. One of these strategies was collective housing (two or more families live together in a house meant for one). It was so common among Syrians, especially at the beginning of resettlement in urban areas (Karaca & Doğan, 2014, p. 62). Abandoned buildings, shops, wedding halls, and ruined structed were used as shelters (Baban et al., 2017b, p. 50). There are also some incidents in Mersin, a province in the Mediterranean region of Turkey, cheap hotels close to the bus terminal reformed their booking system to answer the demand for cheap sheltering, these hotels accommodate single Syrian men as groups of 5-6 individuals per room (Karaca & Doğan, 2014, p. 62). According to the report published by UN Women (2018, p. 21), in the first place, the unpleasant condition of TACs caused Syrians to live in urban areas of Turkey and these findings contradict the pieces of research that assert that Syrians had better conditions in TACs rather than urban settings regarding nutrition, accommodation, humanitarian aid, health, and education services. In the same study, Syrian women evaluated their houses' conditions and Gaziantep is not among the negatively evaluated cities despite having the lowest number of Syrians' living in flats[3] and the third-highest number of Syrian's living in houses located on basement floors (UN Women, 2018, p. 23).

[3] Most of the time, a flat in an apartment is an indication of good conditions in the housing market of Gaziantep.

It is expected that after a mass arrival unless housing and financial subsidies are provided or dispersal policies are applied, spatial segregation occurs. According to Bertoli et al. (2019, p. 180), the residential segregation among locals and Syrian refugees has been followed a declining pattern in Turkey due to Syrians' expanding social networks and integration with the local labor market. Based on the call detail records (CDR) data of Turk Telekom clients, in the South-east of Turkey, segregation is low (Bertoli et al., 2019, p. 191). Moreover, segregation is much lower in workplaces rather than housing areas (Hu et al., 2019, p. 203). This means Syrians and locals work together but reside in different areas.[4]

In cities like Ankara and İstanbul, the two biggest metropolitans of Turkey, and rural areas where seasonal agricultural work is the main source of income researchers observed clusters and segregated quarters. In Ankara, the capital of Turkey, Önder and Ulubey neighborhoods are populated by Syrians, they become the dominant nationals in time (Ozkazanc, 2021). Now the area is called "Little Aleppo" (Kavas et al., n.d., p. 26; Ozkazanc, 2021, p. 9). Syrians are dispersed to every district in different numbers. Fatih, Başakşehir, Küçükçekmece, Sultanbeyli, Ümraniye and Bağcılar are among districts where Syrians choose to live due to different push-and-pull factors and closeness to social networks (Kaya, 2017, p. 61). Job opportunities, proximity to shops where they can find goods like the ones they are used to buy in Syria, desire to live close with relatives, friends, and co-nationals to benefit from the resources that are provided by the social network and solidarity, their disadvantage in the housing market and avoiding from discrimination are among the factors leading Syrians to live in ethnic clusters. As an example, Syrians prefer to live in Önder and Ulubey neighborhoods of Ankara due to their closeness to furniture manufacturing workshops, desire to live among co-nationals and relatives (Ozkazanc, 2021, p. 9). Even, Syrian people pay more as rent to live among their co-nationals in Fatih district of İstanbul in comparison to other districts where rents are lower (Kavas et al., n.d., p. 40).

1.3. Conclusion

As the data in this chapter showed, Syrians in Turkey live very precarious conditions in many ways. Rygiel, Baban, and I can sum up these conditions under three

[4] According to authors, the segregation indices show low-level segregation in Gaziantep, most of the refugees and locals reside in city center of Gaziantep and it is a sign of spatial integration.

types of precarity (2018, p. 66): status, space, and movement. The precarity of status is rooted in the 'temporary protection' status given to Syrians living in Turkey. The precarity of space is related to accessing services and limits to mobility whereas precarity of movement has its sources in the new migration management regime of EU and border securitization practices.

The measures taken to integrate and facilitate Syrians living in Turkey are still very limited and inadequate. After 10 years of asylum, Syrians are still not considered 'permanent' and treated as guests. Syrians have been used as an object of internal politics and time to time of international. Political events easily ignite attacks and assaults on Syrians. The tension is not easing day by day but growing. The tension is provoked by mainstream news agencies depicting Syrians inclined to violence and crimes in their news (Dromgold-Sermen, 2020, p. 192).

In addition to each precarious situation Syrians are in, it has been known that Europe has been trying to find ways to prevent refugees and irregularized migrants to enter through the borders of the EU since the 2000s (İçduygu & Demiryontar, 2019, p. 5). The regional migration management politics of the EU turned Turkey into a prison for refugees and a buffer zone preventing migrants from reaching its borders, even though Turkey is not a member state at all. Moreover, Turkey is classified as a safe third country, where migrants should apply to the asylum at Turkey, and if they enter to EU over Turkey and they cannot apply for asylum and they can be deported back to Turkey even though Turkey should not be classified as a safe third country by EU due to Turkey' geographical limitation to Geneva Convention which is contradictory to Dublin Regulation signed by EU countries and claimed universal by EU (İçduygu & Demiryontar, 2019, p. 17)

Migrants are seen as potentially detrimental to the integrity of the EU and classified as a national (union) security threat by right-wing politicians. The EU partnered up with different countries to stop irregularized migrants to cross its border since the 2000s. Countries such as Libya and Turkey, not being a member of the EU, cooperate with the EU to keep the migrants inside their borders. When it is realized that the war in Syria would not stop soon and the country was still generating more and more refugees every day, the EU sought ways to deter migrants away from the borders of 'Fortress Europe'. In 2015, many Syrians achieved to cross the Aegean Sea and completed the Balkan route to reach countries of the EU. After this deadly journey, 853,650

Syrians crossed the sea and landed on Greece Islands (IOM, 2018). This event resulted in the so-called ‘Refugee Crisis’ for Europe.

After this critical event, an agreement was signed between Turkey and European Union on 18 March 2016 (for short I will call it the EU-Turkey deal or agreement). According to Baban et al. (2017a, p. 81), this agreement is a signal of the “solidification” of a new refugee regime that aims to keep refugees away from the borders of the EU. According to this readmission agreement, every migrant who landed in the EU countries coming to Turkey via irregular ways would be deported back to Turkey. For every migrant deported to Turkey, an asylum seeker will be resettled to the EU. Moreover, the EU provided Turkey with 3 billion Euros to be spent on border and sea security and for refugees’ relief (Kirişçi & Yavçan, 2020).

CHAPTER II
LITERATURE REVIEW

2.1. Conceptualizing the intra-urban residential mobility

In mobility, migration, and urban studies, there is a couple of words and phrases which are used interchangeably to define the movements of people. Some of these movements involve crossing borders, long-distanced, circular, and temporary movements; some are intra-region and inter-region short-distanced permanent movements. Mobility, intra-urban mobility, inter-region mobility, onward mobility, migration, and residential mobility are among the concepts of people's movement. It would be a good start to why mobility is important for social sciences.

John Urry (2011, p. 4) argued that "[m]ovement became significant in the contemporary world – indeed the freedom of movement…" yet not everyone is equally capable to enjoy the freedom of movement. On one side there are tourists who can take many miles in a short time, on the other side there are refugees, migrants, and asylum seekers whose migration journeys may take days or months. Besides, international and national laws and policies are limiting the movements of all the exiles in their prolonged asylum which is supposed to be a temporary status. According to Bauman (2005, p. 113), "[t]he mark of the excluded in the era of time/space compression is *immobility*". Immobility is a sign of low status and inability. However, for most, neither mobility nor immobility is a matter of choice to some extent. As in the case of refugees, both forced displacement and compulsory accommodation in camps were enforced on them. Therefore, the importance of movement is hidden in how it is controlled and by who, and who gains from it. Beverly Skeggs (2004, p. 61) adopts Mike Davis's (2006, p. 224) "positional good" for differentiated mobilities and underlines that mobility is a resource not everyone possesses in equal amounts; some voluntarily move but some are forced to move. The inequality of ability to move perpetuate itself,

even causing more inequalities. According to Doreen Massey, the capacity to move in various degrees creates asymmetric *power-geometries*:

> For different social groups and different individuals are placed in very distinct ways about these flows and interconnections. This point concerns not merely the issue of who moves and who doesn't, although that is an important element of it; it is also about the power *of* the flows and movement. Different social groups have distinct relationships to this anyway-differentiated mobility: some are more in charge of it than others; some initiate flows and movement, others don't; some are more on the receiving end of it than others; some are effectively imprisoned by it (2005, p. 62).

Movement brings capital (Urry, 2011, p. 3). Capitalists use the mobility of excess capital by exporting them from one place to another to overcome the crisis of overaccumulation and preserve the accumulation at its pace (Harvey, 2005, p. 5). Individuals also move to places where more resources are offered but not so fast as the capital. In their "new mobility paradigm", Mimi Sheller and John Urry (2006, p. 212) point to a multiplicity of mobilities. What they meant by multiplicity is not just people's movement but movements of goods and materials too. Moreover, not just solid things move, information and images are also in constant travel more than ever before thanks to enhancements in technological tools. As much as mobile things, in mobility studies, immobile things and people must be a focus of attention. Thus, fixed capital, gates, border walls, camps, airports, built environment, or refugees who are restricted to move worth to study. Immobility and mobility are connected. That is why authors underline the fact that "…mobilities need to be examined in their fluid interdependence and not in their separate spheres" (Sheller & Urry, 2006, p. 212).

What is striking in Sheller and Urry's 'mobility turn' is that they paved the way for a change in the sedentary view of sociology. They wanted to show a movement in a certain time is not an exception, it is part of the circulation of being mobile to immobile, and vice versa. From this point of view, the residential mobility of a household should not be considered as an unexpected but an anticipated movement in the circulation of mobility and immobility. Likewise, a refugee's continued movement to the Global North is a response to immobilization in camps or camp-like conditions in urban. Since mobility and immobility take their turns, the timing and direction of movement gain importance. Studies of diaspora, border, migration, transnationalism, and displacement studies offered insights into mobility studies. At the same time, researchers underlined the intricate relations between residents and 'homeless', sedentary, and mobile, home and abroad (Sheller & Urry, 2006, p. 211).

A crucial part of this world of mobility is residential mobility and what it means every kind of movement between different residential areas whether they are short distance or long. However, for long-distance residential mobility, migration is the more preferred word and most of the time what is meant by residential mobility is mobility among intra metropolitan or proximal areas (Li, 2017, p. 1).

There are numerous reasons why an individual or a household decides to change where they live. According to Coulton et al. (2012, p. 57) residential mobility is not always a sign of improvement in conditions, but always a consequence of a change either in household circumstances or residential area's conditions:

> Residential mobility can reflect improvements in a family's circumstances, such as buying a home for the first time, moving to be close to a new job, or trading up to a better quality housing unit or neighborhood. It can also be a symptom of instability and insecurity, with many low-income households making short-distance moves because of problems with landlords, creditors, or housing conditions.

Nevertheless, if a family or an individual successfully turns their socioeconomic resources into an advantageous location change, we may speak of a ladder-climbing in a socio-economic manner. Even more, in economically troubled times, if they manage to stay in their current housing unit, rather than downgrading neighborhood or housing circumstances, it could be said that they keep their status. According to Jeremy Pais, Scott J. South, and Kyle Crowder (2012, p. 259), the voluminous literature scrutinizing the relationship between residential mobility and socioeconomic resources of marginalized communities are built on successful movements and authors identifies the most commonly used theoretical models: A model based on *Spatial Assimilation Theory*, and two models under *Place Stratification Theory*. I will explain these three models in this section.

2.1.1. Spatial assimilation Theory

As mentioned above, one of the most used theories to explain minorities and marginalized groups' residential mobility in socioeconomic terms is *Spatial Assimilation Theory* (Ellis et al., 2006; Massey & Denton, 1985, p. 94; Pais et al., 2012, p. 259). The model is constructed via the examination of Afro-Africans residential mobility in the United States of America. Massey and Denton's (1985) *spatial assimilation theory* posits a hierarchy in the city and among the races (suburb over city-core; white over

other ethnicities) and this theory finds its root in Park and Burgess' (2016) ecological model (Pais et al., 2012, p. 259). Suburb stands for the space of the *American Dream* and city-core is the equivalent of poverty. Whereas this theory dominates the literature on spatial mobility and segregation of ethnic groups in the city, most of the variables are mainly exploratory for the cities of North American Countries. The suburb-city core binary is barely applicable for European or Middle Eastern cities where the development of suburbanization is different from in the United States or Canada.

Spatial assimilation theory, even with its drawbacks in different settings, still can explain certain motives behind intra-urban residential movements of migrants and other minorized communities. If this model is applied to migrants, the premise of the model means that the majority of migrant households settle in migrant-dominated neighborhoods at the beginning of the resettlement process and change their location in time as they climb up the socioeconomic ladder (Ellis et al., 2006, p. 2). In other words, for a household to settle in a new urban center, they depend on the individuals in the network of kins and relatives to move forward to a new location. These social networks allow newcomers to access some urban resources like housing, jobs, social aids, or provide urban information on available houses, migrant-safe neighborhoods, labor market, etc. After a while, some households increase in socioeconomic status and move to better neighborhoods to live among the dominant cultural group (locals in most cases). Spatial assimilation theory depends on time as the key factor in mobility. A relatively long time of residence in a country or city for a refugee is required to evaluate their socio-spatial integration. In other words, short periods might not be enough to accumulate material sources to level up in the socio-spatial sense.

In spatial assimilation theory, there is an ongoing debate on spatial separation (or non-assimilation) and whether it is a class-based or race-based issue (Clark & Blue, 2004, p. 667). However, there is no single factor affecting spatial segregation. Income, educational attainment, household size, religion and sects, and other factors are affecting the decision of where to reside in a city. According to Clark and Blue (2004, p. 685), income and education are the most important factors on spatial separation among Whites, Hispanics, Blacks, and Asians in the United States. Especially, the effects of these factors are more visible between Whites and Blacks. In suburban areas, Blacks live with Whites because suburban Blacks have a higher level of income and educational attainment in comparison to ones living in the urban core. In other words, in the urban core, Blacks who live in poverty also reside in ethnic enclaves. According to the

authors, based on their study with minorities, poverty has a segregative effect while the class has an integrative effect.

As opposed to binaries in traditional spatial assimilation above (city-core vs suburb, white vs. black, etc.), Wright et al. (2005) developed a new model by eliminating the dominance of the idea that places suburb as the ultimate destination and "whiteness" as the most superior trait. Yet, this does not mean that being white or being a member of the dominant culture in a country does not bring extra amenities that most of the migrants are deprived of. One of the weaknesses of the spatial assimilation theory is its ability of determining the motives of the movers. Whether migrants or minorities change their location to access better amenities in areas natives dominate or for the status increase owing to being among natives are more applicable (Turner & Wessel, 2013, p. 2). Another critic of spatial assimilation theory is that mobility depends on advancement, mobility without climbing the socio-economic ladder, or socio-economic advancement which brings no mobility cannot be explained by the theory (Kadarik, 2020, p. 193).

2.1.2. Place Stratification Theory

Place stratification theory may explain mobility of households where spatial assimilation theory fails to explain, or these two theories may work in a complementary way to explain residential movements. The need for place stratification theory was born out of when the spatial assimilation theory failed to explain the movement patterns of African Americans in metropolitan-suburban areas and when the socioeconomic gains did not always convert into residential gains (Alba & Logan, 1991, p. 433). Spatial assimilation theory could not provide a valid and satisfactory explanation why Afro-American individuals and families aggregate in some suburban areas but not others. That's why, the stratification model emphasizes discriminatory practices of real estate agents, landowners, mortgage lenders, and neighbors.

Place stratification theory has been continued to be developed and according to Pais et al. (2012, p. 260), there are a weak version and a strong version of it. The strong version claims that minorities are less able to convert their socioeconomic resources into a locational advantage which means residing in a neighborhood with better amenities, mostly dominated by whites. The weaker theory, on the other hand, assumes that minorities must pay more than whites to live in neighborhoods with better

amenities and dominated by whites. In both versions, income is a strong determinant for minorities if they want high locational attainment. In addition to income, discrimination is at the core of both versions. Even a high-income earning minority family may end up with living in an impoverished neighborhood or they must pay more than a white family pays to live among them.

As much important as socioeconomic status, several other factors are affecting the residential movement of minorities such as the racial composition, the type of interest in the locational outcome, the environmental quality of neighborhoods, housing stock, housing market, the size, and the economic status of the area, type of the area (rural, metropolitan, suburban). Even socioeconomic indicators are controlled, varieties among different groups (natives, ethnic minorities, refugees, or asylum seekers, etc.) may not disappear. To explain why some groups are more mobile or others less even their advancement or socio-economic status is similar, place stratification theory may offer a better framework to understand the logic behind the process (Kadarik, 2020, p. 193).

2.1.3. Life Cycle – Life Course Approach

The life-course approach has been widely used in social sciences for almost 50 years (Wingens et al., 2011, p. 1), however, it is not the dominant approach for mobility studies. In the last 20 years, there is an increase in the studies on life-course and residential satisfaction (Özgür ve Yasak, 2009: 48). Importantly, life course approach is complementary to *spatial assimilation* and *place stratification theories*. One of the famous examples of this theory is the book, *The Polish Peasant in Europe and America* (1918, 1996), by William Thomas and Florian Znaniecki who had followed a life-course approach before it was named so (Wingens et al., 2011, p. 2).

Life course theory tries to explain the natural motives behind a household's or an individual's movement over time. In a life cycle of a household or an individual, there are eras like birth, death, marriage, divorce, education, professional career, retirement, etc. which are influential on the choice of the residential location.

According to İlhan Tekeli (2008: 64), members of industrial society change their location more frequently, this is because the redistribution of capital in space is frequent. What Tekeli means is that the flow of capital is rapid and aggregates in different spaces at different times. These flows bring spatial agglomeration of people,

goods, jobs, and built environment. Therefore, it would be wrong not to expect an individual to live in one place for a lifetime in an industrial or post-industrial society. Especially, short-distanced intra-urban movements are an expected during an individual's or a household's 'life course'.

According to Özgür and Yasak (2009:48), in their process of determining the location of residence, an individual or a household evaluate the building and its surroundings. The street, neighborhood, or district is a determinant of house choice. Different eras of life course require bears different needs in a socio-spatial sense.

2.2. Distribution, Consumption, Class Structure, and Residential Differentiation

In this part, I will try to explain how space is produced under the capitalist mode of production and how it is connected to migrants' place in cities, also why the global capital accumulation project (for the sake of capitalist class), called *neoliberalism* (Harvey, 2007a, p. 16), is relevant to the subject.

I will start with how space is being differentiated under capitalism. According to Henri Lefebvre (2003, pp. 160–161), when the first circuit, the industrial production, begins to slow down and goes into depression - the process of accumulation of surplus value decelerates, the second circuit, the surplus-value accumulated through real estate market, increases its percentage. This urbanism, which is "[a] superstructure of neo-capitalist society, a form of *organizational capitalism*, (…) controls the consumption of space and the habitat." (Lefebvre, 2003, p. 164). Lefebvre's space is social, not "in itself", it is relational. Space can be defined only with the existence of social relations in it and producing it. That's it, the society is, now, not industrial but urban, characterized by "(…) everydayness and consumption, planning and spectacle, [forms] that expose tendencies of social development (…)" (Prigge, 2008, p. 49).

In Lefebvre's urban theory, the space is a product, Rand its production can be understood via his famous trialectic: "Spatial practice", "representations of space", and "space of representations" (Lefebvre, 1991, p. 33). I will not examine his theory here in detail, but it is necessary to explain some points to understand the production of space under neo-capitalism.

Under modern spatial practices, the space is divided for production and reproduction, and "Individuals appropriate space and constitute themselves as subjects of their space(s) through spatial practice" (Prigge, 2008, p. 53) and these separations

"becomes materialized [and reproduced] through everyday practice." (Prigge, 2008, p. 53). The division of space is the work of urban planners, social engineers, and other technocrats, Lefebvre (1991, p. 33) calls their space "conceptualized space" and adds "This is the dominant space in any society". Even though it would be wrong to separate the other dimensions of Lefebvre's trialectic conceptualization of space, I will focus on the conceived space, the abstract space for the sake of understanding the residential differentiation.

What planners and other technocrats do with the space is "legitimating ideology" (Lefebvre, 1991, p. 308):

> Meanwhile, the architects and city planners offered -as an *ideology in action* – an empty space, a space that is primordial, a container ready to receive fragmentary contents, a neutral *medium* into which disjointed things, people, and habitats might be introduced. (1991, p. 308)

> Abstract space has many other characteristics also. It is here that desire and needs are uncoupled, then crudely cobbled back together. And this is the space where the middle classes have taken up residence and expanded - neutral, or seemingly so, on account of their social and political position midway between the bourgeoisie and the working class. Not that this space 'expresses' them in any sense; it is simply the space assigned them by the grand plan: these classes find what they seek _namely, a mirror of their 'reality', tranquillizing ideas, and the image of a social world in which they have their own specially labeled, guaranteed place. The truth is, however, that this space manipulates them, along with their unclear aspirations and their all-too-clear needs. (1991, p. 309)

Such as agricultural lands, industrial zones, business districts are planned, the residential space of the modern city is also planned (no more unity of workplace and home). Residential space is also divided into certain categories (as Lefebvre underlines the space of the middle-class residents in the above quotation); slums, gated sites, suburbs, etc. The space is appropriated according to consuming habits under the mode of capitalist production. According to Harvey (1989, Chapter 4), the differentiation of space is unique to capitalism due to the "emergence of distinctive consumption classes" (1989, p. 114). Along with the capitalist production of space and its differentiation, division of labor and income distribution determines each class' site of dwelling.

But how does capitalism direct the needs and desires of certain consumption classes? There are a variety of answers to this question, but I would like to focus on the concept of '*produced* scarcity'.

As with other industrial products, the land is abundant, but it is introduced as a scarcity, according to Lefebvre (1991, p. 329), in urban space "*everything* is produced: air, light, water – even the land itself.". It is the disengagement from nature.

The land – the built environment and its surroundings – are presented as scarce resources. The urban space, the residential space as the topic of this thesis, become a scarce resource. As the aspects of land and built environment, municipal and state services, and centrality become the aspects of contestation among different classes. According to Glick Schiller and Çağlar (2009, p. 178), neoliberal restructuring which is defined by the authors as "the accumulated impact of the transformations wrought by these [neoliberal] projects and the policies and technologies that accompany them" has a certain impact the conditions of migrants in cities. Neoliberal restructuring results in the state's reduction in social services and cooperation with the private sector in services such as housing, health, etc. These processes do not affect only the locals but migrants too. Harvey (2007b) also examines in a detailed way the transformation New York city underwent with the help of the neoliberal restructuring, along with globalization and privatization, shows how municipal services deteriorated during the process.

Different residential spaces offer different resources, particular parts of the city appeal more to the high class, such as suburbs in the USA, sophisticated inner core, such as lofts, in European countries. The ideological counterpart of capitalism, neoliberalism sells the idea that different classes should reside in different parts of the city (Uitermark, 2014, p. 276). Therefore, houses in certain parts of the city become more valuable, more profitable under the rules of capitalism (Marcuse, 2014, pp. 311–313).

Capitalists can choose a location for production more freely and can absorb excess capital continuously (Harvey, 2005). Now, people living in a region compete with people in other places. Therefore, people are forced to acquire skills and assets worthy of multinational capital if they want to live in a highly desirable location. Mobility among classes results in mobility in space. The choice of location is also a choice of class. Moreover, a class is also fragmented within itself, and this fragmentation is the result of social relations under the capitalist system(Harvey, 1989, p. 118). This fragmentation is present in urban space, an ethnic enclave composed of working-class individuals is an example of a suburb in the US in the space of middle-class whites. He asserts that the differentiation within society and its projection on space is a necessity to sustain the capitalist system. Differentiated neighborhoods, enclaves, gated communities, camps, social houses, and ghettos reproduce the social relations, division of labor, and classes.

The choice of residential space may not a choice. Harvey does not underestimate free will but finds it very difficult due to "value systems" and "external forces" (Harvey, 1989, p. 119). Consumption is shaped by the value systems and each community has embedded value systems affecting their consumption choices and lifestyles. That might be why people prefer to live close to people like them or living in the same space transforms their values alike. Like Massey and Denton (2001) claim, Harvey (1989, p. 120) justifies that the current socio-spatial conditions of the Blacks are rooted in slavery and Puerto Ricans in colonialism in the US. The ethnic ghettos are deprived spaces, so they reproduce the ghetto society. Blacks are intentionally cast out from the jobs requiring qualifications and non-manual labor. This results in income inequality between blacks and whites, and they cannot afford to live in certain neighborhoods where whites dominate. People living in poverty do not choose their location of house because they live where upper-class and middle-class do not want to live. They end up living in ethnic ghettos and ghettos are not "naturally formed" areas (Massey & Denton, 2001, p. 21). Indeed, the deepest point in spatial segregation is the ghetto. "The enclave was a stage in the process, but the ghetto was not. The ghetto was an end in itself."(Peach, 2005, p. 31).

The characteristic of the certain urbanization process in a city is shaped by the government (by the hand of city planners), banks, real estate agents, and land speculators. The local housing market does not operate accordingly to the will of consumers. Even people from the upper classes fought against the transformation of their neighborhood (Harvey, 2005, p. 8). Refugees who do not have secure jobs and steady income are forced to live in small and worn houses with few rooms and in outdated and disgraced areas (O'Loghlen & McWilliams, 2017, p. 21). Therefore, the range of locations and quality of housing is restricted in this sense. People living in poverty are also restricted to become house owners due to being denied access to the mortgage market. This leads to failure to thrive, to prospect, and to break the destiny of poverty.

All in all, residential differentiation is the result of external forces and deprived neighborhoods are not arbitrary. There is a logic operating on the fragmentation of the urban space. The fragmentation distributes the working class around the city and divides them into different communities by creating different value systems. For groups and communities that are not the dominant ones in the city, many structural barriers lay in front of their mobility to "better" neighborhoods.

2.3. The Understanding Housing Market via Bourdieu's Concepts of Field, Habitus, and Capital

Field, habitus, and capital are the central elements of Pierre Bourdieu's works (Bourdieu & Wacquant, 1992, p. 94). In this section, I will conceptualize the 'housing market' as a field in Bourdieu's conceptualization, which is "a system of relations" (Hilgers & Mangez, 2015, p. 5).

Bourdieu defines field as

> [a] network, or a configuration, of objective relations between positions. These positions are objectively defined, in their existence and the determinations they impose upon their occupants, agents, and institutions, by their present and potential situation (situs) in the structure of the distribution of species of power (or capital) whose possession commands access to the specific profits that are at stake in the field, as well as by their objective relation to other positions (domination, subordination, homology, etc.). (Bourdieu & Wacquant, 1992, p. 97)

By reference to the definition of the field, the housing market carries the aspects of a field: Agents and also the institutions (such as estate agencies, construction companies) attempt to reach dominant positions in the market by purchasing lands and buildings and maximizing their profits; land and built environment are limited resources in the market where agents and institutions are in contention of acquiring; they invest certain capital (economic, and sometimes cultural and social) to acquire more capital (whether social or economic); without the relations among different agents the value of housing is fixed, the added value comes from the demand.

Therefore, agents' power in the field comes from the capital they possess. The primary capital in the housing market is the economic capital, yet the social or the cultural capital, sometimes, can be utilized in lack of economic capital or when two or more agents are equal in terms of economic capital. Refugees may not have the adequate economic capital for secure housing, but they may also be short of certain cultural capital such as 'the competence in language skills (if the destination country's language is different from the origin), lack of knowledge about the housing market, city or tools to access housing (such as websites dedicated to rent or purchase housing)'.

Moreover, each field has its logic and rules operating autonomously from each other, they are "microcosms" in a "social cosmos" (Bourdieu & Wacquant, 1992, p. 97). Yet, an agent's position in a field is homologous in one another (Hilgers &

Mangez, 2015, p. 13). Like an individual's position in the mode of production (proleteria or capitalist, from middle class or lower class, dominant or dominated) affects its position in the housing market too, to put more appropriately, these two positions might be homologous. I.e., a refugee working in an informal sector is precarious in multiple ways such as wage, workplace security, the legal guarantee of keeping the job, etc., that translates into a precarious position in the housing market in terms of housing quality, the centrality of it, the environmental quality, legal rights of being tenant, etc.

Before moving to certain uses of different kinds of capital (economic, social, cultural, and symbolic), I prefer defining *habitus* and its relation to practices of refugees in housing markets.

According to Bourdieu(1990, p. 52), *habitus* is "[c]onstituted in practice and is always oriented towards practical functions." and is produced by "[t]he conditionings associated with a particular class of conditions of existence" (1990, p. 53). An agent's or a class' act is determined by the rules of habitus. This conditioning is preestablished and related to 'history', both individual's history and a group's history. On other hand, these conditions perpetuate themselves, are internalized in the habitus.

The relation of *habitus* with the housing market is that refugees act in the market, use strategies, or take positions within the limit of their individual habitus (gender, profession, educational background, etc.) also within the limit of class habitus they belong to (i.e. Syrian refugees in Gaziantep). As it is seen, ethnic origins are defining factors in field and habitus along with a class in an economic sense.

Bourdieu's conceptualization of *habitus, capital, and field* are in a relation and useful to explain how different "housing pathways" a refugee or refugees as a group follow in the housing market of destination locality (Hochstenbach & Boterman, 2015, p. 260). A refugee's residential movement may accelerate the capital accumulation whether economic, social, or symbolic. However, after the decision of moving is taken, for the movement to occur, a refugee must invest or sacrifice a certain type of capital. To live in a more central environment with better qualities such as proximity to better schools or recreational areas, a refugee may sacrifice much more amount of economic capital, in other words, may invest more economic capital to gain more cultural and symbolic capital (living in a prestigious neighborhood). This process includes

both the accumulation and the transformation of capital (Bridge, 2001, p. 92), and spatiality carries significant meaning in the process about capital accumulation (Holt, 2008, p. 239).

2.3.1. Social Networks, Social Support

Social networks can be the biggest source of support for a migrant/refugee in the early years of migration, especially in the deprivation of economic and cultural capital (the knowledge on the market). Later, these networks turn into diasporas and ethnic communities which become closed groups. Social networks provide both financial, psychological and knowledge support. However, with the enhancement of communication technology, the width of social networks extends, maintaining transnational contacts is more available and cheaper (Göktuna Yaylacı, 2014, p. 177). This kind of communication transforms traditional social support mechanisms. Family relations are maintained remotely, transferring money is easier and they can bring culturally significant goods from their homelands. In turn, this convenience decreases the need to communicate with locals for social and psychological support and they raise their children in their closed culture.

In sociospatial sense, knowing the city, and the opportunities it offers in the logic of the labor and the housing market (both constitute the cultural capital), social networks play a vital role. In the beginning of their resettlement, refugees may need all the support from their social networks unless the government, international organizations, local initiatives, or NGOs provide appropriate aid (Tsavdaroglou et al., 2019). Therefore, for a long time, social network studies in the area of migration have been examining the support from social and solidarity networks on resettlement processes of migrants/refugees (Koser, 1997, p. 602). Three concepts are highlighted in these studies: Social network, social support, and social capital. These concepts are in a relationship but do not point to the same thing (Ryan et al., 2008, p. 673).

Social network contains social support and social capital, both are accessible through the network. However, it does not mean that in every social network, social support and social capital can be utilized. That's why each social network offer different resources and in different magnitudes. A social network, mainly, is composed of people and relations based on family, yet not limited. Diasporas, migration solidarity groups, friendship circles, or another group of people gathers around a common relation or aim (Hanley et al., 2018, p. 125).

Social capital studies are majorly affected by the works of Pierre Bourdieu (1986), Putnam, Coleman, and Portes. According to Portes and Sensenbrenner's definitions of social networks, they are

> … as those expectations for action within a collectivity that affect the economic goals and goal-seeking behavior of its members, even if these expectations are not oriented toward the economic sphere (1993, p. 1323)

From the authors' point, social capital can be convertible to economic capital. It does not have to be in the form of money but something which has an economic value, such as commodities, career opportunities, or means to gain money. Bourdiue's (1986, p. 16) definition of social capital is very similar: which is "…made up of social obligations ('connections'), which is convertible, in certain conditions, into economic capital and may be institutionalized in the form of a title of nobility". In Bourdieu's conceptualization of social capital, there is an implication of 'institution' which stands for network. Not all the networks have the same volume and more can be gained from certain networks as networks consisted of bourgeois (Bourdieu, 1986, p. 21).

Last of all, Robert D. Putnam (2016, p. 156) defines social capital as "refers to features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit". According to him, social networks are also various and lay at the core of civil society; from parent-teacher associations to religious groups, to labor unions, all has the common goal, supporting its members. However, a couple of factors makes social networks lose power or make them erode (Putnam, 2016, p. 161). As one of them, I will focus on 'mobility'. Mobility of families or individuals deprives them of already established networks, his emphasis is on residential mobility rather than transnational migration. An increase in "homeownership" and "residential stability" generates more "civic engagement and social connectedness" (Putnam, 2016, p. 161).

Social support, as in the case of social capital, is a source that might be available in social networks. Most of the time, social capital and social support are used interchangeably. However, both social support and social capital may not always bring a change in the economic status of the individual or household. A variety of forms of social support exists, such as emotional, informational, or instrumental (Ryan et al., 2008, p. 674). Migrants getting help from co-ethnics in a country where they recently moved into to ease the feeling of loneliness is a type of emotional support whereas

getting tip about the local housing market is an informational one, both examples cannot be directly converted to economic gains.

For migrants, the social support mechanism of social networks whether based in the destination country or origin country (transnational) is frequently utilized to find jobs, houses, or even in the phase of the decision of migration. According to Koser (1997, pp. 603–604), social networks, social capital, and social supports are benefitted in three phases of migration: in the decision making of moving, while determining the country to immigrate, and during post-migration integration. Transnational communication among migrants is a determinant for a migrant or a family to decide between staying in the country or leaving for a new one. In the choice of country, former migrants that they are in contact with are influential, leading to chain migration. Furthermore, during the post-migration resettlement experiences, these networks support newcomers to find houses, jobs, access to social aids (Çağlar & Glick Schiller, 2018, pp. 130–131; Koser, 1997, p. 605).

2.4. Social and Spatial Exclusion

Social exclusion of refugees by locals and institutions limits their integration in the destination country. However, social exclusion might also have a group solidarity-building effect (Erder, 2000, p. 197; Miraftab, 2000, pp. 53–54). Socially excluded groups withdrawn to their communities. For example, an expression of this exclusion is the formation of ethnic enclaves. Whether locals abandone the areas refugees densely populate, and these areas left only to refugees or refugees prefer to live among their community members to avoid of the discriminatory behaviors of locals, in either way, in-group relations are strengthened.

For locals, there are two ways to avoid living together with refugees in the same residential area (Bosch et al., 2015, p. 130). The first way, locals move out to neighborhoods where their community members are dominated by paying higher amounts of rent or forcing themselves to buy houses, this is called ‘decentralized discrimination’. The second way is to obstruct or limit refugees buying or renting houses in the preferred residential areas, which is called ‘centralized discrimination’. The first way is less achievable if the required capital is missing. On the other hand, centralized discrimination is more hostile than decentralized. To obstruct refugees to rent houses, illegal ways may be utilized. Local neighbors harass their refugee neighbors, credit

institutions like banks may limit supporting refugees in some areas or landowners/real estate agents may refuse refugees to rent/purchase houses. In any way, locals may postpone or halt the successful integration of refugees.

As an example of centralized discrimination, Bosch and his colleagues (2015) and Ahmed and his colleagues (2015) elicited striking results from research conducted in Barcelona and Madrid, respectively. They contacted landowners via a website dedicated to real estate. In these experimental designs, they used two groups of names, one group of names connotating with Moroccan origin, the other connotating with Spanish origin. In the messages they sent to landowners, for both name groups, they presented themselves in equal aspects with regards to their socioeconomic status and professional careers. They elicited similar results. In Bosch et al.'s experiment, applications with Moroccan names got a reply 18 percent less than Spanish names. The rate of reply was dependent on where the house in the advertisement was located. If the house was in a neighborhood where locals dominated, not getting a reply from the landowner went up to 30 percent. If at least 30 percent of the neighborhood was composed of refugees, the refusal rate dropped to 14 percent.

2.5. Factors Affecting Residential Mobility

Resettlement in a new country is not the end of the long journey of migration. Crossing borders may stop or continue but mobility (in changing pace) of newcomers continues within the newly settled city or country. Secure housing is a sign of integration, exercising a fundamental part of the right to the city and a gate opening to other possibilities. It may stop migration to abroad. However, there are some barriers like economic, political, social, or legal barriers halting, pausing, or slowing down the pace of mobility, and most often these barriers exist simultaneously, and the result is an interplay of them.

Multiple factors are affecting a refugee household's decision whether to stay in their current house or to leave for a better one or one in a better neighborhood. These push and pull factors do not only affect the location, but also affect the timing of movement (Coulton et al., 2012, p. 57). Among these factors, resettlement programs and dispersal policies (Robinson, 2003; Stewart, 2009); legal status (Wilkins, 2019); household composition (Gabriel & Painter, 2008; Stewart, 2009); deterioration in the housing conditions or neighborhood quality (Coulton et al., 2012); access to amenities

(Vogiazides & Mondani, 2020); household's socioeconomic status and access to employment (Decreuse & Schmutz, 2012; Fong & Shibuya, 2013; Vogiazides & Mondani, 2020); the proportion of refugee population in the neighborhood and social networks (Geo-JaJa, 2011; Stewart, 2009; Vogiazides & Mondani, 2020), housing market (Decreuse & Schmutz, 2012). These factors lead to a refugee household staying in its current location. Coulton *et al.* (2012, p. 57) identify them as bonding factors to whether their homes, neighbors, or/and neighborhoods.

Ethnic enclave is a controversial issue in the literature (Geo-JaJa, 2011, p. 255; Miraftab, 2000, pp. 53–54). Some argue that high concentration of refugees in a certain neighborhood causes delays in the integration process or halts it completely. Those who are against this argument, on the other hand, show evidence for refugees' preference of living together with people who share the same ethnic and cultural ties (Bosch et al., 2015, p. 148); and these enclaves help newcomers during their transition period by providing linguistic support, housing, and labor market information, etc. Not just newcomers, also long-term refugee residents benefit from these ethnic enclaves, especially it is very hard for families in poverty to leave the enclave (Dawkins, 2006, p. 879). Thus, refugees' and migrants' locational preferences and their distribution around the city are influenced by the will to live with their co-nationals.

One of the main factors affecting intra-urban mobility is employment. Employment and having a stable income are key to "[b]reaking from poverty and dependence on welfare" (Geo-JaJa, 2011, p. 255) for refugees. Most of the time, the location of available jobs becomes a determinant of the decision on the location of the house (Vogiazides & Mondani, 2020, p. 21). Especially, just after the resettlement, refugees seek to find new jobs and affordable houses in a neighborhood where they can easily and in an affordable way commute between home and the workplace. However, if refugees cannot access a secure job, they cannot access secure housing. Their economic marginality results in dwelling in the marginalized areas of the city and returning insufficient accumulation of social and symbolic capital due to the low resources the social networks in the area offer (Wacquant & Wilson, 2013, pp. 183–184, 190). On the other hand, the source of the income may cause discrimination by the landowners if the refugee household is dependent on financial aids (Anglicare Australia, 2021, p. 7). According to Coulton *et al.* (2012, p. 70)'s research on mobility of refugees, the most mobile group is the one composed of members in financial distress.

Dispersal policies of countries where they are in force for asylum seekers and refugees restrict their internal mobility by enforcing them to stay in designated areas. These macro policies are meant to decrease the burden on certain areas or cities and increase the chance of employment and affordable housing. Resettlement programs may create a balance between available housing and job opportunities, cost of housing, and having a community of the same ethnicities of resettling groups (Robinson, 2003, p. 14). These policies are also created to soothe locals' rage by making migrants less visible. However, at the micro-level, individuals' or/and families' decisions interfere with governmental policies (Stewart, 2009, p. 14). In the literature, onward migration of refugees and asylum seekers is thought as a failure of dispersal policies. In other words, if an asylum seeker moves out from the resettled area, it means integration is not achieved. Especially, if the dispersal area is far from metropolitan areas because rural areas offer fewer job opportunities, hard to reach by using public transportation, and far from solidarity networks too (Olliff, 2014, p. 11). In the study of Vogiazides and Mondani (2020, p. 20), they found out that the refugees who did not choose their initial locations were most likely to move out from the rural to the urban areas in comparison to ones who had the opportunity to choose. Onward migration may help migrants to overcome certain barriers such as insecure housing, unemployment, lack of social support, etc. If resettlement policies are driven only by cheap housing, the conditions for integration may not be met. Refugees do not need only cheap housing but secure housing where the size of the house, the environment, and distance from the workplace are important assets.

Social networks or community connections affect onward mobility. For ethnic minorities, transnational, or rural-to-urban migrants, being in a social network is a vital factor that facilitates resettlement and also affects integration. Vogiazides and Mondani (2020, p. 5) use the term "ethnic preference" for migrants' preference to stay close with their co-ethnics. Kinship ties provide emotional and psychological support but desire of being close with co-nationals also provide economic benefits. According to Stewart's (2009, p. 14) study on asylum seekers in Glasgow, if an individual is involved in a connection with the community such as a religious group or social organization, they will be less likely to move to another area. Refugees and immigrants also count on social networks to find jobs and houses in a city. These social networks facilitate a newcomer's search for housing and job, provide information to access social aids and supportive institutions. Therefore, leaving one place is not easy for a

refugee family if it means losing the social networks (Decreuse & Schmutz, 2012, p. 64).

Another factor affecting a refugee household's decision to move to city or country is the structure of housing market. According to Decreuse and Schmutz (2012, p. 52), the differences among geographical locations of immigrants and locals in France are due to housing market rather than labor market. Housing stock, types of houses available and the prices are determinants for the choice of the residential location and the house itself. A newcomer requires a local's, previously settled refugee's or governmental/non-governmental organizations' knowledge of the housing market. Newcomers, if they are not previously informed, may have hard times finding the location where provide the optimal distance for work, affordable and big enough for the family simultaneously. Even for the long-time resident migrants and refugees, scarcity of affordable housing in the rental market is the most worrisome issue in their daily lives (Olliff, 2014, p. 7). Race and legal status are also the factors affecting the chances of finding affordable housing in the rental market. In Los Angeles, Chicago, and Washington D.C. metropolitan areas, blacks are much more sensitive to rent fluctuations (Gabriel & Painter, 2008, p. 522).

Private housing markets may also limit changes of secure housing if discriminatory practices of landowners exist. Public housing, on the other hand, maybe more accessible in certain conditions (Decreuse & Schmutz, 2012, p. 66). However, discrimination in the private housing market results in segregation and ethnic enclaves in the form of a ghetto.

In the rental housing market, household composition and size may determine where a family finds an affordable and suitable household. Single people are more disadvantaged than couples but the number of children or the source of income of the family affects the chance of finding an affordable house in the rental market (Anglicare Australia, 2021, p. 7). In the USA, generally married couples are less mobile than single households, but race affects this mobility: Latinos and Black married couples are more mobile than the Whites (Gabriel & Painter, 2008, p. 515). This might be due to financial and human capital differences among Latinos, Blacks, and Whites. White couples might be more stable in terms of their income and might home-ownership be more common among whites.

Access to amenities that city offers, and centrality are motives behind relocation. When natives dominate such places, migrants more commonly live in the periphery or in the decaying city-core. What drives the migrant movement to native-dominated neighborhoods might be related to access to better educational and health facilities, transport opportunities, recreational areas, or safe zones. Living among natives also brings the status increase. In the residential mobility literature, the former is well proved in comparison to the latter (Turner & Wessel, 2013, p. 2).

De Hoon et al. (2020, p. 5) studied refugees' residential movements in the Netherlands by using the municipal registry data recorded between 1998-2014. They found out that half of the refugees stayed in their initially allocated municipal area and most of the movements took place in the area under the governance of urban municipalities. In time, even the number of refugees living in urban areas increased, the number for rural and suburban areas decreased. Their results show that while the country of origin and age affect the mobility patterns, the accessible resources of different areas (social networks, housing supply, and market, mortgages, etc.) were identified as the main determinants of onward mobility (de Hoon et al., 2020, pp. 11–13).

No doubt, the economic barriers like high rents, lack of accumulation to buy a house, low-income and unstable jobs are the most substantial barriers to refugees' access to secure housing. Especially, income is the key determinant for a refugee household whether to rent the house or not (Murdie, 2004, p. 153). There is a strong connection between employment, wealth, and housing of a migrant.

2.6. The Housing experiences of Refugees and Asylum Seekers and Residential Mobility in the Contemporary World

According to Miraftab (2000, p. 57), for a refugee, secure housing does not just stand for a shelter protecting them from harsh environmental conditions, also a close and complex linkage between housing and the conditions of employment, education, health exist.

For refugees and asylum seekers, the condition of dwelling in a secure and suitable house depends on local housing supply (Murdie, 2004, p. 147). Without secure housing, refugees may need follow different coping out mechanisms. The first one is overcrowded housing; more than one family dwell the same house. Second alternative,

refugees accommodate in buildings that are not built for residency purposes like garages, stores, warehouses, etc. A third choice is changing the locality in the same country, moving to places offering better employment and housing options. The final possible solution is changing the country via regular or irregular ways.

Camps built by states or NGOs are seen as the fastest solution to shelter problems of people who must migrate in an emergency after a humanitarian crisis. Camps are meant to be temporary but sometimes encampment may prolong for decades (Albadra et al., 2018, p. 133). These facilities are worn out and campsites become overcrowded and vulnerable to weather conditions as years pass, yet refugees might have no other choice but to stay. For a refugee, finding a secure housing may take up to a couple of decades.

The differences in refugee accommodation are caused by the different practices on each country's asylum procedures like dispersal or sponsor-supported acceptance, economic condition and job opportunities it offers, and local housing market dynamics. In Europe, the Common European Asylum System (CEAS) guides the member countries on what responsibilities they have related to the reception and housing of asylum seekers. However, this guidance is received at recommendation level, there is no enforcement. Some member states, as an addition to CEAS, also have their national legal frameworks regarding asylum (Kreichauf, 2018, p. 6). In countries like Denmark and Greece, housing policies are determined at the national level, but in Germany, it is a combination of national and local/municipal policies due to its being a federal state. Therefore, the state structure is also a determinant of the policies.

The responsibility related to the housing of migrants, refugees, and asylum seekers belongs to different institutions in different countries. This might affect the nature of the policies. As an example, in Denmark, the Migration office, which is established under the Ministry of Justice, is responsible for accommodation of migrants. The migration office subcontracts with and deputizes Denmark Red Cross to share the responsibility and execute policies. Refugees are sheltered in 8 accommodation centers which are in Hovestaden, Copenhagen in Denmark. These centers were used as military bases or military hospitals previously and they are built in areas 10 to 50 km far from urban areas (Kreichauf, 2018, pp. 6–12). Denmark applies a dispersal system and asylum applicants are sent to municipal areas if the quota is not exceeded. Staying in accommodation centers is compulsory for asylum applicants until their application concludes.

Greece, where is deeply affected by Syrian Migration, has been following the EU regulation on housing since 2013. The responsibility of refugees are shared among governmental institutions, yet this causes a conflict of liability and is bewildering for refugees (Kreichauf, 2018, p. 6). Citizen protection, Refugee Policies, and Ministry of Labor addition to the Army and Navy are involved in issues about refugees in Greece. Greek Refugee reception system has been criticized due to its failure and poor performance of accommodation of refugees. The majority of refugees are accommodated in camps run by Greek State, but the camps are overpopulated. Most of the refugees who live outside of the camps, reside in urban areas where they are either supported for housing by NGOs or on their own. For instance, refugees live in flats rented by NGOs in the vicinity of Athens and Thessaloniki or islands in the Aegean Sea. However, they are allowed to stay in these flats for a maximum of 2 years after getting the refugee status, then their support for housing is cut. On the other hand, political activists help refugees to squat abandoned houses in the cities however Greek government forces refugees to leave these squatted houses (Tsavdaroglou et al., 2019).

In Germany, housing for refugees is less problematic, relatively. It is the responsibility of the federal state, and there is a quota system for each state. They are dispersed to states after they apply for asylum. After dispersal, each state must provide accommodation to refugees in their jurisdiction. Therefore, there are two-level of responsibility sharing. For instance, refugees in Berlin are dispersed to more than 100 spots. 6 of them are official reception centers, 45 are accommodation shelters and 66 of them are emergency shelters. After the acceptance of Syrian refugees in 2015, Berlin built many emergency shelters around the city. These shelters are buildings like hangars and divided by walls or tents inside, each shelter can accommodate 2500 people. The reasons behind this sheltering strategy are the size of the reception, the scarcity of the affordable houses in the city, and excessive pressure in the local real estate market (Kreichauf, 2018, pp. 6–8). The situation in other states is very alike, finding an affordable house is challenging for refugees and these emergency centers located in the peripheries of cities are an issue of criticism (Bhimji, 2016, p. 433).

As can be understood from the given examples above about the housing in some EU countries, housing is very problematic for refugees. The solutions offered by the states are inadequate and do not provide a secure shelter. On the other side of the ocean, however, Canada, which is another country accepted a significant number of Syrian refugees, has accommodation problems too. The government of Canada started

to accept Syrian refugees starting in 2015 and according to figures in 2017, in three years, they resettled 40,081 refugees (*#WelcomeRefugees: Key Figures*, 2017). However, there are three different categories in which Syrians are accepted, and housing opportunities and conditions differ accordingly (Rose & Charette, 2017). The three categories of refugees are government-supported refugees, blended visa office-referred refugees, and refugees supported by private sponsors. While refugees sponsored privately are funded for their accommodation for 1 year, government-supported refugees must register for the accommodation support programs. This program is run by the Ministry of Migration, and they deputize service providers to help refugees find houses for temporary stay or a permanent one. On the other hand, blended visa refugees are supported by both the government and the private sponsors (Rose & Charette, 2017, pp. 4-5,15). Despite all this effort, finding suitable houses in particular places of Canada are still challenging. A recent finding of Hanley et al. (2018, p. 142) shows that refugees depend on their families to find a house due to the tight housing market in Montreal, Canada. If any member of the family finds a house, the other family members start to live with them.

In Canada, finding a secure house is coming in the first place of resettlement challenges due to high prices and low housing supply. Besides, the Canadian government creates categorical distinctions among refugees and transferred their responsibilities of providing houses to private institutions. In addition to being dependent on family members, ethnic or religious communities, kinship networks, and grassroots organizations help refugees to find affordable and suitable houses (Hanley et al., 2018, p. 28).

Briefly, these are the current conditions related to the housing of refugees in the so-called 'Global North'. Emergency/temporary accommodation centers are overcrowded, have very bad conditions, and are located very far from city centers. On the other hand, refugees who are allowed to live in urban centers do not get adequate support during their resettlement process. Neoliberal restructuring of the real estate market creates harsh conditions for refugees finding affordable and secure housing.

In the 'south' part of the world, the chances of refugees are very similar. In Jordan, the number of Syrians who found refuge after the war is 656,103 (UNHCR, 2020a). With the addition of the refugees originating from Iraq, Yemen, Sudan, Somalia, and other countries, the number goes up to 746,506. There are three camps built

for refugees to accommodate, the percentage of refugees staying in the camps constitutes 16,6 percent of all refugees living in Jordan (UNHCR, 2020a). The rest of the refugees live in cities and rural areas throughout Jordan. Of them, 18 percent had already lived in camps before and left due to bad conditions (Krafft et al., 2018, p. 9). Since the Jordan government did not follow a dispersal policy, refugees are allowed to stay anywhere in the country, yet the majority of Syrians prefer to live in cities near the Syria-Jordan border and the capital, Amman. (Fallah et al., 2019, p. 206). Even though housing conditions in Jordan between 2010-2016 went better (Elsayed, 2018, p. 4), the housing conditions of Syrians in areas where they are densely populated are worse than locals (Assaad, 2018, p. 7). The reason behind it, Syrians can only find cheap houses, and locals do not prefer to live in them. Findings also show that Syrians increased the competition over housing in these areas. According to the results of a study (Elsayed, 2018, pp. 8–9), a local family lives in a house-sized 123 m^2 and 38 m^2 per household whereas 122 m^2 and 36 m^2 per refugees. There is no big difference. However, for a family living in the campsite, only have 45 m^2 size house space and 11 m^2 per a family member. This huge gap is the reason why refugees do not prefer to live in camps in Jordan.

In Jordan, the Syrian refugee influx, on the other hand, affected locals' housing conditions in a slightly negative way (Alhawarin et al., 2018, p. 8). In general, there was an improvement in locals' housing conditions in Jordan but after the Syrian refugee influx, the improvement slowed down in poor neighborhoods where the refugees were densely populated. Syrian's resettlement to these neighborhoods increased the competition in the rental housing market. On the other hand, rich Jordanians' housing conditions did not affect by the influx.

CHAPTER III
METHODOLOGY

3.1. Research Objectives

The primary aim of this thesis is to examine the intra-residential movements of Syrians living in two metropolitan districts of Gaziantep and investigate the factors affecting mobility behaviors of households and reveal socio-economic gains from these movements.

Assessing housing conditions, neighborhood, neighbor, and city satisfaction are also the side objectives of the thesis. To understand how and with what motives Syrians move/stay from/to certain areas, investigating their daily life and relations regarding the mode of production they are involved in are unavoidable.

Another purpose of mine by investigating this unexplored area is to highlight Syrians' agency in their lives. Refugees are not passive, dependent, incapable of self-determination or a uniform whole, each of them determines with their path in every decision they take starting from the decision of migrating to their onward migration to Europe or staying in Gaziantep. From a spatial point of view, they transform the space with their survival strategies and daily practices. They shape the space and are shaped by the material relations embedded in the space.

3.2. Research Design

The data used for this thesis was of a research conducted in Gaziantep, Turkey in 2020. I was a part of the research team as a research assistant and contributed to all phases of the research: Research design, sample selection, data collection, quantitative and qualitative analysis, and reporting. Furthermore, in addition to these contributions,

I was responsible for monitoring all the data collection periods. The research project was funded by CARE international in Turkey and International Organization for Migration (IOM).

This research has been designed as a quantitative household survey to understand the conditions of Syrians living in Gaziantep. To make a comparison, we also included residents of Gaziantep in the study. The survey was developed by 15 researchers from Gaziantep University the Department of Sociology, the Department of Journalism, and the Institute for Migration. Therefore, the topics we focused on are individual demographics, household composition, education, labor and profession, urban life and spatiality, community relations, media, and gender.

The survey was developed for Syrians living in Şehitkâmil and Şahinbey districts (the urban core districts of Gaziantep) which host the %80 percent of Syrian refugees in Gaziantep Province. However, we did not make any distinction among Syrians based on their legal statuses. They might have status under 'Temporary Protection', Turkish citizenship, Short-term residency, or no legal status at all. The survey included only one question to understand the citizenship status of Syrians. These two districts have remote neighborhoods showing village-like aspects. These remote areas are out of the scope of this survey because the number of Syrians living in these neighborhoods was low.

The distribution of the survey to be conducted around the city is calculated using the distribution of the Syrian household among neighborhoods. Gaziantep Metropolitan Municipality provided neighborhood population at individual and household levels. At the neighborhood level, we tried to collect the data from different residential areas instead of focusing on a part of the neighborhood. The information on neighborhood structures was provided by *mukhtars* (neighborhood administrators) via face-to-face meetings.

The survey prepared for Syrian includes 486 questions, however, not all the questions were answered by each respondent if the former answers to a question in the survey do not meet the criteria of the latter. The survey was prepared in Turkish and translated into Arabic.

The design of the thesis was to select variables in the data of Syrian respondents. The data of the locals obtained from the survey have not been used in the thesis for any purposes. The variables chosen for the thesis are related to housing, neighborhood, and household. Data of individuals were also used for cross-tabulation purposes.

3.3. Data Collection Process

The data collection took place between June 20 and July 13, 2020. 71 enumerators, 37 women, and 34 men worked for data collection and were supervised by 15 master-level students studying in social sciences. 12 groups were created, each group is managed by a researcher, supervised by a master student, and 4 or 6 enumerators. 35 of students speak Arabic, they are Syrian students studying at Gaziantep University or coming from an Arabic-speaking country.

The survey site, in design, included a total of 180 neighborhoods in both districts. However, due to the COVID-19 outbreak 6 neighborhoods were quarantined. The surveys assigned to these neighborhoods were conducted neighborhoods next to them if they show similar neighborhood characteristics.

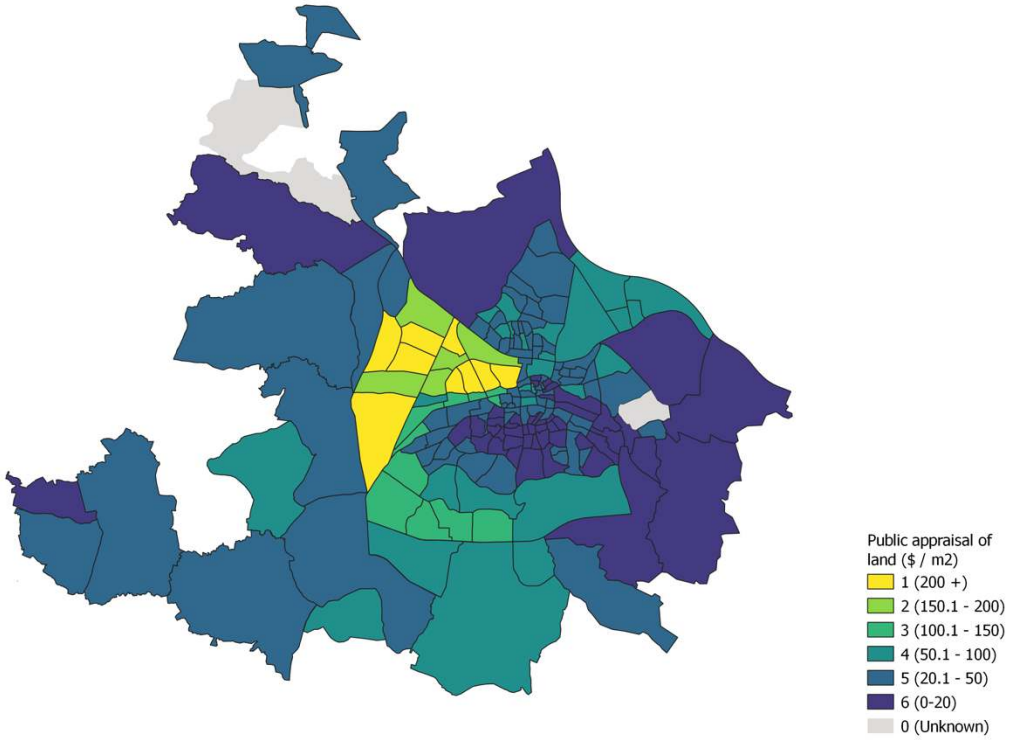
Both versions survey, Arabic and Turkish, uploaded to an online data collection tool called *KoBotoolbox*, an open-source tool (for more information, visit https://github.com/kobotoolbox) developed, owned, and operated by members of Harvard Humanitarian Initiative. Enumerators used their mobile phones to conduct the survey. Software-supported data collection tools have significant advantages over conventional methods using printed forms. One of them is that KoBotoolbox provides an instantaneous monitor of an ongoing process, it makes it possible to intervene in data collection immediately and prevent big data losses caused by possible faults of the enumerators. While monitoring the ongoing activity, a researcher can read the answers in language natively speaking if the translations are uploaded to the tool, therefore, operating multilingual surveys becomes easier. Another advantage KoBotoolbox brings is that it allows recording multiple types of data such as voice, geolocation, text, or numeric data. In this survey, we also collected coordinates of the houses where the survey took place to ensure that the distribution inside neighborhoods is correct.

3.4. Data Processing and Analytical Approach

As it can be seen in the empirical results sections, I use a couple of quantitative analyses: descriptive tables and figures, cross-tabulation, correlation, multiple linear and logit regressions, dissimilarity index, Moran's I index, and Monte-Carlo Simulations as spatial autocorrelation method.

For data wrangling, visualizations, and statistical analysis, I used an open-source statistical programming language named R(R Core Team, 2020) and an integrated development environment (IDE) called RStudio (RStudio Team, 2020). *tidyverse* (Wickham et al., 2019) and *reshape2* (Wickham, 2007) packages for data wrangling and visualization*; viridis* (Garnier et al., 2021) package for coloring maps and figures*; hrbrthemes* (Rudis, 2020) package for theme set of ggplot2 visualizations; *rgdal* (R. Bivand et al., 2021) and *sp* (Pebesma & Bivand, 2005) packages for transferring spatial data to *R*; *spdep* (R. S. Bivand & Wong, 2018) package for creating spatial weights matrix objects and Moran's I calculation; *seg* (Hong & O'Sullivan, 2019) package for calculation of spatial segregation; *moderndive* (Kim & Ismay, 2021) and *infer* (Bray et al., 2021) packages for multiple linear regressions, *igraph* (Csardi & Nepusz, 2006) package for network analysis; and *sjPlot* (Lüdecke, 2021)*, kableExtra* (Zhu, 2021)*, flextable* (Gohel, 2021) packages for creating and exporting tables are among libraries I used to carry out analysis in R in addition to base packages. The maps I included in the thesis are created by me using QGIS geographic information system software (QGIS Development Team, 2021).

For analysis of mobility, I used two grouping systems for neighborhoods to enhance the validity of analysis because the number of the households participated in the survey per neighborhood ranges from 1 to 53. Therefore, the interpretation of the data is not at the neighborhood level but cluster level. The first clustering method is based on the appraisal of the land prices per square meter, the groups were created using the data in the map of Gaziantep provided in Mehmet Emin Sönmez's paper (2016, p. 395). The map is slightly changed, to create the clusters parallel to the rental housing market. Map 1 shows the clusters based on public appraisal of land. The purpose behind clustering neighborhoods based on a public appraisal of land is to categorize neighborhoods socioeconomically. Land in a neighborhood in cluster 1 has the highest market value and it is lowest in cluster 6. The data on the land that is included in cluster 0 is missing. It must be noted that public appraisal of land does not project the true value of rent amounts or income levels. However, I assume it is the closest estimation I can use for the thesis. There is no accessible source showing the range of rent amount in the city.

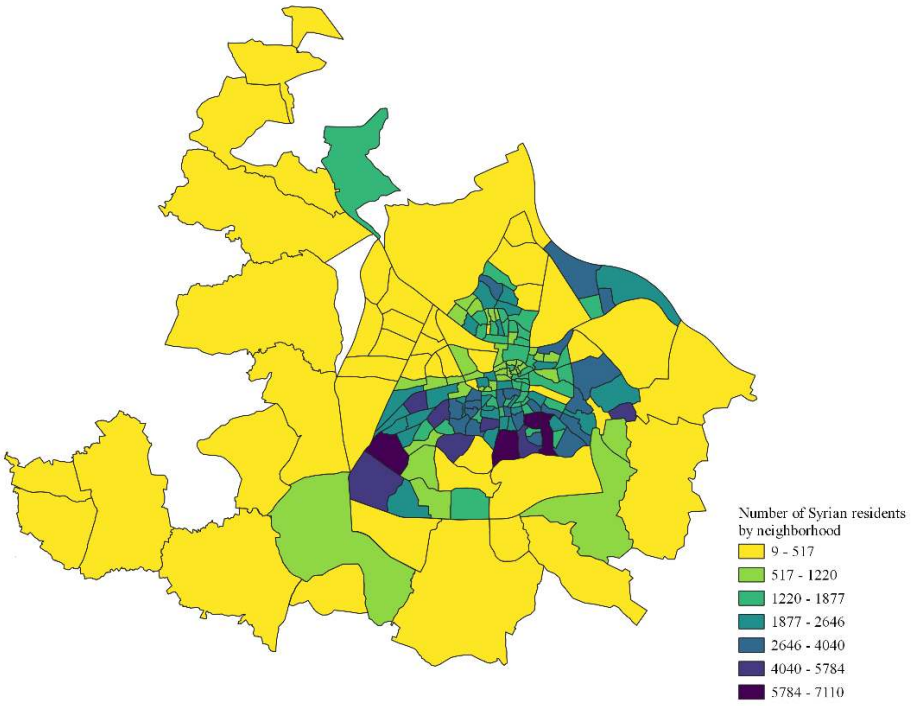


Map 1: Cluster map of Gaziantep, based on public appraisal of land (adapted from Sönmez (2016))

The second clustering method used in the thesis is based on the neighborhood concentrations of Syrians. I categorized neighborhoods into 5 clusters by using equal intervals. Cluster 0 is used to classify the neighborhoods with missing population data. The data of the Syrians were provided by the Gaziantep Metropolitan Municipality, the local population has been taken for TURKSTAT(2020). Neighborhoods categorized under cluster 1 are the ones having the lowest Syrian-to-total population ratios whereas cluster 5 has the highest.

CHAPTER IV
EMPIRICAL RESULTS AND DISCUSSION

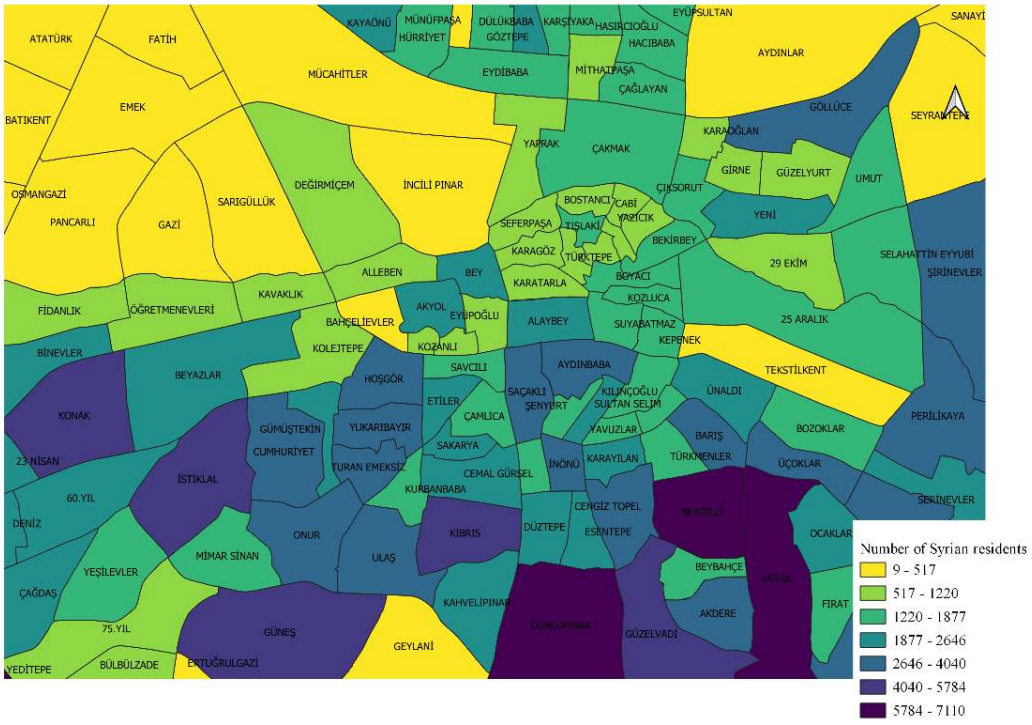
4.1. Spatial Distribution of Syrian Refugees and Housing Characteristics



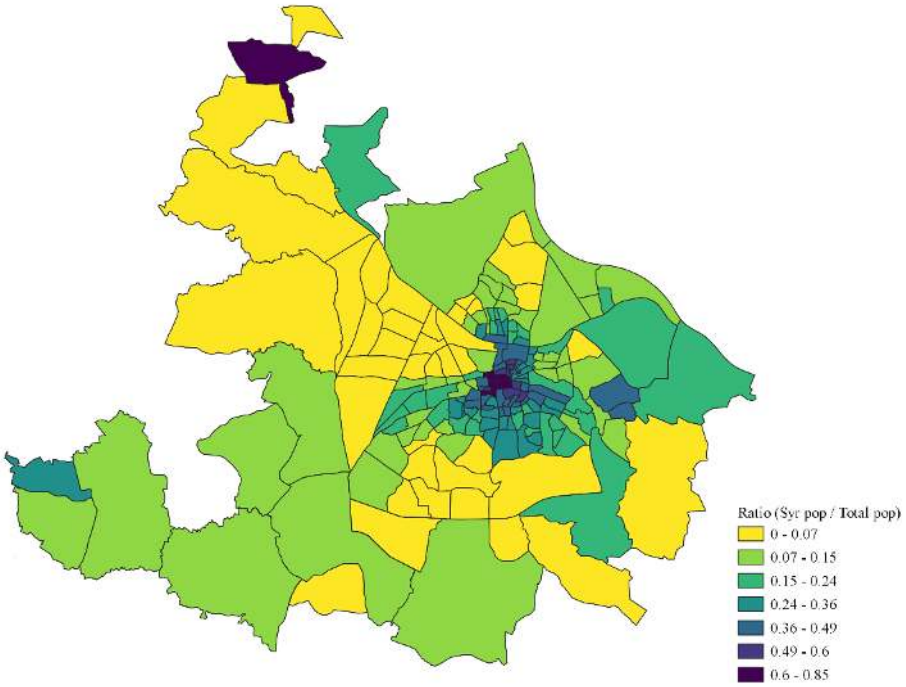
Map 2. Number of Syrian residents in Gaziantep at the neighborhood level

According to the data provided by Gaziantep Metropolitan Municipality, Syrians are very populated in the city center and neighborhoods close to the center. Map 2 shows the population of Syrians at the neighborhood level. Their number in neighborhoods ranges between 10 to 7000. Yellow areas in map 2 are less populated areas and they are mostly peripheral parts of the city. There are also some areas in the city core where the population of Syrians is very low. Especially, the northwest side of the city

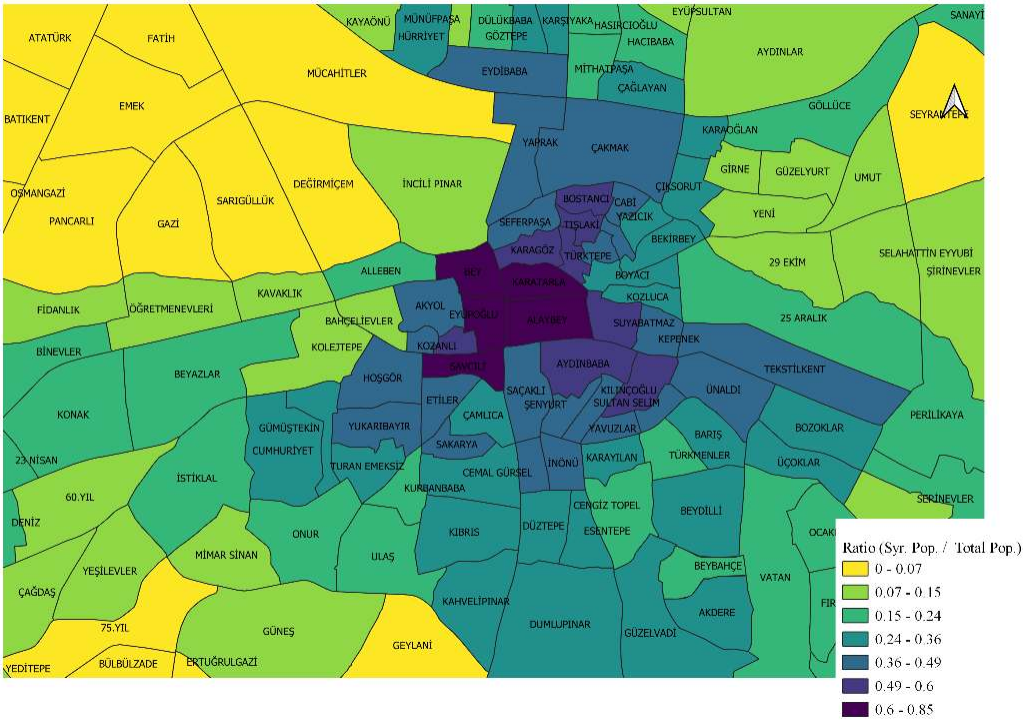
is dominated by locals. According to Mazıcıoğlu and Yenice (2019, p. 141), the contrast between this area and the rest of the city causes a duality in terms of urban settings and patterns. This area, which involves İbrahimli, Batıkent, Atatürk, and Güvenevler neighborhoods, is well planned residential area whereas the other parts of the city are less planned and dominated by disorganized growth of housing. The residential areas where Syrians are densely populated show slum characteristics. Especially, the neighborhoods colored magenta to purple in map 2 are the areas in which the houses were built illegally during rural-to-urban migration waves that occurred after 1950. Most of these neighborhoods are decaying areas and subject to ongoing or completed gentrification projects. On the other hand, the area around the İbrahimli neighborhood is built after the 2000s, where offers relatively better amenities like infrastructure, schools, and health institutions and higher area per capita in terms of recreational areas than rest of the city (Mazıcıoğlu & Yenice, 2019, p. 141). Therefore, it is possible to say Syrians live in areas where offer the lowest resources, at the lowest layers of the city.



Map 3. Number of Syrian Residents at the city center



Map 4. Ratio of Syrian population to total population at the neighborhood level



Map 5. Ratio of Syrian population to total population at the neighborhood level (City Core)

Maps 4 and 5 show the ratio of the Syrian population to the total population at the neighborhood level. Map 5 zooms to the city core, where business and residential districts are interwoven. In 5 neighborhoods, Syrians consist of up to 85 percent of the total population. Even though the number of Syrians is increasing toward north, south-east and south-west direction from the center, they dominated the central neighborhoods such as Bey, Karatarla, Eyüpoğlu, Alaybey, and Savcılı. On the other hand, the less populated neighborhoods by Syrians are also the ones having the lowest ratio such as İbrahimli. Approximately, only 7 residents are Syrians out of 1000 residents in these neighborhoods. Even it is obvious that Syrians are spatially clustered in certain areas of Gaziantep, I checked the Moran I autocorrelation coefficient to be sure that the distribution is not random.

Moran I index formula

$$I = \frac{N}{W}\frac{\sum_{i=1}^{n}\sum_{j=1}^{n} w_{ij}(y_i - \bar{y})(y_j - \bar{y})}{\sum_{i=1}^{n}(y_i - \bar{y})^2}$$

where

N = The number of the neighborhoods indexed by i and j

W = The sum of all w_{ij}

y = The number of Syrians in the neighborhood

$\bar{y}$ = The mean of Syrian Population by neighborhood

w_{ij} = Special Weight Matrix

Table 1. Moran I Autocorrelation for spatial clusters

Moran I statistic standard deviate (*sd*)	p -value	Alternative hypothesis	Sample Estimates		
			Moran I Statistic	Expectation	Variance
14.494	< 2.2e-16	greater	0.6818	-0.0055	0.0022

Table 2. Monte-Carlo simulation of Moran I

number of simulations + 1		500	
statistic	observed rank	*p-value*	alternative hypothesis

0.68178	500	0.002	greater

The Moran's coefficient is 0.68 and *p* value for spatial autocorrelation is very small. Therefore, we can reject the null hypothesis that neighborhoods with high ratio of Syrians and neighborhoods with low ratio of Syrians are randomly distributed along the Gaziantep. Since Moran's coefficient is positive, densely populated Syrian neighborhoods are spatially clustered. Monte-Carlo simulation of Moran I indicates Moran's I calculation is statistically significant.

Additional to Moran I, dissimilarity of spatial residency at neighborhood level has been calculated by using Duncan and Duncan's (1955) "index of dissimilarity" to understand the overall segregation in the city. The formula of the "index of dissimilarity" (Gittleman & Kot, 1990, p. 229) is:

$$D = \frac{1}{2}\sum_{i=1}^{N} \left| \frac{S_i}{S} - \frac{l_i}{L} \right|$$

where

s_i = the population of Syrians in the ith neighborhood

S = the total population of Syrians in the city of Gaziantep

l_i = the population of locals in the ith neighborhood

L = the total population of locals in the city of Gaziantep

Table 3. Dissimilarity Index of Syrian and Locals in Gaziantep

Neighborhood count (N)	*D (dissimilarity index)*	adjusted D
184	0.3616335	0.2721325

According to the result of the dissimilarity, the index *D is* the result of the traditional formulation proposed by Duncan and Duncan, *adjusted-D* on the other hand is calculated with the input of a user-specified weighting matrix. I adjusted the dissimilarity by creating a neighborhood matrix of Gaziantep City Center (N = 184 neighborhoods). Dissimilarity index *D* is 0.36 and *adjusted-D,* when the location and proximity of neighborhoods are taken into consideration, is 0.27, they indicate that there is weakly associated segregation in Gaziantep. This is somehow consistent with the results of previous studies (Bertoli et al., 2019, p. 191) which claims that segregation is

relatively low in cities in the south-east of Turkey when compared to other parts. However, the dissimilarity results are valid when the whole city is taken into consideration, it is apparent that there are three areas where segregation is visible. As mentioned above, the area around Bey neighborhood and the area around İbrahimli neighborhood are ethnically homogeneous[5]. What do these results indicate maybe because there is a class factor at play? Members of the lowest and the highest class apparently segregated, however, it could be said that people from middle classes lived together relatively more frequently.

For the 5 neighborhoods where the Syrian-to-total ratio is around 85 percent at the city core, the area around Bey neighborhood, business relations might be a factor for high density. This area is located next to İnönü street[6], where Syrian business concentrated most than any other location in Gaziantep (Alahmad, 2020, p. 53). On İnönü Street, there are many small stores and diners, fast food restaurants and cafes. The area behind the İnönü Street, on the other hand, locates small to medium textile workshops in high concentration. On the other side of the street, also, there has been an ongoing gentrification project, buildings have been demolished to create a new arterial road passing throughout the city. The preference of being close to İnönü street means, at the same time being close to workplaces. Besides, a new and different market has been formed in the area, the distinctness comes from the profile of the establishment owners and the customers, the majority of shops run by Syrians and the area is well known as a Syrian business district by everyone living in the city. In other words, the area offers a centrality for Syrian residents. When all these factors are taken into consideration the demand for the rental housing around the street might have been increased. This area might be an example how business relations and centrality shape the social space.

As I showed above that the dispersal of Syrians throughout the city is not random, as in the case of Bey Mahallesi, there might be multiple factors affecting the residential pattern of Syrians. Even though dispersal policies usually generates disadvantages for refugees (Robinson, 2003), leaving newcomers unprotected from and open to private housing market dynamics can create similar disadvantages too. It

[5] Here what I mean by ethnicity is nationality, Syrian nationals and Turkish nationals.

[6] Also known as Iranian Bazaar among locals and refugees. Historically, this part of the city has been a locus of immigrants and refugees, carrying the aspect of a business district.

causes inflation in the market, increase demand for low-cost houses and create tension between locals and refugees (Phillips, 2006, p. 544).

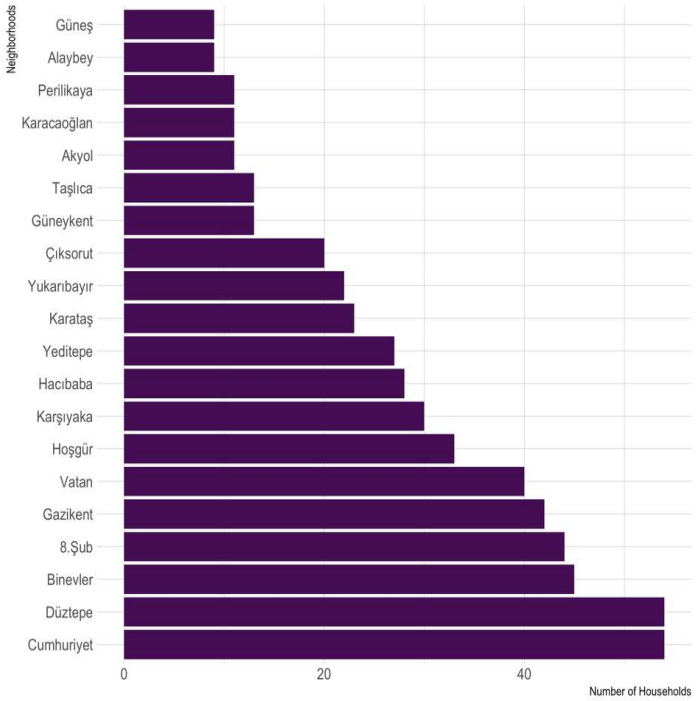


Figure 1. Top twenty neighborhoods where Syrian settled first after they had arrived in Gaziantep

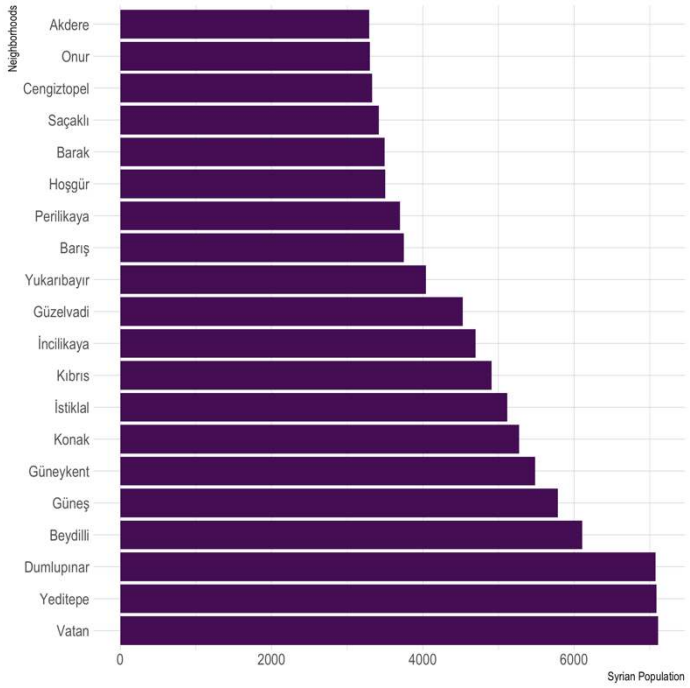


Figure 2. Top 20 neighborhoods with high Syrian population

Figure 1 shows the neighborhoods Syrian respondents settled first after their arrival to Gaziantep. When it is compared to most crowded neighborhoods in terms of Syrian population from data provided by Gaziantep Metropolitan Municipality (figure 2), there are similarities and differences. Vatan, Yeditepe and Dumlupınar are among the most crowded neighborhoods with over 7 thousand of Syrian residents in each one. Except for Dumlupınar, both Vatan and Yeditepe were among the first top 20 neighborhoods settled first. However, Düztepe, Yukarıbayır, Cumhuriyet, and Güneş being at the top in figure 1 are very close to Dumlupınar and can be considered in the same social stratum. Even if there is a mass movement occurred towards Dumplupınar, it does not indicate a class change. The two figures indicate an unchanging pattern in terms of residential preference.

Before moving towards deeper analysis, I believe the conditions of Syrians in terms of tenure status, citizenship, income, and other demographics are important to understand their lives in Gaziantep. They will help us to enlighten the obstacles and opportunities towards im/mobility.

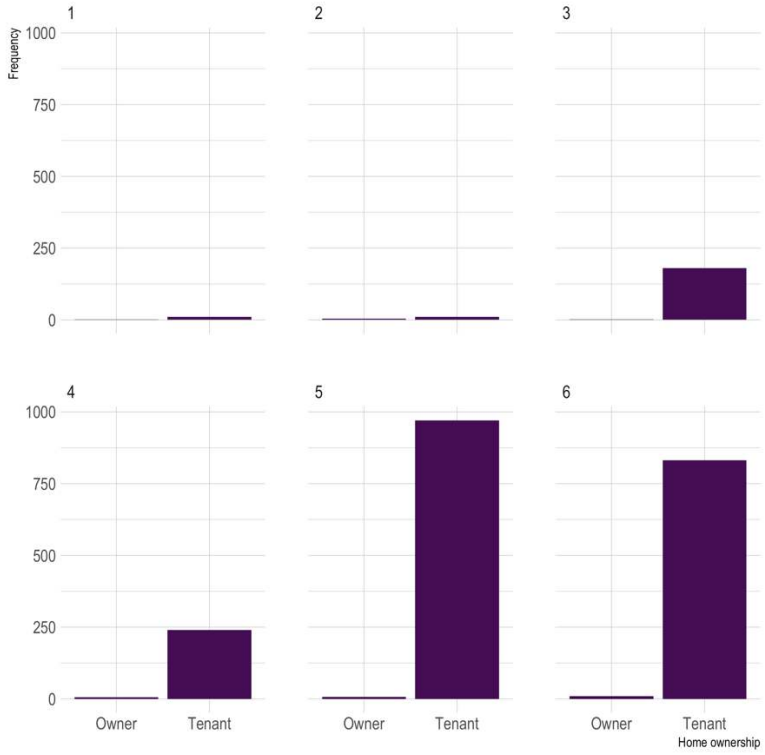


Figure 3: Syrians' tenure status (by clusters based on public appraisal of land)

As I mentioned in the literature review section, homeowners are less mobile than tenants. Thus, we should expect high mobility of Syrians because only 1 percent of Syrian respondents own a house in Gaziantep. The distribution of homeowners among neighborhood groups based on the public appraisal of the land is similar and ranges between 1 to 10. In group 6, which has the lowest market value of land, 10 out of 841 own their own house. On the other hand, in group 1, the highest market value of land, 1 out of 11 is the homeowner. Even though the variance among the number of homeowners through the groups is small, the ratio of Syrian homeowners to local homeowners is higher in neighborhoods with a higher market value of the land. However, the number of surveys conducted in group 1 is so small, thus, its representability of the actual population is weak and not significantly meaningful.

Ten years of asylum is short for refugees to accumulate enough capital to own a house unless they achieved to bring economic capital from the origin country, it is known that out-of-camp refugees in Turkey, living in urban areas, seek affordable rental houses rather than homeownership (Balkan et al., 2018, p. 2). Besides, there is a relationship between homeownership and access to financial supports like mortgages (de Hoon et al., 2020, p. 11). According to the survey data, out of 1241 respondents, only 18 of them have a credit card and 7 out of 18 respondents of the question related to credit card indebtedness have zero debt. Another variable to measure the access to legal financial loans is the *indebtedness to banks* question in the survey. Out of 1135 respondents, 7 of them have a debt to banks, but the type of the debt is unknown (survey does not allow to identify the reason for indebtedness). These two variables show us that Syrians' relation to banks and access to loans are very limited, therefore, the likelihood of owning a home in Gaziantep is low.

Whether having a home or being a tenant in a rental housing generate different outcomes. Home ownership the likelihood of onward migration to abroad. If a refugee household plans to migrate to abroad, they prefer to stay in the same housing unit as long as possible in order to save enough capital for onward migration to happen. It is similar, in terms of the generated immobility, residential mobility behaviors of homeowners. Another different outcome of tenure status is that homeowners might have a higher place belonging. The lack of place belonging results in failure of integration. Besides, in terms of Bourdieu's field, Syrians adverse position in housing market perpetuate itself. They cannot collect the gains coming from owning a house, such as

getting rid of the burden of paying rent, maltreatment of landowners such as ethnic discrimination in rental market, living in a neighborhood having better amenities, etc.

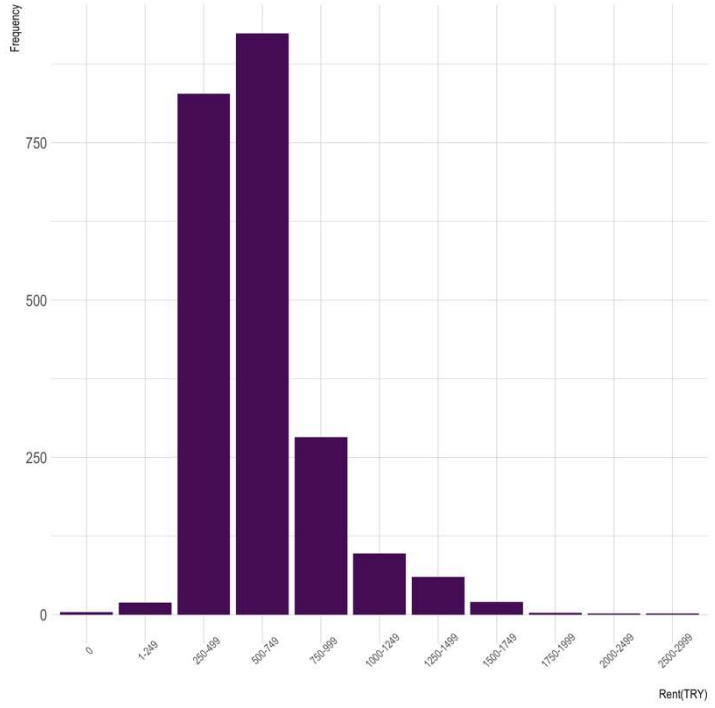


Figure 4. Montly rent (TRY)

Monthly rent amounts of respondents' houses range between 250 to 3000 TRY. Most of the prices Syrians pay aggregate between 250 and 750 TRY. Syrian tenants paying higher than 1000 Turkish Liras of rent could be assumed outliers. In July, 2020, the average rent for Gaziantep Province is 1,520 Turkish Liras (*Gaziantep Konut Fiyatları | Endeksa*, 2020). As it is seen, it is approximately 1000 liras more than the sample average. There are several possible explanations for this result, probably combinations of them. One is that houses in the areas Syrians densely live, which consist of the majority of the sample, have very poor conditions and, in turn, have lowest rents in the market. Another reason might be the one which Balkan et al (2018, p. 6) reached in their study: "…housing rents decline as refugee density sharply goes up in a certain region or neighborhood". According to authors, locals might have moved into the neighborhoods where housing rent is relatively higher to put a distance with refugees, in other words 'native flight'.

The question investigating the number of rooms in a housing unit was asked to respondents with the expectation to tell the number of rooms in their houses excluding the kitchen, restrooms, or attics. As the result, the mean number of rooms in a housing unit is 2.84. The result shows that Syrians do not live in big houses with many bedrooms. As it seen from the figure 5, units with 2 or 3 rooms are the dominant type of housing. A high number of rooms is an important indicator for secure housing. However, the results shows that there is a mismatch of size of the housing unit with household size of respondents since the average Syrian household size is high (5,65 members per household), 80 percent of the sample is married, and 77 percent has children (but we cannot know whether they are living together with their children or not).

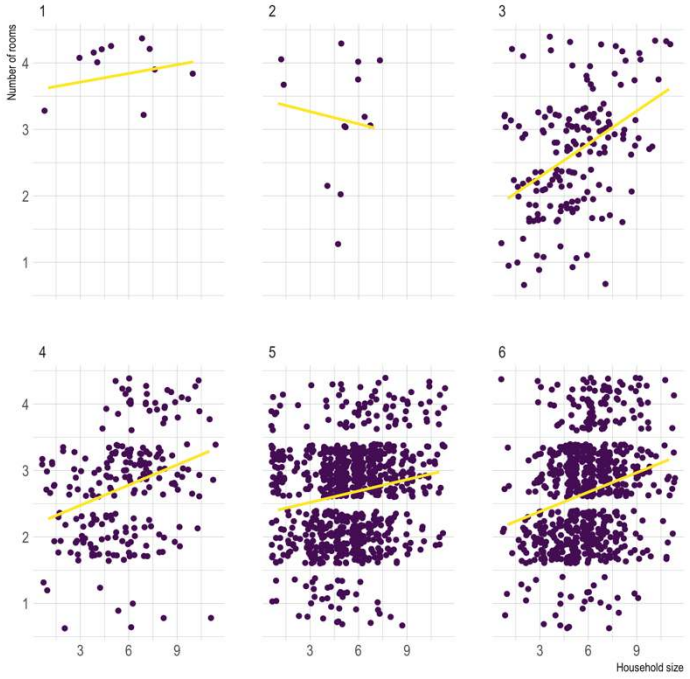


Figure 5. Correlation of number of rooms in a house with household size (neighborhood groups based on public appraisal of land)

The correlation between household size and number of rooms is ranging from weak to mild. According to correlation results, there is fairer match of houses with households in group 3. Yet, the houses still do not have enough separate bedrooms for children or other household members. As the mean of household size and mean number of rooms are taken as an example, a house with 3 rooms and a household consisted of 6 members, we might anticipate that one bedroom for parents, the other bedroom for 4 children(if we assume that all other members are children) and the spare room for living and dining; or the spare room is bedroom at night, living room at day. This

scenario gets worse if there are two married couples and children at the same time in the same household.

In groups 4, 5, and 6, there are households (even in low ratio) having more than 3 (up to 10) members but staying in one-room apartments, this is one of the worst-case examples. One of the reasons for the general mismatch and bad housing conditions is due to the composition of the private housing market because houses with a high number of rooms are scarce and expensive. Another reason might be, as a survival strategy, that Syrian families try to refrain from spending too much money on rent.

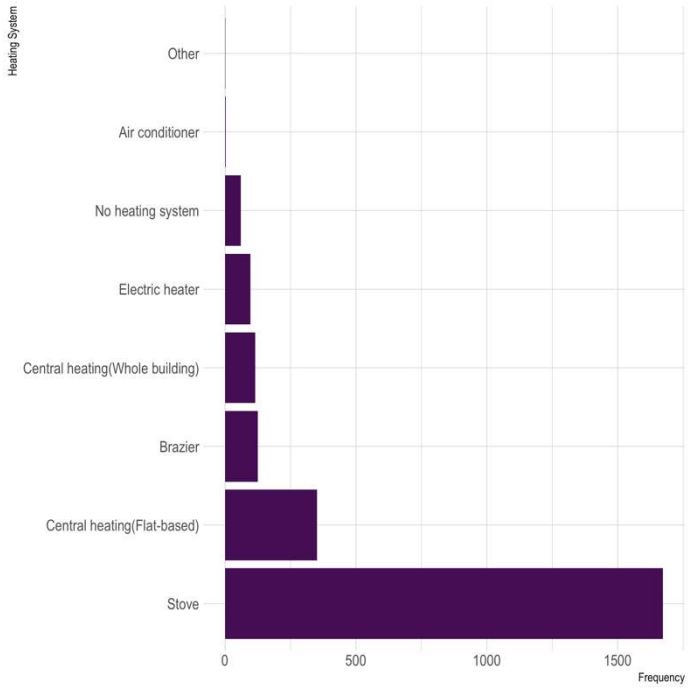


Figure 6. Heating systems used at Syrians' houses

In addition to number of rooms, another item to determine the housing quality is type of heating system used at the house. Flat-based central heating systems have been installed into new buildings or installed during renovation during an old apartment. Heating by stove, on the other hand, may be a sign that it is a shanty building or in a remote area where natural gas piping system are not built. Also, heating by solid fuels is cheaper than using natural gas, maybe, households cannot afford central heating expense and prefer stoves.

The primary condition of secure housing and successful integration is finding a job with decent wage and job security. As mentioned in the literature review, majority of Syrian households in Turkey make their living by working, the supports provided are not adequate. However, their income is low even though employment is high, because almost all working Syrians find jobs in the informal sector. According to the survey results, the percentage of Syrian males who are employed in a paid job (61.6% of all male respondents) is significantly higher than females (12.7% of all female respondents). While Syrian women can't work because they stated that they must take care of children, elderly people, and household members who require homecare (35.6%) and they are 'not getting the permit from the husband' (32.0%); male respondents stated that they were unemployed because they were looking for a job then (33.6%) or unable to work due to health reasons (26%). It must be noted that the time survey took place was the curfew period in Turkey due to the COVID-19 pandemic and employers frequently dismissed their employees for unpaid leaves. There is a probability that the employment figure could have been higher.

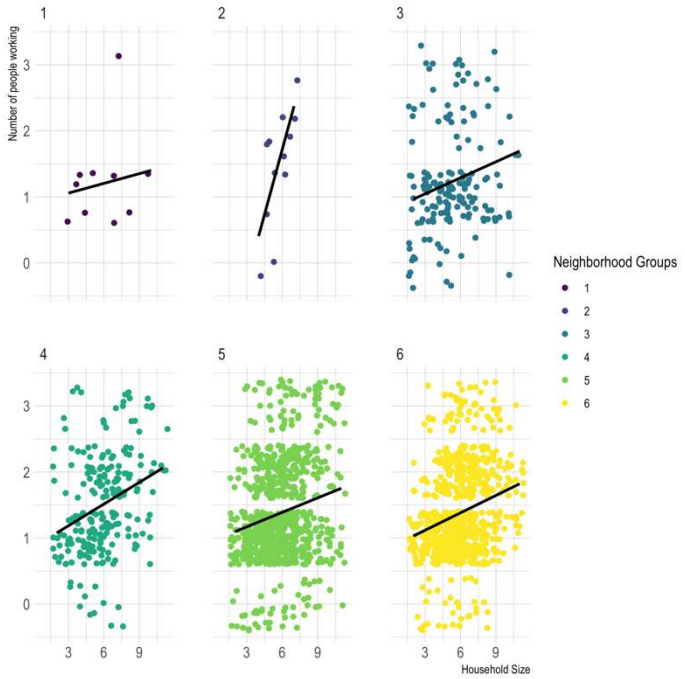


Figure 7. The correlation between the number of household members employed in a paid job and household size (by neighborhood groups based on public appraisal of land)

66.1 percent employment among male respondents is very low, results of a previous study indicate finding a job in Turkey is relatively less likely for older males

than younger adults (Turkish Red Crescent & World Food Programme, 2019, p. 21). In our sample, the mean age of working males (35.1) is not different than the males seeking job (34.2). While mean age of total of unemployed male goes up to 41.3 due to retired males (mean age is 54). It is obvious that older males cannot work. To overcome the unemployment problem, women and children from that household must work. However, the when the household size is compared with the number of household members working at a paid job (figure 7), results show that members' participation in labor is not high as expected, most commonly less than 2 members have paid jobs, the average number of members working in a paid job from the same household is 1.38.

Table 4. Pearson Correlation between number of members working in a paid job and household size

Public appraisal of land-based neighborhood groups	Pearson's r (between household size and number of working people in the same household)	Mean-household size	Mean number of people working	*n*
1	0.17304	6.5	1.3	10
2	0.71443	5.7	1.6	12
3	0.22436	5.42	1.3	161
4	0.31189	6.26	1.6	221
5	0.20823	6.08	1.4	867
6	0.24887	6.08	1.4	796

When this data is analyzed in detail by grouping the households based on the public appraisal of land neighborhood groups, there is no significant difference among groups 3,4,5,6. There is no correlation between household size and the number of household members in a paid job except households in group 2. In group two, even

though the number of observations is very few, there is a strong positive relationship between the number of working people from a household and the household's size. Data shows us generally more than one person work in the same household but more than 2 people to work is unlikely. Even though we can reject the hypothesis that the majority of members of a household are working in a paid job due to low wages but cannot reject children are working due to the unemployment of males. Children might be a source of income in households because women's participation is very low in paid labor.

Labor market relations are important to understand socioeconomic status of a household. When socioeconomic status change and an upward mobility in class occurs, then the household can change its residential location, to a place higher in the residential strata. However, as the data show us, Syrian families in Gaziantep trapped in a poverty circle. 794 of 868 (91%) Syrians working respondents employed in the informal sector which means they are not registered, lack legal safety for workplace accidents or no right to be claimed in case of abuse of the employers.

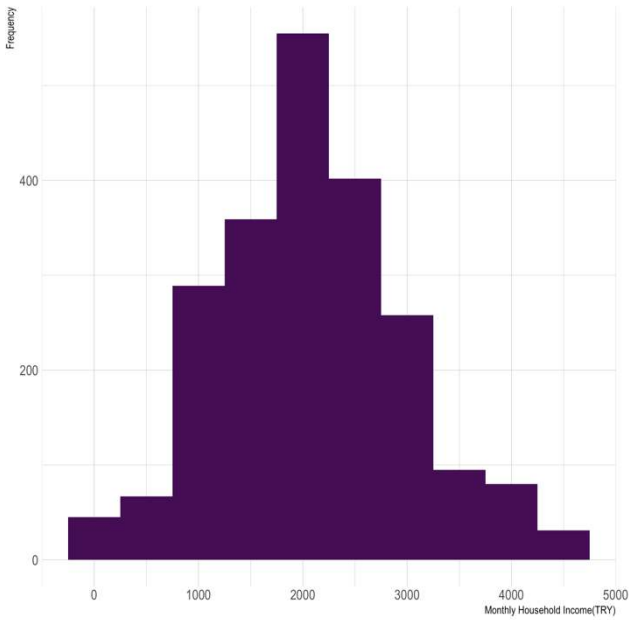


Figure 8. Monthly household income (TRY)

Average income of a household is 2124.5 Turkish Liras. When the survey took place, net minimum wage determined by the national government was 2324 TRY. For households whose only one member works at a paid job, the average income is 1919, which is also below the minimum wage. To earn as much as minimum wage at

least 2 members from a household must work. However, the increase in the number of members working in a household does not translate into a linear increase in the household income. The correlation between number of people in a household employed at a paid job and the household income is 0.3, which indicates a weak association between variables.

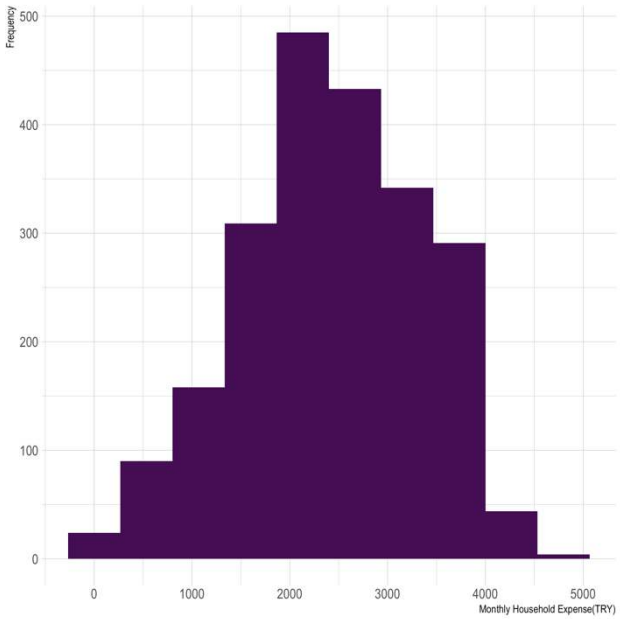


Figure 9. Monthly household expense (TRY)

The average expense of Syrian households is 2356 TRY, which is higher than the average income. Moreover, 47 percent of Syrian respondents' income is lower than their expenses. The possible explanation for this gap is either Syrian households borrow money and are in debt, or they get financial aid from the government and NGOs. As I demonstrated the results related to Syrian's access to banks above, it is very unlikely that they compensate the gap being in debt to a bank. Most probably, they borrow money from their acquaintances or from relatives. On the other hand, only 26.6 percent of respondents getting support currently in the form of cash assistance or material support.

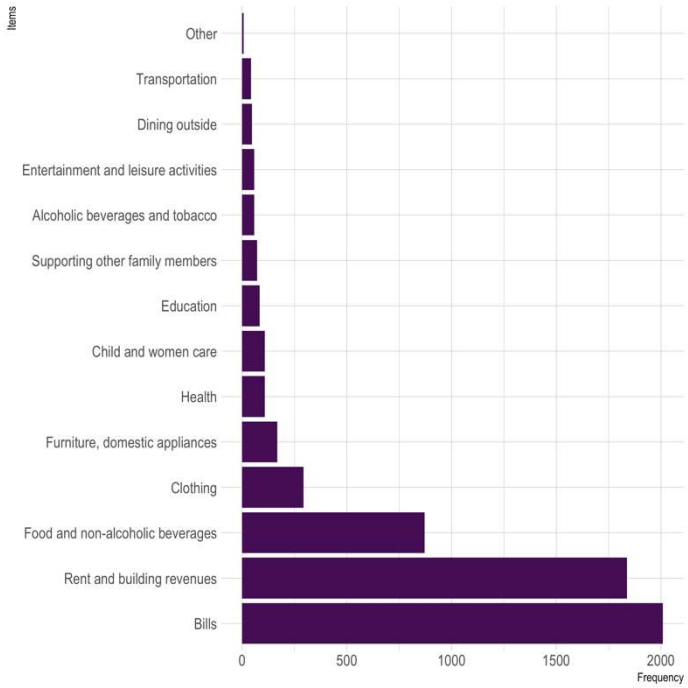


Figure 10. The expense items a houshold finds the most challenging

According to the survey results, bills and rent are among the top items of which Syrians find difficult to pay. Food and kitchen expenses come in third place. The other items might be seen as trivial or less important, and households do not place them on a must-have level like alcoholic beverages and dining outside or they might be more affordable, or Syrians might acquire such items via their networks like furniture. Syrians under temporary protection benefit from free health and educational services in Turkey. Probably, that's why these two items are not classified as challenging.

4.2. Residential Mobility of Syrian Refugees and Spatial Satisfaction

According to the results of neighborhood change (figure 5), most of the Syrians lived in only one or two different neighborhoods since their stay in Gaziantep. The mean change of neighborhood is 1.57. Households who lived in more than 3 neighborhoods can be regarded as exceptions. In figure 11, yellow and green areas indicate where the majority of households are concentrated: household size ranges from 4 to 7 people and the number of different neighborhoods resided ranges from 1 to 2. Households having more than 13 members haven't changed their neighborhoods in Gaziantep more than 2. This is in line with the findings of previous pieces of research showing that as the size of the migrant households increases the possibility of finding a suitable and affordable housing unit decreases. That's why they are less mobile.

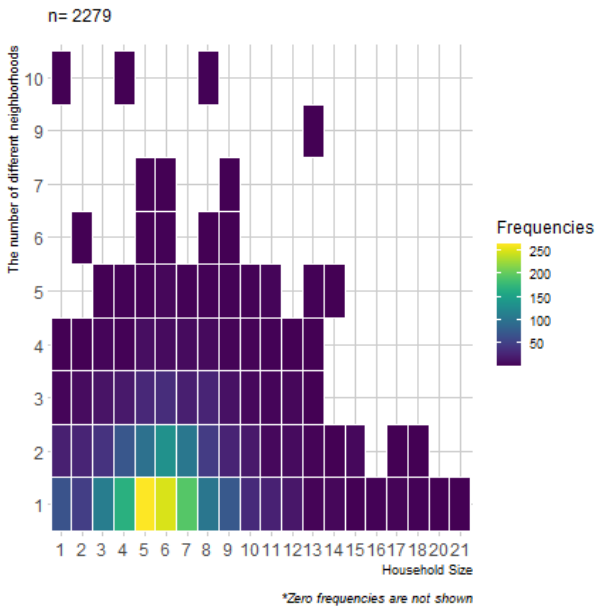


Figure 11. Tile plot of the relationship between the household size and the number of different neighborhoods lived in Gaziantep

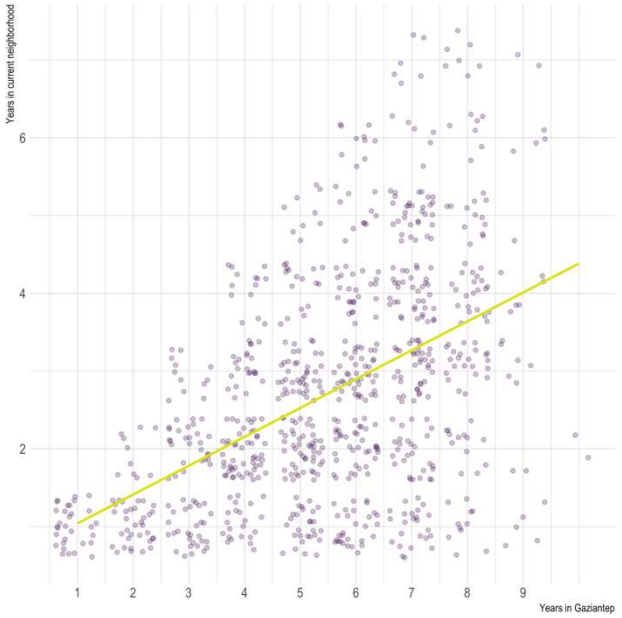


Figure 12. Jitter plot of the correlation between years of stay in current neighborhood and years in Gaziantep of Syrians who have lived at least two different neighborhoods

There is a mild correlation (r = 0.49). between the length of residence in the current neighborhood and length of residence in Gaziantep. The data does not allow me to analyze when the first residential mobility occurred after first arrival to Gaziantep. However, it is possible to calculate this value for those who have lived only in two different neighborhoods.

Most of the Syrian respondents in our sample came to Gaziantep between 2013-2015. The number of respondents who stayed in TACs is very low (6%), therefore they must have been settled in the cities in the earliest period of their immigration. The accommodation support was provided to those living in camps, out-of-camp refugees had to take care of themselves and their families in cities by working. As I stated above, Syrian households' income levels are very low and 1/4 to 1/3 of their income goes for house rent. The neighborhoods densely populated by Syrians are areas showing slum characteristics and they are, apparently, excluded from middle- and upper-class residential areas. Their choice of residential location is limited. Both SES and residential limitations are taken into consideration, they might try to stay in their current housing as long as possible and maintain their spatial position in the market. Lack of upward mobility in the sociospatial sense, in certain conditions, does not mean there is no gain. Before analyzing the relationship between income and residential change,

I wanted to analyze whether household size and length of stay in Gaziantep affects mobility by using Poisson regression.

Table 5. Poisson Regression of the effect of household size and length of stay in Gaziantep on the number of different neighborhoods resided

Deviance Residuals:					
	Min	1Q	Median	3Q	Max
	-1.0770	-0.5029	-0.4362	0.3213	4.6458
Coefficients:					
	Estimate	Std. Error	z value	Pr(>|z|)	
(Intercept)	0.295768	0.056289	5.254	1.48-e07 ***	
Household Size	0.017835	0.006186	2.883	0.00394 **	
Years in Gaziantep	0.010854	0.008107	1.339	0.18064	
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1					

Poisson regression is applicable since the number of neighborhoods lived in variable has a positively skewed distribution. By applying Poisson regression analysis, it is expected to find the change in the odds for the number of different neighborhoods by a change in household size. According to the analysis result, the probability is significant at 0.001 level. The estimate is positive and tells us there is a logarithmic positive relation between the number of neighborhoods lived in and the household size. For one person increase in household size, the odds of the number of neighborhoods resided in Gaziantep are higher by a factor of 1.018. In another word, an increase of one member in the household results 1 percent increase in the expected number of different neighborhoods a household live in Gaziantep. For one member increase in household and one year increase in the duration of stay in Gaziantep results in 1.3 percent increase in the expected number of different neighborhoods. Same as in the case of household size, there is a positive relationship between mobility and duration, but it is not significant and negligible.

As results showed, both household size and years spent in Gaziantep hardly ever affect mobility behavior. As a next step, I want to investigate when did the latest movement occur, and the duration in the current neighborhood to understand the movement and timing pattern.

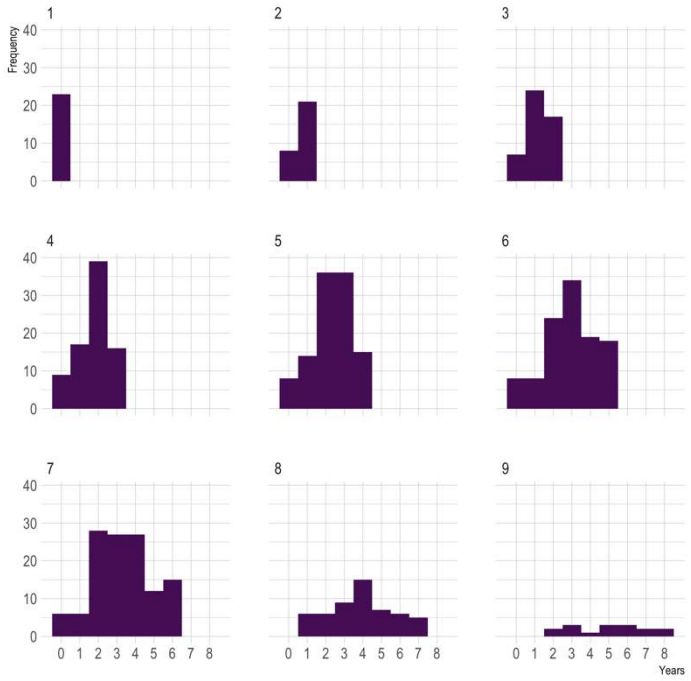


Figure 13. When did the first residential movement occurred after first arrival of Syrian respondents who lived in only two different neighborhoods?

The frequency of two-neighborhood residents is 594 whereas the total of the number of mobile households is 860. Therefore, this analysis will cover 70 percent of mobile households. The x-axis of the figures indicates how many years they spend in their first neighborhoods before moving to the current ones. The histogram is broken down into years spent in Gaziantep to give a clearer picture of mobility behavior. In other words, the top left corner figure is the mobility frequencies of Syrian respondents who have been in Gaziantep for a year, bottom right corner is for those here for 9 years. According to results, the majority of households who have been in Gaziantep for 4 to 8 years move out from their first neighborhood after 2.5 years of stay on average. Before continuing to the discussion of duration in the first neighborhoods, I show the reasons for moving out to the next neighborhood in figure 14.

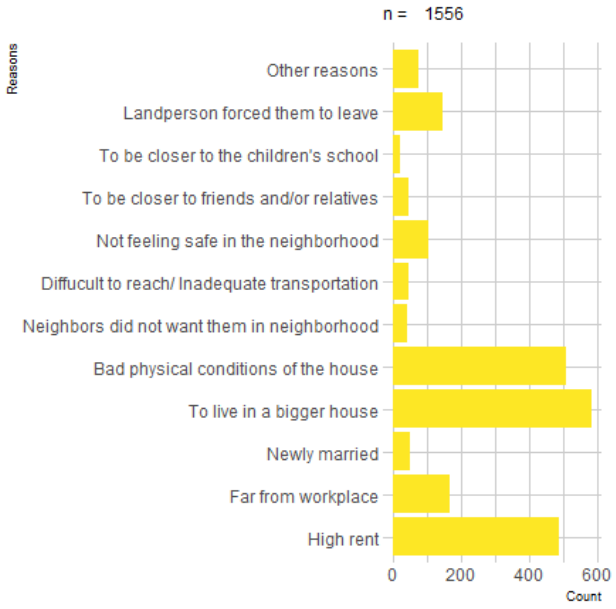


Figure 14. Reasons for moving out from the last housing unit

The majority of responses to the question 'why did you move out from your last house?' is clustered around three causes: 'to live in a bigger house', 'bad physical conditions of the house', and 'due to high rent'. Respondents were allowed to select multiple reasons, but combinations of causes are not shown in the figure. Therefore, both high rent and bad physical conditions in an interaction could be a reason for changing housing units. What do these two figures tell us about the mobility of Syrians?

Firstly, it seems the possibility of Syrian refugees leaving the first neighborhood they settled requires 2.5 on average. As the migration literature says, in mass migration, more than one family's sharing the same housing unit is a common strategy to cope with financial problems. Since there is no support given in Turkey for the accommodation of Syrian refugees living in Gaziantep, our respondents might have been shared a flat with other refugee families. Moreover, financial stability which means finding a job is a must to move into a separate house as cash assistance provided by the government, the EU or NGOs cannot be enough to afford the rents. On the other hand, familiarity with the city, the housing market, and the public transportation system are necessary to find the most suitable option in the market both in terms of house size, location, and affordability of rent.

Until now I tried to present an overview regarding the characteristics of intra urban residential mobility of Syrians in Gaziantep. Now, with the help of network

analysis next to figures, I attempt to reveal if there is a pattern of mobility regarding the neighborhoods, focusing on the movements rather than who is mobile/immobile.

Figures 15 and 16 were calculated from the 853 eligible answers. Two grouping variables are selected to reveal the pattern: Public appraisal of land and population ratio (see methodology for the criteria of grouping in detail). Nodes in the figures stand for neighborhood groups whereas links among the nodes shows the direction of the movement. The width of the links is proportional to the frequency of movers, and it is weighted by calculating the base weights at neighborhood levels. However, no non-response weights are calculated for the analysis.

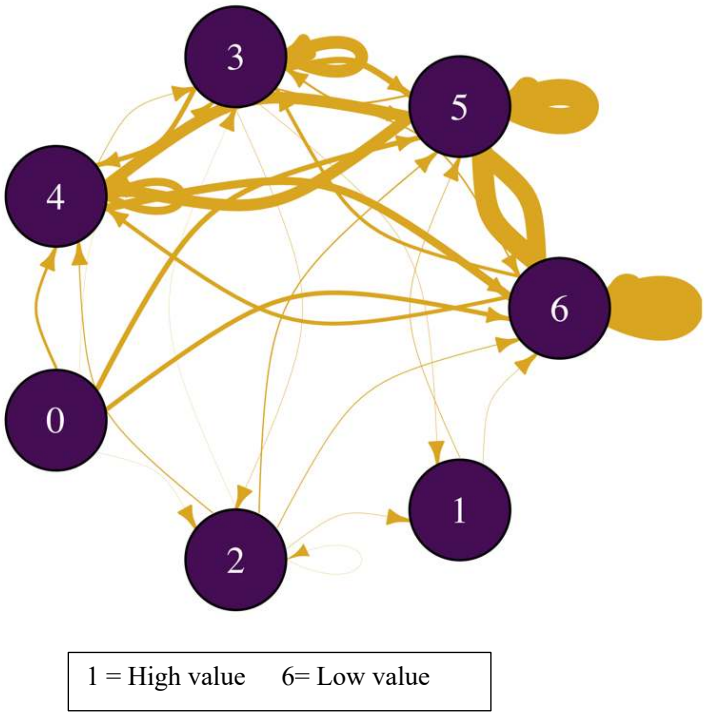


Figure 15. The residential mobility of Syrians in Gaziantep among neighborhood groups based on land prices

The residential movements are clustered around groups 3,4,5,6. Intra-group movements for 6 and 5, in other words from neighborhoods of group 6 to other neighborhoods in again group 6, are the widest edges. Syrians move among neighborhoods in the same strata. The movement from groups 5 to 6, and vice versa, are also quite common, and neighborhoods in these groups are the most preferred locations. Besides public appraisal of the land, the rents asked in these neighborhoods

might be very similar. On the other hand, movements to neighborhoods in groups 1 and 2 are the least frequent ones. What is important in this figure is that there is sequential upward and downward mobility. Moving into a neighborhood 2 or 3 levels upper in the strata is very rare. However, it must be noted that strata of rental houses in exactly

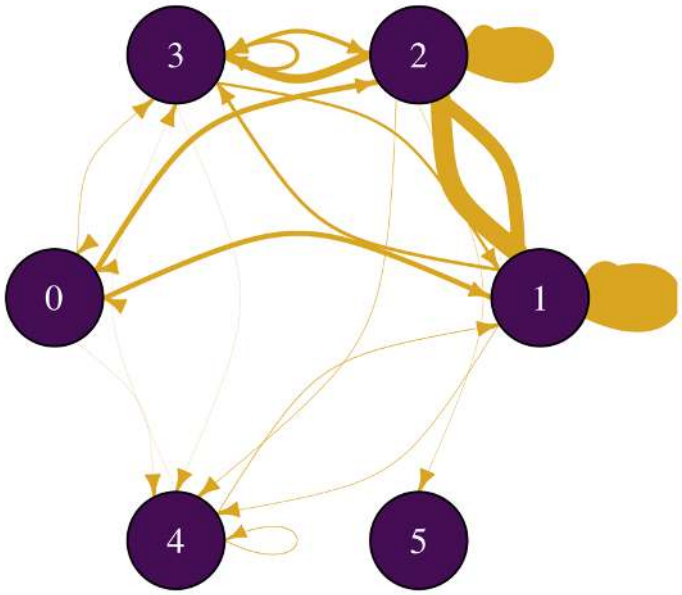


Figure 16. The residential mobility of Syrians in Gaziantep among neighborhood groups based on population density

Density-based groups are created using the Syrian population of a neighborhood over the total population of it. The population of neighborhoods I assigned to group 0 is unknown, most of them consist of village-like neighborhoods in rural parts of the districts. Group 1 is the less crowded neighborhood which means the ratio of Syrians to total population is the smallest, it is between 0 to 0.2. As it is seen from figure 12, most of the movements occur between groups 1 and 2, intra-group movements are frequent for them too. There is no movement from neighborhoods in group 5 to anywhere and almost none from group 4. Neighborhoods in group 1 are the most preferred location, in other words, households move most frequently to the least dense neighborhoods. The densest neighborhoods (group 5) are not preferred at all. This is a very surprising result. Its importance lays in the community relations and it indicates a counter-movement to neighborhoods were mainly populated by locals and a flight from neighborhoods where are crowded by their co-nationals.

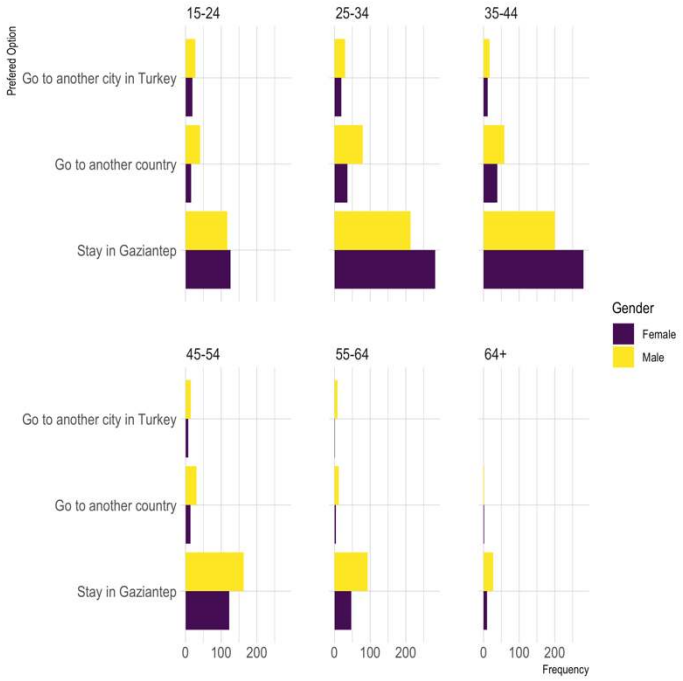


Figure 17. Where would you like to go except returning to Syria?

In the survey, a series of questions investigated attitudes towards returning to Syria, onward mobility to Europe, and staying in Turkey. I will not show the results in detail here. However, I believe results regarding the preference of staying in Gaziantep against other possibilities help to understand how content Syrians in Gaziantep.

Most Syrians (65 percent) respond in favor of returning to Syria if appropriate conditions occur. It is a hypothetical question; the remaining respondents might have thought that Syria would never be the same as before the war and see no future there. A follow-up question which the possibility of returning to Syria is not an option, get the responses showing a preference for staying in Gaziantep over going to another country or another city in Turkey. The proportion of Syrians who prefer staying in Gaziantep is (77 percent) is very high. The choice of Gaziantep over any other city in Turkey is understandable because Gaziantep is the top second preferred destination by refugees in Turkey (İstanbul is the first) (Turper Alışık et al., 2019, p. 308). The high

number of co-nationals, the historical closeness of twin cities, Aleppo and Gaziantep, and employment opportunities might be the pull factors of Gaziantep.

CHAPTER V
CONCLUSION AND LIMITATIONS

This thesis set out to explore the mobility dynamics of Syrians in city of Gaziantep. Revealing the spatial distributional patterns and housing conditions are vital to achieve the aim. The findings of the thesis contribute to our understanding of refugee mobility and provide a basis for similar research to be carried out in other cities of Turkey such as Kilis, Şanlıurfa, Hatay and Mardin because it is expected that both housing and employment dynamics are similar in these cities. Another contribution of this thesis into both mobility and migration literature is the systematic investigation of residential areas and movements among areas.

The initial objective was finding out the spatial distribution of Syrians in two metropolitan districts. The results show that Syrians are not randomly distributed to parts of the city. Spatial autocorrelation indicates clusters are formed and there are places where Syrians are not concentrated which means that the city is fragmented ethnically. Based on this finding we can assert two claims: First, Syrians are excluded from certain neighborhoods and their access has been limited via social or economic constrains. Second is that they prefer living in certain neighborhoods over others. Both claims can be true according to findings. The areas where Syrian population is scarce can be categorized under two groups. The first group of neighborhoods is located at the North-Western part of the city and contains neighborhoods characterized with high-income residents and relatively better environmental resources. Majority of the buildings in the area is constructed after 2000s, it is a relatively young residential location. On the other hand, a significantly wide part of the area is consisted of old but in good-condition apartments. The second group of neighborhoods where Syrians are seldomly reside in is mostly located throughout the Southern part of the city, a fraction of them is located at the most Northern part of the city. These neighborhoods are also relatively newer residential areas but appeal to consumers from middle-class. They

draw the southern border and a small share of the northern border. The most significant common aspect of the built environment in these areas is that buildings are constructed by TOKI (Housing Development Administration of Turkey). To own a house from TOKI buildings, Turkish citizenship is a must and there are certain criteria regulating and limiting their sale and rent to another person. Thus, the residents of the houses in TOKI most probably locals.

On the other hand, the majority of Syrian refugees in Gaziantep lives in impoverished neighborhoods with locals. City core of Gaziantep is the area where Syrians are most concentrated, the formation of ethnic enclaves can be observed there. These neighborhoods are historically the first place where IDPs and rural immigrants settle. Still today, Kurds and Alevites dominantly reside in these areas. Another aspect can be attached to these neighborhoods is that residential and business areas are interwoven there. A Syrian business district established after the migration has been affecting the residential distribution in the city-core. Income, legal status, and business relations are the main factors determining the Syrians and locals' residential distribution throughout the city.

According to findings, Syrians are employed in low income generating jobs in the informal sector. Similarly, household income and income per capita is very low. Therefore, Syrian families cannot afford high-rent apartments in the South-eastern part of the city. Therefore, they live together with locals with similar income levels. Dissimilarity index points to low segregation among overall residential locations. Local gated communities and Syrian ethnic enclaves weakly affect the segregation due to their low share in the total population of the city. However, this small share of segregation should be approach cautiously for their potential to grow and extend in the future. Unless income levels of Syrians and locals are not equalized, more segregated areas might occur. This equalization partly depend on the regulation of Syrians' legal status and work permits: Their right to work formally and under equal conditions should be provided. Temporary protection fails to address solutions to problems creating this spatial inequality. Citizenship does not just give Syrians the opportunity to ameliorate working conditions, it eliminates the obstacles to accessing mortgages and bank credits which are necessary for acquiring real estate in Turkey.

Findings about residence and its change demonstrates us that half of the Syrians has never left the neighborhoods they settled first after their arrival to Gaziantep.

The rest of the sample mainly lived in two or three different neighborhoods in Gaziantep. These results give us cues on the conditions of Syrians about housing. The initial interpretation of the results is that Syrian refugees might have mobilized resources in their social networks during finding a house in Gaziantep and they are relatively content with the housing conditions since half of the sample is immobile. Another interpretation of the results is that Syrians are stuck with the housing unit they currently dwell because housing market restricts their movement. The results of the other variables of the data supports both interpretations. 80 percent of the Syrians living in Gaziantep came from Aleppo, we expect a wide network of relatives, co-nationals, and friends. Moreover, 90 percent of the sample is content with the neighborhood they currently reside. As it is seen both mobile and immobile households are satisfied with the conditions of their neighborhoods. Therefore, we expect Syrians who have been living in the same neighborhood since their arrival to Gaziantep are content with their location, and the ones changed the initial location became content with their new location. This does not mean that they dwell in the optimal housing unit, but they are aware of their limited options and act according to it.

The first network analysis reveals the patterns of Syrians' residential mobility among clusters of neighborhoods having different income levels. According to the analysis, Syrians are mostly concentrated in the impoverished neighborhoods and their movements occur among and within these. In spatial sense, there is no indication of upward movement of Syrians. The ones living in the neighborhoods of the lowest stratum either stay in the same stratum or cannot go up more than one level in strata. Syrians' income levels do not allow them to occupy an advantageous position in the housing market. Syrians' positions in labor market are in line with their spatial position. Employment in informal sector, lower income levels, inequality of access to educational opportunities, being not allowed to turn cultural capital to economic capital are the barriers among secure housing. As seen from the mobility results, Syrians' incorporation into city space is a class-based incorporation. The policies forced them to become a source of cheap labor locate their houses along with the locals who are also employed in low-income jobs. Macro level factors such as legal status, work permits, availability of jobs only in informal sector determine the residential location of Syrians within Gaziantep.

The second network analysis shows that the movements of Syrians occur toward neighborhoods with low Syrian population. This might be a sign of dispersal, or

it may indicate that the housing options in the neighborhoods dominated by Syrians are limited. As it is abundant in migration and minority studies, dispersal is a strategy to become visible and being less exposed to discriminatory behaviors of local and dominant cultural groups. This is a strategy of the household in order to isolate themselves from their community to increase their chances of being accepted by the natives. It is a way of gaining and accumulation of symbolic capital, which, in turn, helps them to access other forms of capital. Syrians who prefer not living among their community members may have been trying to avoid living in neighborhoods where refugees or minority groups are usually become a target of racist violence.

Another reason of why Syrians moving into less concentrated neighborhoods might be due to the motives to maximizing the benefit of resources. The availability and quality of municipal services increases if the share of locals in the neighborhood population increases since they are potential voters for municipal elections. Also, the conditions of houses in less crowded neighborhoods might be better and the rent is cheaper. This interpretation is also in line with the results of the question about the reasons of leaving the previous housing unit. Syrians moved out from their previous houses to live in better and less expensive houses.

However, it is possible to make an inference contradictory to dispersal strategies from the results of the network analysis because Syrians in the neighborhoods where Syrian-to-total population is the highest are less mobile. Syrians in these neighborhoods may have been trying to keep their position and do not change their housing units to maintain their living with their community members. Living among co-nationals is also a coping out mechanisms frequently mentioned in mobility and migration studies.

Finally, this study has its limitations. First, most of the studies investigating the residential mobility of people benefit from big datasets that most probably provided by the census offices or other governmental institutions. From such datasets, a household's or individual's housing pathway can be traced alongside with other changes like income, work career, household structure, etc. Therefore, longitudinal research allows researchers to make comparison between different times of observation and allow them to make interpretations based on changes in these variables. The data used in the thesis presents a section of Syrians in Gaziantep. The information about the previous experiences of Syrians in Gaziantep is tried to be elicited with including different kinds

of questions in the survey. However, still it is not possible to track changes in household size and structure, occupation, income, expense, educational attainment, and conditions of housing. Another limitation was the sample size that classical and contemporary examples of mobility studies utilized relatively big data sets spanning an entire population of a district, a city, or a region. With such big datasets, it is possible to increase the number of different clusters and reveal the effects of many other factors on residential mobility.

Another limitation of this study is the lack of street-level data. It is possible that different streets in the same neighborhood may offer different resources and possess different aspects. Neighbor relations in the same street or in the same building may affect residential preferences of Syrians. Therefore, future studies on segregation or residential mobility must take consideration of different levels localities.

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APPENDICES

APPENDIX A: R Script

Thesis R Markdown

Murat Kaya

1/3/2022

```
install.packages("tidyverse")
install.packages("rgdal")
install.packages("sp")
install.packages("sf")
install.packages("spdep")
install.packages("skimr")
install.packages("moderndive")
install.packages("viridis")
install.packages("hrbrthemes")
install.packages("reshape2")
install.packages("kableExtra")
install.packages("sjPlot")
install.packages("stargazer")
install.packages("infer")
install.packages("spData", dependencies = TRUE)
install.packages("flextable")
install.packages("igraph")
install.packages("data.table")
install.packages("mvtnorm")
install.packages("seg")
library(rgdal)
library(spdep)
library(sf)
library(sp)
library(RColorBrewer)
library(tidyverse)
library(moderndive)
library(skimr)
library(reshape2)
library(viridis)
library(hrbrthemes)
hrbrthemes::import_roboto_condensed()
library(scales)
library(gridExtra)
library(kableExtra)
library(sjPlot)
```

```
library(stargazer)
library(infer)
library(flextable)
library(igraph)
library(data.table)
library(seg)

# DATA ----
## Mac
migration = read.csv("gz_data_v2.csv", encoding ="UTF-8" , sep
= ";")
gaz_spa = readOGR("Final","Final1", encoding = "UTF-8")
migration_spdf = merge(gaz_spa, migration, by.x = "full_id", b
y.y = "id")
syrd <- read.csv("syr_data.csv", encoding = "UTF-8")



# RUN FROM HERE ----
## PALETTE AND ENCODING ----
my.palette <- brewer.pal(name ="OrRd", n = 9)
color.v <- viridis(20)
my.palette2 <- brewer.pal(name = "YlGnBu", n= 9)
theme_set(theme_ipsum())

## COLNAMES
# colnames <- colnames(syrd)
# writeLines(colnames, con = "colnames.md") #Open, then reopen
with encoding

## COLNAMES FOR MAC
# colnames_mac <- colnames(syrd)
# writeLines(colnames_mac, con = "colnames_mac.md")


## RENAMING ----
syrd <- syrd  |>
  rename(income = Ailenizin.aylık.ortalama.geliri.ne.kadardır.
,
         neig = Yaşadığınız.mahalle.,
         first_neig1 = Gaziantep.te.yerleştiğiniz.ilk.mahalle.
hangisiydi.,
         first_neig2 = Gaziantep.te.yerleştiğiniz.ilk.mahalle.
hangisiydi..1,
         neig_change = Gaziantep.te.kaç.farklı.mahallede.yaşad
ınız.,
         home_change = Gaziantep.te.kaç.farklı.evde.oturdunuz.
,
         citizenship = Türkiye.vatandaşı.mısınız.,
         years_in_tr = Kaç.yıldır.Türkiye.desiniz.,
```

```
         years_in_gzt = Kaç.yıldır.Gaziantep.tesiniz.,
         back_in_gzt = Gaziantep.e.döneli.kaç..oldu.,
         q1full = Bir.önceki.evinizden.neden.ayrıldınız.,
         q1kira = Bir.önceki.evinizden.neden.ayrıldınız..Kiras
ı.yüksekti..Kira.zammından.dolayı..Bu.evin.kirası.daha.uygun,
         q1is = Bir.önceki.evinizden.neden.ayrıldınız..İş.yeri
me.uzaktı,
         q1evlenme = Bir.önceki.evinizden.neden.ayrıldınız..Ev
lenip..yeni.eve.çıktığım.için,
         q1kucuk = Bir.önceki.evinizden.neden.ayrıldınız..Ev.k
üçüktü,
         q1fiziksel = Bir.önceki.evinizden.neden.ayrıldınız..E
vin.fiziksel.şartları.kötüydü..bakımsızdı,
         q1komsu = Bir.önceki.evinizden.neden.ayrıldınız..Komş
ularımız.bizi.istemedi,
         q1ulasim = Bir.önceki.evinizden.neden.ayrıldınız..Ula
şımı.zordu,
         q1mahalle = Bir.önceki.evinizden.neden.ayrıldınız..Ma
halleyi.güvenli.bulmuyordum,
         q1akraba = Bir.önceki.evinizden.neden.ayrıldınız..Akr
abalarım.Arkadaşlarıma.uzaktı,
         q1okul = Bir.önceki.evinizden.neden.ayrıldınız..Çocuk
larımızın.okuluna.yakın.değildi..Okulları.değişti,
         q1evsahibi = Bir.önceki.evinizden.neden.ayrıldınız..E
v.sahibi.bizi.çıkardı,
         q1na = Bir.önceki.evinizden.neden.ayrıldınız..NA,
         q1diger = Bir.önceki.evinizden.neden.ayrıldınız..Diğe
r..İşaretleyin.ve.sonraki.sayfada.yazın.,
         index = X_index,
         household_size = Hanede.yaşayan.toplam.kişi.sayısı,
         latest_neig1 = Buradan.önce.ikamet.ettiğiniz.mahalle.
hangisiydi.,
         latest_neig2 = Buradan.önce.ikamet.ettiğiniz.mahalle.
hangisi.,
         gender = Cinsiyet,
         mar_status = Medeni.Durumunuz.,
         child_count = Toplam.Çocuk,
         years_in_neig = Kaç.dır.bu.mahallede.yaşıyorsunuz.,
         nmb_married = Siz.ve.eşiniz.dahil.hanenizde.kaç.kişi.
evli.,
         hh_dis = Hanede.kaç.engelli.var.,
         hh_working = Hanede.kaç.kişi.çalışıyor.,
         work_status = Şu.an.çalışıyor.musunuz.,
         h.owner = Kaldığınız.yerin.mülkiyet.durumu,
         rooms = Eviniz.kaç.odalı.,
         expense =Hanenizin.aylık.gideri.ne.kadardır.,
         heating_multiple =Evinizde.nasıl.ısınıyorsunuz.,
         heating_none = Evinizde.nasıl.ısınıyorsunuz..Isınma.s
istemi.yok,
```

```
        heating_brazier = Evinizde.nasıl.ısınıyorsunuz..Maltı
z.Mangal,
        heating_stove = Evinizde.nasıl.ısınıyorsunuz..Soba,
        heating_natural = Evinizde.nasıl.ısınıyorsunuz..Doğal
gazlı.Kalorifer..Bireysel.kombi.,
        heating_central = Evinizde.nasıl.ısınıyorsunuz..Kömür
lü.Doğalgazlı.Merkezi.Kalorifer,
        heating_electric = Evinizde.nasıl.ısınıyorsunuz..Elek
trikli.Soba,
        heating_AC = Evinizde.nasıl.ısınıyorsunuz..Klima,
        heating_no_answer = Evinizde.nasıl.ısınıyorsunuz..NA,
        heating_other_select = Evinizde.nasıl.ısınıyorsunuz..
Diğer...İşaretleyin.ve.sonraki.sayfada.yazın.,
        heating_other = Isınma.tipi..Diğer.,
        expense_multiple =Ödemekte.en.çok.zorlandığınız.gider
ler.hangileridir.,
        expense_food = Ödemekte.en.çok.zorlandığınız.giderler
.hangileridir..Gıda.ve.Alkolsüz.İçecekler..Mutfak.Alışverişi.,
        expense_alcohol = Ödemekte.en.çok.zorlandığınız.gider
ler.hangileridir..Alkollü.içecekler.ve.veya.Tütün.Nargile,
        expense_clothes = Ödemekte.en.çok.zorlandığınız.gider
ler.hangileridir..Giyim.ve.Ayakkabı,
        expense_rent = Ödemekte.en.çok.zorlandığınız.giderler
.hangileridir..Kira.ve.güvenlik.aidat.gibi.konut.giderleri,
        expense_bills = Ödemekte.en.çok.zorlandığınız.giderle
r.hangileridir..Su..Elektrik..Gaz..Telefon..TV..İnternet.gibi.
faturalar,
        expense_furniture = Ödemekte.en.çok.zorlandığınız.gid
erler.hangileridir..Mobilya..ev.aletleri.ve.ev.bakımı,
        expense_health = Ödemekte.en.çok.zorlandığınız.giderl
er.hangileridir..Sağlık,
        expense_transport = Ödemekte.en.çok.zorlandığınız.gid
erler.hangileridir..Ulaşım..yakıt..araba..bilet.giderleri.gibi
.,
        expense_entertainment = Ödemekte.en.çok.zorlandığınız
.giderler.hangileridir..Hane.dışı.eğlence.ve.kültür.faaliyetle
ri,
        expense_family = Ödemekte.en.çok.zorlandığınız.giderl
er.hangileridir..Aileme.para.gönderiyorum,
        expense_education = Ödemekte.en.çok.zorlandığınız.gid
erler.hangileridir..Eğitim.hizmetleri,
        expense_dining = Ödemekte.en.çok.zorlandığınız.giderl
er.hangileridir..Lokantalar..yemek.hizmetleri.ve.oteller,
        expense_child = Ödemekte.en.çok.zorlandığınız.giderle
r.hangileridir..Çocuk.ve.kadın..hijyen.giderleri,
        expense_NA = Ödemekte.en.çok.zorlandığınız.giderler.h
angileridir..NA,
        expense_other_select = Ödemekte.en.çok.zorlandığınız.
giderler.hangileridir..Diğer..İşaretleyin.ve.diğer.sayfada.yaz
```

```
ınız.,
         expense_other = Giderler..Diğer.,
         whynot_working = Niçin.çalışmıyorsunuz...Şu.an.,
         work_type = İşteki.konumunuz.nedir...Şu.an.,
         insurance = Sigortalı.mısınız...Şu.an.,
         regular_work = Ne.sıklıkla.çalışıyorsunuz...Şu.an.,
         working_days =Haftada.kaç.gün.çalışıyorsunuz...Şu.an.
,
         working_hours = Günde.kaç.saat.çalışıyorsunuz...Şu.an
.,
         wage_interval =Yevmiyenizi.hangi.aralıkla.alıyorsunuz
...Şu.an.,
         problem_multiple = Gaziantep.te.en.çok.karşılaştığını
z.sorun.nedir.,
         problem_language = Gaziantep.te.en.çok.karşılaştığını
z.sorun.nedir..Dil,
         problem_unemp = Gaziantep.te.en.çok.karşılaştığınız.s
orun.nedir..İşsizlik,
         problem_security = Gaziantep.te.en.çok.karşılaştığını
z.sorun.nedir..Güvenlik,
         problem_disc = Gaziantep.te.en.çok.karşılaştığınız.so
run.nedir..Ayrımcılık,
         problem_NA = Gaziantep.te.en.çok.karşılaştığınız.soru
n.nedir..NA,
         problem_other_select = Gaziantep.te.en.çok.karşılaştı
ğınız.sorun.nedir..Diğer..İşaretleyin.ve.sonraki.sayfada.yazın
.,
         problem_other = Gaziantep.sorun..diğer.,
         back_syr = Uygun.şartlar.oluştuğunda.Suriye.ye.dönmek
.ister.misiniz.,
         where_go = Suriye.ye.dönmek.haricinde.imkanınız.olurs
a.hangisini.yapmak.istersiniz.,
         staytr_multiple = Neden.Türkiye.de.kalmak.istiyorsunu
z.,
         staytr_citizen = Neden.Türkiye.de.kalmak.istiyorsunuz
..Vatandaşlık.aldık,
         staytr_home = Neden.Türkiye.de.kalmak.istiyorsunuz..E
v.aldık,
         staytr_work = Neden.Türkiye.de.kalmak.istiyorsunuz..İ
ş.kurduk,
         staytr_marriage = Neden.Türkiye.de.kalmak.istiyorsunu
z..Türklerle.evlilik.yaptık,
         staytr_behave = Neden.Türkiye.de.kalmak.istiyorsunuz.
.Burada.bize.iyi.davranıyorlar,
         staytr_nosyr = Neden.Türkiye.de.kalmak.istiyorsunuz..
Suriye.de.iyi.bir.gelecek.görmüyoruz,
         staytr_school = Neden.Türkiye.de.kalmak.istiyorsunuz.
.Çocuklarımız.Türkiye.de.okuyor,
         staytr_culture = Neden.Türkiye.de.kalmak.istiyorsunuz
```

```
..Kültürü.Suriye.ye.benzediği.için,
         staytr_NA = Neden.Türkiye.de.kalmak.istiyorsunuz..NA,
         staytr_other_select = Neden.Türkiye.de.kalmak.istiyor
sunuz..Diğer..İşaretleyin.ve.sonraki.sayfada.yazın.,
         which_cntry = Hangi.ülkeye.gitmek.istersiniz.,
         which_city = Türkiye.de.hangi.ilde.yaşamak.isterdiniz
.,
         sat_neig = Yaşadığım.mahalleden.memnunum.,
         which_neig = Hangi.mahalleye.gitmek.istersiniz.,
         whyNeig_multiple = Neden.bu.belirttiğiniz.mahalleye.g
itmek.istiyorsunuz.,
         whyNeig_security = Neden.bu.belirttiğiniz.mahalleye.g
itmek.istiyorsunuz..Şu.andaki.mahallemiz.güvenli.değil,
         whyNeig_neighbor = Neden.bu.belirttiğiniz.mahalleye.g
itmek.istiyorsunuz..Şu.andaki.komşular.iyi.değil,
         whyNeig_close = Neden.bu.belirttiğiniz.mahalleye.gitm
ek.istiyorsunuz..İş.ya.da.okula.daha.yakın.olmak,
         whyNeig_pretty = Neden.bu.belirttiğiniz.mahalleye.git
mek.istiyorsunuz..Gitmek.istediğimiz.mahalle.daha.güzel,
         whyNeig_relative = Neden.bu.belirttiğiniz.mahalleye.g
itmek.istiyorsunuz..Gitmek.istediğimiz.mahallede.akrabalarımız
.var,
         whyNeig_NA = Neden.bu.belirttiğiniz.mahalleye.gitmek.
istiyorsunuz..NA,
         whyNeig_other_select = Neden.bu.belirttiğiniz.mahalle
ye.gitmek.istiyorsunuz..Diğer..İşaretleyin.ve.sonraki.sayfada.
yazın.,
         whyNeig_other = Mahalle.tercihi..diğer.,
         gzt_neighbor = Gaziantepli.komşunuz.var.mı.,
         woman_content = Mahallemde.kendimi.bir.kadın.olarak.r
ahat.hissederim,
         gzt_content = Gaziantep.te.yaşamak.bana.kendimi.mutlu
.hissettiriyor.,
         gzt_neighbor_comm = Gaziantepli.komşularımla.iletişim
im.iyidir.,
         neig_home = Mahallemizde.kendimizi.evimizde.gibi.hiss
ederiz,
         syr_state = Suriye.de.yaşadığınız.vilayet.,
         syr_city = Yaşadığınız.vilayetin.neresindensiniz.,
         syr_loc = Kaldığının.Yerleşim.Birimi,
         rent = Kaldığınız.evin.kirası.ne.kadardır.,
         credit_card = Kredi.kartınız.var.mı.,
         cre_card_debt =Aylık.kredi.kartı.borcunuz.ortalama.ne
.kadar.oluyor.,
         debt = Hiç.borcunuz.var.mı.,
         debt_bank = Kime.borcunuz.var..Banka,
         hh_aid = Şu.an..hanenizde.herhangi.bir.kurumdan.ya.da
.şahıştan.maddi.yardım.alan.var.mı.)
```

```
## MUTATIONS ----

# MIGRATION_SPDF@DATA Mutations
# İncilikaya
migration_spdf@data["147","tcpop"] <- 6118
migration_spdf@data["147","spop"] <- 4697
migration_spdf@data["147","tot_pop"] <- 10815
migration_spdf@data["147","pop_rat"] <- 0.43
migration_spdf@data["147","sur_count"] <- 35
# Hümanız
migration_spdf@data["19","tcpop"] <- 3365
migration_spdf@data["19","spop"] <- 1987
migration_spdf@data["19","tot_pop"] <- 5352
migration_spdf@data["19","pop_rat"] <- 0.37
migration_spdf@data["19","sur_count"] <- 15
# Sam
migration_spdf@data["21","tcpop"] <- 5740
migration_spdf@data["21","spop"] <- 1483
migration_spdf@data["21","tot_pop"] <- 7223
migration_spdf@data["21","pop_rat"] <- 0.21
migration_spdf@data["21","sur_count"] <- 11
# Büyükpınar
migration_spdf@data["16","tcpop"] <- 2252
migration_spdf@data["16","spop"] <- 107
migration_spdf@data["16","tot_pop"] <- 2359
migration_spdf@data["16","pop_rat"] <- 0.05
migration_spdf@data["16","sur_count"] <- 1
# Öğümsöğüt
migration_spdf@data["24","tcpop"] <- 1489
# Sancaktepe
migration_spdf@data["23","spop"] <- 0
migration_spdf@data["23","tot_pop"] <- 75
migration_spdf@data["23","pop_rat"] <- 0
migration_spdf@data["23","sur_count"] <- 0

## SYRD Mutations

# syrd$years_in_tr <- gsub("yıl","",syrd$years_in_tr)
# syrd$years_in_tr <- gsub("dan az", "", syrd$years_in_tr)
# syrd$years_in_tr <- gsub("dan fazla", "", syrd$years_in_tr)
# syrd$years_in_gzt <- gsub("yıl","",syrd$years_in_gzt)
# syrd$years_in_gzt <- gsub("dan az", "", syrd$years_in_gzt)
# syrd$years_in_gzt <- gsub("dan fazla", "", syrd$years_in_gzt
)
# syrd$back_in_gzt <- gsub("yıl","",syrd$back_in_gzt)
# syrd$back_in_gzt <- gsub("dan az", "", syrd$back_in_gzt)
# syrd$back_in_gzt <- gsub("dan fazla", "", syrd$back_in_gzt)

syrd$real_years <- gsub("BİLİNMEYEN", NA, syrd$real_years)
```

```
### AS NUMERIC ----
migration_spdf@data$tcpop <- as.numeric(migration_spdf@data$tc
pop)
syrd$years_in_tr <- as.numeric(syrd$years_in_tr, na.rm = TRUE)
syrd$years_in_gzt <- as.numeric(syrd$years_in_gzt, na.rm = TRU
E)
syrd$back_in_gzt <- as.numeric(syrd$back_in_gzt, na.rm = TRUE)
syrd$back_in_gzt <- as.numeric(syrd$back_in_gzt, na.rm = TRUE)
syrd$real_years <- as.numeric(syrd$real_years, na.rm = TRUE)
syrd$real_years[syrd$real_years == 0] <- NA

## ROW DROPPING ----
syrd <- syrd[!(syrd$neig == "Akçaburç" | syrd$neig == "Bozobas
ı"),]

## BASE WEIGHTS ----
migration <- migration |>
  mutate(syr_psu = sur_count / spop)

migration$tcpop[183] <-  1489
migration <- migration |>
  mutate(tr_psu = sur_count / as.numeric(tcpop))


migration <- migration |>
  mutate(dweight.syr = 1/syr_psu )

migration <- migration |>
  mutate(dweight.tr = 1/tr_psu )


## COLUMN COALESCE ----
syrd <- syrd |> mutate(latest_neig = coalesce(latest_neig1, la
test_neig2))

syrd$first_neig <- syrd$first_neig1

syrd<- syrd |>
  mutate(latest_neig_new =
           case_when(
             neig_change == 2 ~ first_neig,
             TRUE ~ latest_neig
           ))

## RECODING ----
### GROUPING ----
#### New Value ----
syrd <- syrd |>
  mutate(current_neig_value_cat =
           recode(neig,
```

```
                    "60" =5,
                    "75" =5,
                    "8.Şub" =4,
                    "23.Nis" =3,
                    "15.Tem" =NULL,
                    "29.Eki" =4,
                    "25 Aralik" =6,
                    "Abdulhamit Han" =4,
                    "Akçaburç" = 6,
                    "Akdere" =5,
                    "Akkent" =3,
                    "Aktoprak" =5,
                    "Akyol" =5,
                    "Alaybey" =4,
                    "Alibaba" =6,
                    "Alleben" =3,
                    "Atakent" =4,
                    "Atatürk" =1,
                    "Aydınbaba" =5,
                    "Aydınlar" =4,
                    "Aydıntepe" =4,
                    "Bahçelievler" =3,
                    "Barak" =6,
                    "Barış" =6,
                    "Batıkent" =1,
                    "Bekirbey" =6,
                    "Belkıs" =4,
                    "Beştepe" =4,
                    "Bey" =5,
                    "Beyazlar" =5,
                    "Beybahçe" =5,
                    "Beydilli" =6,
                    "Binevler" =3,
                    "Bostancı" =6,
                    "Boyacı" =5,
                    "Boyno" =4,
                    "Bozobası" = 6,
                    "Bozoklar" =5,
                    "Burak" =4,
                    "Bülbülzade" =4,
                    "Cabi" =5,
                    "Cemalgürsel" =6,
                    "Cengiztopel" =6,
                    "Cumhuriyet" =6,
                    "Çağdan" =5,
                    "Çağlayan" =4,
                    "Çakmak" =4,
                    "Çamlıca" =6,
                    "Çıksorut" =5,
```

```
                "Değirmiçem" =1,
                "Deniz" =5,
                "Dumlupınar" =6,
                "Dülükbaba" =5,
                "Düztepe" =6,
                "Emek" =2,
                "Ertuğrulgazi" =4,
                "Esentepe" =6,
                "Esentepe Burç" =6,
                "Etiler" =5,
                "Eydibaba" =5,
                "Eyüpoğlu" =5,
                "Eyüpsultan" =4,
                "Fatih" =1,
                "Fırat" =5,
                "Fıstıklık" =5,
                "Fidanlık" =4,
                "Gazi" =1,
                "Gazikent" =4,
                "Geylani" =5,
                "Girne" =5,
                "Göllüce" =5,
                "Göztepe" =4,
                "Gümüştekin" =5,
                "Güneş" =5,
                "Güneykent" =3,
                "Güvenevler" =2,
                "Güzelvadi" =6,
                "Güzelyurt" =5,
                "Hacıbaba" =5,
                "Hasırcıoğlu" =5,
                "Hoşgür" =6,
                "Humanız" =6,
                "Hürriyet" =5,
                "İbn-i Sina" =4,
                "İbrahimli" =1,
                "İncilikaya" =5,
                "İncilipınar" =2,
                "İnönü" =6,
                "İstiklal" =6,
                "Kahvelipınar" =6,
                "Kale" =5,
                "Kanalıcı" =5,
                "Karaan" = 6,
                "Karacaahmet" =5,
                "Karacaoğlan" =5,
                "Karagöz" =4,
                "Karaoğlan" =5,
                "Karatarla" =5,
```

```
                    "Karataş" =3,
                    "Karşıyaka" =5,
                    "Kavaklık" =3,
                    "Kayaönü" =5,
                    "Kepenek" =5,
                    "Kıbrıs" =6,
                    "Kılınçoğlu" =5,
                    "Kocatepe" =5,
                    "Kolejtepe" =5,
                    "Konak" =5,
                    "Kozanlı" =5,
                    "Kozluca" =6,
                    "Kurbanbaba" =6,
                    "Küçükkızılhisar" =5,
                    "Malazgirt" =6,
                    "Mavikent" =4,
                    "Merveşehir" =5,
                    "Mevlana" =5,
                    "Mimarsinan" =5,
                    "Mithatpaşa" =5,
                    "Mücahitler" =2,
                    "Münifpaşa" =5,
                    "Narlitepe" =6,
                    "Nuripazarbaşi" =6,
                    "Nurtepe" =5,
                    "Ocaklar" =6,
                    "Onatkutlar" =5,
                    "Onur" =6,
                    "Osmangazi" =2,
                    "Osmanlı" =6,
                    "Öğretmenevleri" =3,
                    "Özgürlük" =5,
                    "Pancarlı" =2,
                    "Perilikaya" =6,
                    "Pirsultan" =5,
                    "Saçaklı" =5,
                    "Sakarya" =6,
                    "Sarıgüllük" =2,
                    "Sarisalkım" =5,
                    "Savcılı" =5,
                    "Seferpaşa" =5,
                    "Selehattin Eyyübi" =5,
                    "Selimiye" =5,
                    "Serinevler" =6,
                    "Serintepe" = 6,
                    "Seyrantepe" =4,
                    "Sultanselim" =6,
                    "Suyabatmaz" =5,
                    "Şahintepe" =4,
```

```
                  "Şahveli" =5,
                  "Şekeroğlu" =4,
                  "Şenyurt" =6,
                  "Şirinevler" =5,
                  "Taşlıca" =6,
                  "Tekstilkent" =6,
                  "Tışlaki" =6,
                  "Turanemeksiz" =6,
                  "Türkmenler" =6,
                  "Türktepe" =5,
                  "Ulaş" =6,
                  "Umut" =5,
                  "Üçoklar" =5,
                  "Ünaldı" =5,
                  "Vatan" =5,
                  "Yaprak" =5,
                  "Yavuzlar" =6,
                  "Yazıcık" =6,
                  "Yeditepe" =3,
                  "Yenimahalle" =5,
                  "Yeşilevler" =5,
                  "Yeşilkent" =6,
                  "Yeşilpınar" =6,
                  "Yukarı Beylerbeyi" =6,
                  "Yukarıbayır" =6,
                  "Yunusemre" =5,
                  "Zeytinli" =5
          )
  )

#### Previous Value ----

syrd <- syrd |>
  mutate(previous_neig_value_cat =
           recode(latest_neig_new,
                  "60" =5,
                  "75" =5,
                  "8.Şub" =4,
                  "23.Nis" =3,
                  "15.Tem" =NULL,
                  "29.Eki" =4,
                  "25 Aralik" =6,
                  "Abdulhamit Han" =4,
                  "Akçaburç" = 6,
                  "Akdere" =5,
                  "Akkent" =3,
                  "Aktoprak" =5,
                  "Akyol" =5,
                  "Alaybey" =4,
```

```
                    "Alibaba" =6,
                    "Alleben" =3,
                    "Atakent" =4,
                    "Atatürk" =1,
                    "Aydınbaba" =5,
                    "Aydınlar" =4,
                    "Aydıntepe" =4,
                    "Bahçelievler" =3,
                    "Barak" =6,
                    "Barış" =6,
                    "Batıkent" =1,
                    "Bekirbey" =6,
                    "Belkıs" =4,
                    "Beştepe" =4,
                    "Bey" =5,
                    "Beyazlar" =5,
                    "Beybahçe" =5,
                    "Beydilli" =6,
                    "Binevler" =3,
                    "Bostancı" =6,
                    "Boyacı" =5,
                    "Boyno" =4,
                    "Bozobası" = 6,
                    "Bozoklar" =5,
                    "Burak" =4,
                    "Bülbülzade" =4,
                    "Cabi" =5,
                    "Cemalgürsel" =6,
                    "Cengiztopel" =6,
                    "Cumhuriyet" =6,
                    "Çağdan" =5,
                    "Çağlayan" =4,
                    "Çakmak" =4,
                    "Çamlıca" =6,
                    "Çıksorut" =5,
                    "Değirmiçem" =1,
                    "Deniz" =5,
                    "Dumlupınar" =6,
                    "Dülükbaba" =5,
                    "Düztepe" =6,
                    "Emek" =2,
                    "Ertuğrulgazi" =4,
                    "Esentepe" =6,
                    "Esentepe Burç" =6,
                    "Etiler" =5,
                    "Eydibaba" =5,
                    "Eyüpoğlu" =5,
                    "Eyüpsultan" =4,
                    "Fatih" =1,
```

```
                    "Fırat" =5,
                    "Fıstıklık" =5,
                    "Fidanlık" =4,
                    "Gazi" =1,
                    "Gazikent" =4,
                    "Geylani" =5,
                    "Girne" =5,
                    "Göllüce" =5,
                    "Göztepe" =4,
                    "Gümüştekin" =5,
                    "Güneş" =5,
                    "Güneykent" =3,
                    "Güvenevler" =2,
                    "Güzelvadi" =6,
                    "Güzelyurt" =5,
                    "Hacıbaba" =5,
                    "Hasırcıoğlu" =5,
                    "Hoşgür" =6,
                    "Humanız" =6,
                    "Hürriyet" =5,
                    "İbn-i Sina" =4,
                    "İbrahimli" =1,
                    "İncilikaya" =5,
                    "İncilipınar" =2,
                    "İnönü" =6,
                    "İstiklal" =6,
                    "Kahvelipınar" =6,
                    "Kale" =5,
                    "Kanalıcı" =5,
                    "Karaan" = 6,
                    "Karacaahmet" =5,
                    "Karacaoğlan" =5,
                    "Karagöz" =4,
                    "Karaoğlan" =5,
                    "Karatarla" =5,
                    "Karataş" =3,
                    "Karşıyaka" =5,
                    "Kavaklık" =3,
                    "Kayaönü" =5,
                    "Kepenek" =5,
                    "Kıbrıs" =6,
                    "Kılınçoğlu" =5,
                    "Kocatepe" =5,
                    "Kolejtepe" =5,
                    "Konak" =5,
                    "Kozanlı" =5,
                    "Kozluca" =6,
                    "Kurbanbaba" =6,
                    "Küçükkızılhisar" =5,
```

```
                    "Malazgirt" =6,
                    "Mavikent" =4,
                    "Merveşehir" =5,
                    "Mevlana" =5,
                    "Mimarsinan" =5,
                    "Mithatpaşa" =5,
                    "Mücahitler" =2,
                    "Münifpaşa" =5,
                    "Narlitepe" =6,
                    "Nuripazarbaşi" =6,
                    "Nurtepe" =5,
                    "Ocaklar" =6,
                    "Onatkutlar" =5,
                    "Onur" =6,
                    "Osmangazi" =2,
                    "Osmanlı" =6,
                    "Öğretmenevleri" =3,
                    "Özgürlük" =5,
                    "Pancarlı" =2,
                    "Perilikaya" =6,
                    "Pirsultan" =5,
                    "Saçaklı" =5,
                    "Sakarya" =6,
                    "Sarıgüllük" =2,
                    "Sarisalkım" =5,
                    "Savcılı" =5,
                    "Seferpaşa" =5,
                    "Selehattin Eyyübi" =5,
                    "Selimiye" =5,
                    "Serinevler" =6,
                    "Serintepe" = 6,
                    "Seyrantepe" =4,
                    "Sultanselim" =6,
                    "Suyabatmaz" =5,
                    "Şahintepe" =4,
                    "Şahveli" =5,
                    "Şekeroğlu" =4,
                    "Şenyurt" =6,
                    "Şirinevler" =5,
                    "Taşlıca" =6,
                    "Tekstilkent" =6,
                    "Tışlaki" =6,
                    "Turanemeksiz" =6,
                    "Türkmenler" =6,
                    "Türktepe" =5,
                    "Ulaş" =6,
                    "Umut" =5,
                    "Üçoklar" =5,
                    "Ünaldı" =5,
```

```
                    "Vatan" =5,
                    "Yaprak" =5,
                    "Yavuzlar" =6,
                    "Yazıcık" =6,
                    "Yeditepe" =3,
                    "Yenimahalle" =5,
                    "Yeşilevler" =5,
                    "Yeşilkent" =6,
                    "Yeşilpınar" =6,
                    "Yukarı Beylerbeyi" =6,
                    "Yukarıbayır" =6,
                    "Yunusemre" =5,
                    "Zeytinli" =5,
                    .default = 0
            )
  )


## DENSITY BASED CURRENT NEIG

syrd <- syrd |>
  mutate(current_neig_density_cat =
           recode(neig,
                  "15.Tem"=1,
                  "23.Nis"=2,
                  "25 Aralik"=2,
                  "29.Eki"=1,
                  "60"=1,
                  "75"=1,
                  "8.Şub"=1,
                  "Abdulhamit Han"=1,
                  "Ağaçlı Boyno"=0,
                  "Akçaburç"=0,
                  "Akçagöze"=0,
                  "Akkent"=1,
                  "Akyol"=4,
                  "Alaybey"=5,
                  "Alibaba"=3,
                  "Alleben"=2,
                  "Alpaslan"=0,
                  "Aşağı Arıl"=0,
                  "Atakent"=1,
                  "Atatürk"=1,
                  "Aydınbaba"=4,
                  "Aydınlar"=1,
                  "Aydıntepe"=1,
                  "Bağbaşı"=0,
                  "Bağlarbaşı"=1,
                  "Bahçelievler"=1,
                  "Barak"=1,
```

```
                    "Barış"=3,
                    "Batıkent"=1,
                    "Bayatlı"=0,
                    "Bedirkent"=0,
                    "Bekirbey"=3,
                    "Belkıs"=1,
                    "Beştepe"=1,
                    "Bey"=5,
                    "Beyazlar"=2,
                    "Beydilli"=2,
                    "Beykent"=0,
                    "Beyreli"=0,
                    "Bilek"=0,
                    "Binevler"=2,
                    "Bostancı"=4,
                    "Boyacı"=3,
                    "Boyno"=1,
                    "Burak"=1,
                    "Büyükpınar"=1,
                    "Cabi"=4,
                    "Cerityeniyapan"=0,
                    "Cumhuriyet"=2,
                    "Çağdan"=1,
                    "Çağlayan"=3,
                    "Çakmak"=3,
                    "Çamlıtepe"=0,
                    "Çıksorut"=2,
                    "Deniz"=2,
                    "Deredüzü"=0,
                    "Dımışkılı"=0,
                    "Dumlupınar"=3,
                    "Dülük"=0,
                    "Dülükbaba"=2,
                    "Düztepe"=2,
                    "Emek"=1,
                    "Erikli"=0,
                    "Esentepe"=2,
                    "Etiler"=4,
                    "Eydibaba"=3,
                    "Eyüpoğlu"=5,
                    "Eyüpsultan"=1,
                    "Fatih"=1,
                    "Fırat"=2,
                    "Fıstıklık"=1,
                    "Gazi"=1,
                    "Gazikent"=2,
                    "Gaziler"=0,
                    "Girne"=2,
                    "Göksüncük"=0,
```

```
                    "Göktürk"=0,
                    "Göztepe"=2,
                    "Güllüce"=2,
                    "Güneş"=2,
                    "Güneykent"=1,
                    "Güngürge"=0,
                    "Güvenevler"=1,
                    "Güzelvadi"=2,
                    "Güzelyurt"=1,
                    "Hacıbaba"=2,
                    "Hacıköprü"=0,
                    "Hasırcıoğlu"=2,
                    "Hoşgür"=4,
                    "Humanız"=3,
                    "Hürriyet"=2,
                    "İncilikaya"=3,
                    "İncilipınar"=1,
                    "İnönü"=3,
                    "İstiklal"=2,
                    "Işıklı"=0,
                    "Kale"=1,
                    "Karaan"=0,
                    "Karacaahmet"=1,
                    "Karacaburç"=0,
                    "Karacaoğlan"=1,
                    "Karagöz"=5,
                    "Karaoğlan"=2,
                    "Karataş"=1,
                    "Karayusuflu"=0,
                    "Karpuzkaya"=0,
                    "Karşıyaka"=2,
                    "Kavaklık"=1,
                    "Kayaönü"=1,
                    "Kepenek"=4,
                    "Kocatepe"=2,
                    "Kolejtepe"=1,
                    "Konak"=2,
                    "Kozanlı"=4,
                    "Kozluca"=3,
                    "Kozluyazı"=0,
                    "Kurbanbaba"=0,
                    "Küçükkızılhisar"=1,
                    "Merveşehir"=1,
                    "Mithatpaşa"=2,
                    "Mücahitler"=1,
                    "Münifpaşa"=2,
                    "Narlitepe"=2,
                    "Nuripazarbaşi"=3,
                    "Ocaklar"=2,
```

```
                    "Onatkutlar"=1,
                    "Osmangazi"=1,
                    "Pancarlı"=1,
                    "Perilikaya"=2,
                    "Saçaklı"=4,
                    "Sanayi"=2,
                    "Sarıgüllük"=1,
                    "Sarisalkım"=1,
                    "Selimiye"=1,
                    "Serinevler"=2,
                    "Serintepe"=0,
                    "Seyrantepe"=1,
                    "Sinan"=0,
                    "Sultanselim"=3,
                    "Şahinbey Mülk"=0,
                    "Şahintepe"=1,
                    "Şahveli"=4,
                    "Şehirgösteren"=1,
                    "Şekeroğlu"=4,
                    "Şenyurt"=3,
                    "Şirinevler"=2,
                    "Taşlıca"=2,
                    "Türkmenler"=2,
                    "Uğur Tepe"=0,
                    "Ulaş"=2,
                    "Ünaldı"=4,
                    "Vatan"=2,
                    "Yavuzlar"=3,
                    "Yazıcık"=2,
                    "Yeditepe"=2,
                    "Yenimahalle"=2,
                    "Yenişarkaya"=0,
                    "Yeşilevler"=1,
                    "Yeşilkent"=2,
                    "Yeşilköy"=0,
                    "Yukarı Arıl"=0,
                    "Yukarı Beylerbeyi"=1,
                    "Yukarıbayır"=3,
                    "Zeytinli"=1,
                    "Akdere"=2,
                    "Aktoprak"=1,
                    "Beybahçe"=2,
                    "Bozobası"=0,
                    "Bozoklar"=3,
                    "Bülbülzade"=1,
                    "Cemalgürsel"=3,
                    "Cengiztopel"=2,
                    "Çamlıca"=3,
                    "Değirmiçem"=1,
```

```
                    "Ertuğrulgazi"=1,
                    "Esentepe Burç"=2,
                    "Fidanlık"=2,
                    "Geylani"=1,
                    "Göllüce"=2,
                    "Gümüştekin"=2,
                    "İbn-i Sina"=1,
                    "İbrahimli"=1,
                    "Kahvelipınar"=2,
                    "Kanalıcı"=3,
                    "Karatarla"=5,
                    "Kıbrıs"=3,
                    "Malazgirt"=1,
                    "Mavikent"=1,
                    "Mevlana"=1,
                    "Mimarsinan"=1,
                    "Nurtepe"=2,
                    "Onur"=2,
                    "Osmanlı"=1,
                    "Öğretmenevleri"=1,
                    "Özgürlük"=1,
                    "Pirsultan"=1,
                    "Sakarya"=4,
                    "Savcılı"=5,
                    "Seferpaşa"=4,
                    "Selehattin Eyyübi"=1,
                    "Suyabatmaz"=4,
                    "Tekstilkent"=3,
                    "Tışlaki"=5,
                    "Turanemeksiz"=3,
                    "Türktepe"=4,
                    "Umut"=1,
                    "Üçoklar"=2,
                    "Yaprak"=3,
                    "Yeşilpınar"=2,
                    "Yunusemre"=2
            ))
syrd$current_neig_density_cat[is.na(syrd$current_neig_density_
cat)] <- 0

### Density Groups Previous Neig
syrd <- syrd |>
  mutate(previous_neig_density_cat =
           recode(latest_neig_new,
                  "15.Tem"=NULL,
                  "23.Nis"=2,
                  "25 Aralik"=2,
                  "29.Eki"=1,
                  "60"=1,
```

```
                    "75"=1,
                    "8.Şub"=1,
                    "Abdulhamit Han"=1,
                    "Ağaçlı Boyno"=0,
                    "Akçaburç"=0,
                    "Akçagöze"=0,
                    "Akkent"=1,
                    "Akyol"=4,
                    "Alaybey"=5,
                    "Alibaba"=3,
                    "Alleben"=2,
                    "Alpaslan"=0,
                    "Aşağı Arıl"=0,
                    "Atakent"=1,
                    "Atatürk"=1,
                    "Aydınbaba"=4,
                    "Aydınlar"=1,
                    "Aydıntepe"=1,
                    "Bağbaşı"=0,
                    "Bağlarbaşı"=1,
                    "Bahçelievler"=1,
                    "Barak"=1,
                    "Barış"=3,
                    "Batıkent"=1,
                    "Bayatlı"=0,
                    "Bedirkent"=0,
                    "Bekirbey"=3,
                    "Belkıs"=1,
                    "Beştepe"=1,
                    "Bey"=5,
                    "Beyazlar"=2,
                    "Beydilli"=2,
                    "Beykent"=0,
                    "Beyreli"=0,
                    "Bilek"=0,
                    "Binevler"=2,
                    "Bostancı"=4,
                    "Boyacı"=3,
                    "Boyno"=1,
                    "Burak"=1,
                    "Büyükpınar"=1,
                    "Cabi"=4,
                    "Cerityeniyapan"=0,
                    "Cumhuriyet"=2,
                    "Çağdan"=1,
                    "Çağlayan"=3,
                    "Çakmak"=3,
                    "Çamlıtepe"=0,
                    "Çıksorut"=2,
```

```
                    "Deniz"=2,
                    "Deredüzü"=0,
                    "Dımışkılı"=0,
                    "Dumlupınar"=3,
                    "Dülük"=0,
                    "Dülükbaba"=2,
                    "Düztepe"=2,
                    "Emek"=1,
                    "Erikli"=0,
                    "Esentepe"=2,
                    "Etiler"=4,
                    "Eydibaba"=3,
                    "Eyüpoğlu"=5,
                    "Eyüpsultan"=1,
                    "Fatih"=1,
                    "Fırat"=2,
                    "Fıstıklık"=1,
                    "Gazi"=1,
                    "Gazikent"=2,
                    "Gaziler"=0,
                    "Girne"=2,
                    "Göksüncük"=0,
                    "Göktürk"=0,
                    "Göztepe"=2,
                    "Güllüce"=2,
                    "Güneş"=2,
                    "Güneykent"=1,
                    "Güngürge"=0,
                    "Güvenevler"=1,
                    "Güzelvadi"=2,
                    "Güzelyurt"=1,
                    "Hacıbaba"=2,
                    "Hacıköprü"=0,
                    "Hasırcıoğlu"=2,
                    "Hoşgür"=4,
                    "Humanız"=3,
                    "Hürriyet"=2,
                    "İncilikaya"=3,
                    "İncilipınar"=1,
                    "İnönü"=3,
                    "İstiklal"=2,
                    "Işıklı"=0,
                    "Kale"=1,
                    "Karaan"=0,
                    "Karacaahmet"=1,
                    "Karacaburç"=0,
                    "Karacaoğlan"=1,
                    "Karagöz"=5,
                    "Karaoğlan"=2,
```

```
                    "Karataş"=1,
                    "Karayusuflu"=0,
                    "Karpuzkaya"=0,
                    "Karşıyaka"=2,
                    "Kavaklık"=1,
                    "Kayaönü"=1,
                    "Kepenek"=4,
                    "Kocatepe"=2,
                    "Kolejtepe"=1,
                    "Konak"=2,
                    "Kozanlı"=4,
                    "Kozluca"=3,
                    "Kozluyazı"=0,
                    "Kurbanbaba"=0,
                    "Küçükkızılhisar"=1,
                    "Merveşehir"=1,
                    "Mithatpaşa"=2,
                    "Mücahitler"=1,
                    "Münifpaşa"=2,
                    "Narlitepe"=2,
                    "Nuripazarbaşi"=3,
                    "Ocaklar"=2,
                    "Onatkutlar"=1,
                    "Osmangazi"=1,
                    "Pancarlı"=1,
                    "Perilikaya"=2,
                    "Saçaklı"=4,
                    "Sanayi"=2,
                    "Sarıgüllük"=1,
                    "Sarisalkım"=1,
                    "Selimiye"=1,
                    "Serinevler"=2,
                    "Serintepe"=0,
                    "Seyrantepe"=1,
                    "Sinan"=0,
                    "Sultanselim"=3,
                    "Şahinbey Mülk"=0,
                    "Şahintepe"=1,
                    "Şahveli"=4,
                    "Şehirgösteren"=1,
                    "Şekeroğlu"=4,
                    "Şenyurt"=3,
                    "Şirinevler"=2,
                    "Taşlıca"=2,
                    "Türkmenler"=2,
                    "Uğur Tepe"=0,
                    "Ulaş"=2,
                    "Ünaldı"=4,
                    "Vatan"=2,
```

```
                "Yavuzlar"=3,
                "Yazıcık"=2,
                "Yeditepe"=2,
                "Yenimahalle"=2,
                "Yenişarkaya"=0,
                "Yeşilevler"=1,
                "Yeşilkent"=2,
                "Yeşilköy"=0,
                "Yukarı Arıl"=0,
                "Yukarı Beylerbeyi"=1,
                "Yukarıbayır"=3,
                "Zeytinli"=1,
                "Akdere"=2,
                "Aktoprak"=1,
                "Beybahçe"=2,
                "Bozobası"=0,
                "Bozoklar"=3,
                "Bülbülzade"=1,
                "Cemalgürsel"=3,
                "Cengiztopel"=2,
                "Çamlıca"=3,
                "Değirmiçem"=1,
                "Ertuğrulgazi"=1,
                "Esentepe Burç"=2,
                "Fidanlık"=2,
                "Geylani"=1,
                "Göllüce"=2,
                "Gümüştekin"=2,
                "İbn-i Sina"=1,
                "İbrahimli"=1,
                "Kahvelipınar"=2,
                "Kanalıcı"=3,
                "Karatarla"=5,
                "Kıbrıs"=3,
                "Malazgirt"=1,
                "Mavikent"=1,
                "Mevlana"=1,
                "Mimarsinan"=1,
                "Nurtepe"=2,
                "Onur"=2,
                "Osmanlı"=1,
                "Öğretmenevleri"=1,
                "Özgürlük"=1,
                "Pirsultan"=1,
                "Sakarya"=4,
                "Savcılı"=5,
                "Seferpaşa"=4,
                "Selehattin Eyyübi"=1,
                "Suyabatmaz"=4,
```

```
                  "Tekstilkent"=3,
                  "Tışlaki"=5,
                  "Turanemeksiz"=3,
                  "Türktepe"=4,
                  "Umut"=1,
                  "Üçoklar"=2,
                  "Yaprak"=3,
                  "Yeşilpınar"=2,
                  "Yunusemre"=2,
                  .default = 0
          ))

# TO HERE ----


#Suriyeli nüfusun toplam nüfusa oranı
jpeg("./Output/pop_rat_plot.jpg", width = 800, height = 800)
spplot(migration_spdf, zcol ="pop_rat",col.regions = my.palett
e, cuts=8, col="transparent")
dev.off()

#Suriyeli nüfusun yüksek olduğu mahalleler
jpeg("./Output/spop_plot.jpeg", width = 4, height = 4,units =
"in", res = 300)
spplot(migration_spdf, zcol ="spop",col.regions = viridis_pal(
alpha = 0.9, direction = -1)(9), cuts=8, col="transparent")
dev.off()

#INDEX OF DISSIMILARITY

# nb matrix transformation and dissimilarity index
gaz.nb <- nb2mat(poly2nb(gaz_spa, queen = FALSE), style = "B",
zero.policy = TRUE)
gaz.nb <- gaz.nb/ sum(gaz.nb, na.rm = TRUE)
dissim(data = migration_spdf@data[,12:13], nb = gaz.nb)


# MORAN'S I
# poly2nb transformation
gaz_spa_nb <- poly2nb(gaz_spa)
plot(gaz_spa, col="gray")
plot(gaz_spa_nb, coordinates(gaz_spa), add = TRUE, col = "blue
")
morans_I <- moran.test(migration_spdf$pop_rat, nb2listw(gaz_sp
a_nb, zero.policy = TRUE), zero.policy = TRUE)
morans_char <- capture.output(print(morans_I))
writeLines(morans_char, con = file("./Output/morans_I.txt"))

# Monte-Carlo Simulations
monte_carlo <- moran.mc(migration_spdf$pop_rat, nb2listw(gaz_s
```

```
pa_nb, zero.policy = TRUE),
                          nsim = 499, zero.policy = TRUE)
monte_carlo_chars <- capture.output(print(monte_carlo))
writeLines(monte_carlo_chars, con = file("./Output/monte_carlo
.txt"))
dev.off()

# GRAPHS and TABLES ----

### gender ----

#Answer recoding
syrd <- syrd |> mutate(gender= recode(gender,
                      "Kadın" = "Female",
                      "Erkek" = "Male"))
syrd |>
  ggplot(aes(x = gender))+
  geom_bar(aes(y = (..count..) /sum(..count..)), fill = viridi
s_pal()(1))+
  scale_y_continuous(labels=scales::percent)+
  labs(x = "Gender",
       y = "Ratio"
       # title = "Gender distribution of the sample")
       )


ggsave("./Output/gender_distributions.png", width = 20, height
= 20, units = "cm")

### Marriage Status ----
syrd <- syrd |>
  mutate(mar_status = recode(mar_status,
                             "Evli" = "Married",
                             "Bekâr" = "Single",
                             "Eşini kaybetmiş" = "Widow/Widowe
r",
                             "Boşanmış" = "Divorced")) #Recodi
ng answers


# Cross-tab by gender and Marital Status
syrd |> group_by(gender, mar_status) |>
  ggplot(aes(x= mar_status))+
  geom_bar(aes(fill = gender, y = (..count..)/sum(..count..)),
           position = "dodge")+
  scale_y_continuous(labels=scales::percent)+
  labs(x = "Marriage Status",
       y = "Ratio",
       fill = "Gender"
       # title = "Marriage Status by gender")
```

```
  )+
  scale_fill_manual(values = viridis_pal()(2))

ggsave("~/Documents/tez/Output/marriage_by_gender.png", width
= 20, height = 20, units = "cm", bg= "white")

### Where from ----
#### State
syrd |> filter(!is.na(syr_state)) |>
  ggplot(aes(x = syr_state))+
  geom_bar(fill = color.v[1])+
  coord_flip()+
  scale_x_discrete(labels = c(
    "Daraa",
    "Deir ez-Zor",
    "Aleppo",
    "Hama",
    "Hasaka",
    "Homs",
    "Idlib",
    "Quneitra",
    "Latakia",
    "Raqqa",
    "Rif Dimashq",
    "Damascus",
    "Tartus"
  ))+
  labs(x = "Provinces",
       y = "Frequency")
ggsave("~/Documents/tez/Output/syr_provinces.png", width = 20,
height = 20, units = "cm", bg = "white")

#### Syr cities - Halep
syrd |> filter(syr_state == "Halep" &
                 !is.na(syr_city)) |>
  ggplot(aes(x = syr_city))+
  geom_bar(fill = color.v[1])+
  coord_flip()+
  scale_x_discrete(labels = c(
    "Afrin",
    "Ayn Al-Arab",
    "A'zaz",
    "Jabal Sem'ân",
    "Jarabulus",
    "Al-Bab",
    "Aleppo",
    "Manbij",
    "As-Safira"
  ))+
  labs(x = "Cities of Aleppo",
```

```
       y = "Frequency")
ggsave("~/Documents/tez/Output/cities_of_aleppo.png", width =
20, height = 20, units = "cm", bg = "white")

#### Syr Idlip neighborhood

aa1 <- syrd |> filter(syr_state == "İdlip") |>
  count(neig)

aa2 <- syrd |> filter(neig %in% aa1$neig ) |>
  count(neig)
aa3 <- left_join(aa1, aa2, by = "neig")
aa3 <- aa3 |> mutate(perc = n.x/n.y*100)
aa3

### Child Count ----
syrd |>
  filter (child_count != "NA") |>
  ggplot(aes(x = child_count))+
  geom_boxplot(fill= viridis_pal()(1))+
  labs(x = "Number of Children",)+
  theme(axis.ticks.x = element_blank(),
        axis.text.x = element_blank())+
  coord_flip()

ggsave("./Output/child_count_boxplot.png", width = 20, height
= 20, units = "cm")

### Families with children
syrd |> filter(child_count > 0) |>
  count()

### Income Graph ----
inc_out <- boxplot(syrd$income, plot=FALSE)$out
hhWork_out <- boxplot(syrd$hh_working, plot = FALSE)$out

syrd |>
  filter(!is.na(income) &
           !is.na(hh_working) &
           !income %in% inc_out &
           !hh_working %in% hhWork_out &
           hh_working != 0) |>
  ggplot(aes(x = income))+
  geom_histogram(bins = 10, fill = color.v[1])+
  facet_wrap(~hh_working)

syrd |>
  filter(!is.na(income) &
           !is.na(hh_working) &
           !income %in% inc_out &
```

```
           !hh_working %in% hhWork_out &
           hh_working != 0) |>
  select(income, hh_working) |>
  corrr::correlate()


syrd |> filter(!is.na(income) &
                 !income %in% inc_out) |>
  ggplot(aes(x = income))+
  geom_histogram(bins = 10,fill = viridis_pal()(1))+
  labs(x = "Monthly Household Income(TRY)",
       y = "Frequency")
ggsave("~/Documents/tez/Output/income.png", width = 20, height
= 20, units = "cm", bg = "white")

geom_vline(xintercept = mean(syrd$real_years, na.rm = TRUE), l
inetype = 2, size = 0.8, alpha = 0.4)+
  geom_label(aes(x = mean(syrd$real_years, na.rm = TRUE), y =
400, label="mean"),
             angle= 0, size = 4, color = viridis_pal()(1))


### Income descriptives by neighborhood ----
gel_mah <- syrd %>%
  group_by(neig) %>%
  summarise(mean = mean(income, na.rm = TRUE),
            std = sd(income, na.rm= TRUE),
            n())
write.table(gel_mah, file = "./Output/mahalle_gelirleri_ortala
ma.csv",
            fileEncoding = "UTF-8",
            sep = ";")

### Income Table ----
syr_income_table <- syrd |> filter(!is.na(income) &
                                     !income %in% exp_out) |>
  summarise(mean = mean(income),
            sd = sd(income),
            n = n())
syr_income_table

write.table(syr_income_table,
            file = "~/Documents/tez/Output/income_table.csv",
            fileEncoding = "UTF-8")



### Expense Graph ----
exp_out <- boxplot(syrd$expense, plot=FALSE)$out
```

```
syrd |> filter(!is.na(expense) &
                 !expense %in% exp_out) |>
  ggplot(aes(x = expense))+
  geom_histogram(bins = 10,fill = viridis_pal()(1))+
  labs(x = "Monthly Household Expense(TRY)",
       y = "Frequency")
ggsave("~/Documents/tez/Output/expense.png", width = 20, heigh
t = 20, units = "cm", bg = "white")

### Expense Table ----
syr_expense_table <- syrd |> filter(!is.na(expense) &
                                      !expense %in% exp_out) |
>
  summarise(mean = mean(expense),
            sd = sd(expense),
            n = n())

write.table(syr_expense_table,
            file = "~/Documents/tez/Output/expense_table.csv",
            fileEncoding = "UTF-8")

### Heating ----
heating_melt <-
  syrd |>
  select(index, 151:160) |>
  melt(id.vars = 1, measure.vars = 2:11, na.rm = TRUE)

heating_melt_tb <- heating_melt |> filter(variable != "heating
_other") |>
  group_by(variable) |>
  summarize(freq = sum(as.numeric(value)))

heating_melt_tb |>
  filter(variable != "heating_no_answer") |>
  ggplot(aes(x = reorder(variable, - freq), y= freq))+
  geom_col(fill = color.v[1])+
  scale_x_discrete(labels = c("Stove",
                              "Central heating(Flat-based)",
                              "Brazier",
                              "Central heating(Whole building)
",
                              "Electric heater",
                              "No heating system",
                              "Air conditioner",
                              "Other"))+
  labs(y = "Frequency",
       x = "Heating System")+
  coord_flip()

ggsave("~/Documents/tez/Output/heating_graph.png", width = 20,
```

```
height = 20, units = "cm", bg = "white")

### Item hh spend most----
expense_melt <-
  syrd |>
  select(index, 173:188) |>
  melt(id.vars = 1, measure.vars = 2:17, na.rm = TRUE)

expense_melt_tb <- expense_melt |> filter(!variable %in% c("ex
pense_NA", "expense_other")) |>
  group_by(variable) |>
  summarize(freq = sum(as.numeric(value)))

expense_melt_tb |>
  ggplot(aes(x = reorder(variable, - freq), y= freq))+
  geom_col(fill = color.v[1])+
  scale_x_discrete(labels = c("Bills",
                              "Rent and building revenues",
                              "Food and non-alcoholic beverage
s",
                              "Clothing",
                              "Furniture, domestic appliances"
,
                              "Health",
                              "Child and women care",
                              "Education",
                              "Supporting other family members
",
                              "Alcoholic beverages and tobacco
",
                              "Entertainment and leisure activ
ities",
                              "Dining outside",
                              "Transportation",
                              "Other"
                              ))+
  labs(y = "Frequency",
       x = "Items")+
  coord_flip()
ggsave("~/Documents/tez/Output/expense_items.png", width = 20,
height = 20, units = "cm", bg = "white")

### First Neighborhood ----
## Table
first_neig_freq <- table(syrd$first_neig)
first_neig_df <- as.data.frame(first_neig_freq)
write.table(first_neig_freq, file = "./Output/first_neig.csv",
            fileEncoding = "UTF-8",
            sep = ";")
```

```
#### Top 20 neighborhoods geom_col with freq

first_neig_df <- first_neig_df %>%
  filter(Var1 != "15.Tem") |>
  arrange(desc(Freq)) %>%
  slice(1:20)

ggplot(first_neig_df ,aes(x = reorder(Var1, -Freq), y = Freq))
+
  geom_col(fill = viridis_pal()(1))+
  labs(x = "Neighborhoods",
       y = "Number of Households"
       #title = "Top ten neighborhoods where newcomers settled
first after they had arrived in Gaziantep"
       )+
  coord_flip()


ggsave("~/Documents/tez/Output/top 20 first neigs.png", width
= 20, height = 20, units = "cm", bg= "white")

#### Top 10 neighborhoods geom_col with percentages
first_neig_df
first_neig_df %>%
  filter(Var1 != "15.Tem") %>%
  arrange(desc(Freq)) %>%
  slice(1:10) %>%
  ggplot(aes(x = reorder(Var1, -Freq), y = Freq/sum(first_neig
_df$Freq)))+
  geom_col(fill = a[20])+
  labs(x = "Neighborhoods",
       y = "Proportion",
       title = "Barplot of top ten neighborhoods where newcome
rs settled first after they had arrived in Gaziantep")+
  theme_minimal()+
  theme(axis.text.x = element_text(angle = 45, hjust = 1))


migration  |>
  filter(alt_neig != "15.Tem") |>
  arrange(desc(pop_rat)) |>
  slice(1:20) |>
ggplot(aes(x = reorder(alt_neig,-pop_rat), y = pop_rat))+
  geom_col(fill = viridis_pal()(1))+
  labs(x = "Neighborhoods",
       y = "Ratio of Syrian-to-total Population"
       #title = "Top 20 Neighborhoods based on population rati
o"
  )+
```

```
  coord_flip()+
  theme_ipsum()
ggsave("~/Documents/tez/Output/top20_syr-total_ratio.png", wid
th = 20, height = 20, units = "cm", bg = "white")

migration  |>
  filter(alt_neig != "15.Tem") |>
  arrange(desc(spop)) %>%
  slice(1:20) |>
  ggplot(aes(x = reorder(alt_neig,-spop), y = spop))+
  geom_col(fill = viridis_pal()(1))+
  labs(x = "Neighborhoods",
       y = "Syrian Population"
       #title = "Top 20 neighborhoods based on Syrian Populati
on"
  )+
  coord_flip()+
  theme_ipsum()

ggsave("~/Documents/tez/Output/top20_ssyr_pop.png", width = 20
, height = 20, units = "cm", bg = "white")

#### Top 20 most crowded neighborhoods table
most_crowded <- migration %>%
  arrange(desc(spop)) %>%
  slice(1:20) %>%
  select(neig, spop)

write.table(most_crowded, file = "./Output/most_crowded_neig.c
sv",
            fileEncoding = "UTF-8",
            sep = ",")

### Neighboorhood Change ----
syrd %>%
  filter(neig_change < 9) %>%
  ggplot(aes(x = as.factor(neig_change)))+
  geom_bar(fill = viridis_pal()(1))+
  labs(x = "Number of different neighborhoods",
       y = "Number of households")
       #title = "Number of different neighborhoods a household
has lived in Gaziantep since migration")+

ggsave("~/Documents/tez/Output/neighborhood_change.png", width
= 20, height = 20, units = "cm", bg = "white")

### Mean change of neighborhood ----
syrd %>%
  select(neig_change) %>%
  filter(neig_change <9) %>%
```

```
  summarize("mean change" = mean(neig_change),
            std = sd(neig_change))


### Citizenship ----
cit_perc <- table(syrd$citizenship)

# Barplot
having_citizenship<- syrd %>%
  select(citizenship) %>%
  filter(citizenship != "NA") %>%
  ggplot(aes(x= citizenship))+
  geom_bar(aes(y= (..count..)/sum(..count..),
               fill = viridis_pal()(1)), show.legend = FALSE)+
  labs(x = "Having Citizenship",
       y = "Ratio")+
  scale_x_discrete(labels = c('Yes','No'))+
  scale_y_continuous(labels=scales::percent)

png("./Output/having_citizenship.png")
print(having_citizenship)
dev.off()


### Years in Gaziantep ----
years_in_gzt_plot <- syrd %>% filter(real_years < 10) |>
  ggplot(aes(x = real_years))+
  geom_bar(fill = viridis_pal()(1))+
  theme(legend.position = "none")+
  labs(x = "Years",
       y = "Frequency",
       # title = "Years in Gaziantep",
       subtitle = paste("n = ", " ", length(syrd$real_years[!i
s.na(syrd$real_years)])))+
  geom_vline(xintercept = mean(syrd$real_years, na.rm = TRUE),
linetype = 2, size = 0.8, alpha = 0.4)+
  geom_label(aes(x = mean(syrd$real_years, na.rm = TRUE), y =
400, label="mean"),
            angle= 0, size = 4, color = viridis_pal()(1))
            # annotate()

png("~/Documents/tez/Output/years in Gaziantep.png")
print(years_in_gzt_plot)
dev.off()

syr_comers <- c(0, 14237, 210418, 1294631,984263,
                330892,592345,196406,-46822,65000)
syr_years_come <- c(2011:2020)
syr_years_pop <- cbind(syr_comers, syr_years_come)
syr_years_pop <- as.data.frame(syr_years_pop)
```

```
syr_comers_plot <- syr_years_pop |>
  ggplot(aes(x = syr_years_come, y = syr_comers))+
  geom_line(color = viridis_pal()(1))+
  geom_label(aes(label = syr_comers))+
  scale_x_discrete(limits = c(2011:2020))+
  scale_y_continuous(labels = comma)+
  labs(x = "Years",
       y = "# of Syrians granted TP")

png("~/Documents/tez/Output/syr_comers_plot.png")
print(syr_comers_plot)
dev.off()

### Home Changers and Sedantarists ----

syrd |> filter(neig_change == 1 & !is.na(real_years)) |>
  summarise(mean = mean(real_years, na.rm = TRUE),
            median = median(real_years, na.rm = TRUE),
            n = n())

stayers1 <- syrd |> filter(neig_change == 1 & !is.na(real_year
s)) |>
  ggplot(aes(x = factor(real_years)))+
  geom_bar(fill = viridis_pal()(1))+
  labs(x= "Years in Gaziantep",
       y = "Frequency"
       #title = "Frequency of Syrians has lived in only one ne
ighborhood in Gaziantep"
       )

png("~/Documents/tez/Output/stayers.png") #png("./Output/staye
rs1.png")
print(stayers1)
dev.off()

### By density group ----
png("~/Documents/tez/Output/stayers_vs_years.png")
syrd |> filter(neig_change == 1 & !is.na(real_years)) |>
  ggplot(aes(x = factor(real_years)))+
  geom_bar(aes(fill = factor(current_neig_density_cat)))+
  labs(x= "Years in Gaziantep",
       y = "Frequency"
       #title = "Frequency of Syrians has lived in only one ne
ighborhood in Gaziantep"
       )+
  scale_fill_manual(values = viridis_pal()(6),"Neigborhood\ngr
oups\nby density")
dev.off()

### Mean Income by Neig Change ----
```

```
syrd |> filter(!is.na(neig_change) & neig_change < 6) |>
  group_by(neig_change) |>
  summarise(mean_income = mean(income, na.rm = TRUE),
            median = median(income, na.rm = TRUE),
            sd = sd(income, na.rm = TRUE),
            n = n(),
            )


### Income mean based groups ----
mean_income_grouped <- syrd |> filter(!income %in% inc_out &
                  income !=0 &
                  !hh_working %in% hh_work_out &
                  !is.na(income) &
                  !is.na(current_neig_value_cat)&
                  !is.na(hh_working)&
                  hh_working !=0) |>
  group_by(current_neig_value_cat) |>
  summarize(mean = mean(income),
            mean_hh_size = mean(household_size),
            mean_working = mean(hh_working))

mean_income_grouped_tb <- flextable(mean_income_grouped)
save_as_docx(mean_income_grouped_tb,path = "~/Documents/tez/Ou
tput/mean_income_grouped.docx")


### Reason of Neighborhood Change ----

reasons_leave <- syrd %>%
  select(index,51:61, 63) %>%
  melt(id.vars = 1, measure.vars = 2:13, na.rm = TRUE) %>%
  ggplot(aes(x = variable, y = value))+
  geom_col(aes(fill = value))+
  coord_flip()+
  scale_fill_viridis()+
  scale_x_discrete(labels = c("High rent",
                              "Far from workplace",
                              "Newly married",
                              "To live in a bigger house",
                              "Bad physical conditions of the
house",
                              "Neighbors did not want them in
neighborhood",
                              "Diffucult to reach/ Inadequate
transportation",
                              "Not feeling safe in the neighbo
rhood",
                              "To be closer to friends and/or
relatives",
```

```
                                "To be closer to the children's
school",
                                "Landperson forced them to leave
",
                                "Other reasons"))+
  labs(y = "Count",
       x = "Reasons",
       # title = "Why did you leave your previous house?",
       subtitle = paste("n = ", " ", length(syrd[51][!is.na(sy
rd[51])])))+
  theme(legend.position = "none")

png("./Output/Reasons leaving.png")
print(reasons_leave)
dev.off()

### Household Disability ----
syrd |> filter(hh_dis != 0 & !is.na(neig_change)) |>
  ggplot(aes(x = hh_dis))+
  geom_bar()+
  facet_wrap(~neig_change)

yorum_hh_dis <- "Hanelerin yalnızca 282'inde engelli birey var
."
writeLines(yorum_hh_dis, con = "~/Documents/tez/Output/Disabil
ity_hane_yorum.txt")

### Working respondents ----
syrd |> filter(!is.na(work_status) & !is.na(gender)) |>
  count(gender = factor(gender), work_status = factor(work_sta
tus)) |>
  mutate(perc = prop.table(n)) |>
  ggplot(aes(x = work_status,
             y = perc,
             fill = gender,
             label =scales::percent(perc)))+
  geom_col(position ="dodge")+
  scale_x_discrete(labels = c("Working", "Not working"))+
  geom_text(position = position_dodge(width = .9),
            vjust = -0.5,
            size = 3) +
  scale_y_continuous(labels = scales::percent)+
  labs(x = "Working status of respondents",
       y = "Ratio")+
  scale_fill_manual(values = viridis_pal()(2), "Gender")
ggsave("~/Documents/tez/Output/gender_vs_working.png", width =
20, height = 20, units = "cm", bg = "white")


#### Prob table
```

```
syrd <- syrd |>
  mutate(working_new = recode(work_status,
                              "Evet" = "Yes",
                              "Hayır" = "No"))

syrd <- syrd |>  mutate(working_new = factor(working_new,
                                             levels = c("Yes",
"No")))

working_gender <- sjPlot::tab_xtab(var.row = syrd$gender,
                                   var.col = syrd$working_new,
                                   show.na = FALSE,
                                   show.row.prc = TRUE,
                                   var.labels = c("Gender","Work
ing Status"
                                   ))

working_gender
write.table(working_gender, file = "~/Documents/tez/Output/wor
king_gender.html")

### Reasons of no work ----
whyNoWork <- syrd |> filter(!is.na(whynot_working)) |>count(wh
ynot_working)

### Not working females
whyNoWork_f <- syrd |> filter(!is.na(whynot_working) & gender
== "Female") |>
  count(whynot_working)
whyNoWork_f <- whyNoWork_f |> mutate(perc = n/sum(n)*100) |> a
rrange(desc(perc))

### Not working males
whyNoWork_m <- syrd |> filter(!is.na(whynot_working) & gender
== "Male") |>
  count(whynot_working)
whyNoWork_m <- whyNoWork_m |> mutate(perc = n/sum(n)*100) |> a
rrange(desc(perc))
whyNoWork_m



whyNoWork |>
  ggplot(aes(x = reorder(whynot_working, -n), y = n))+
  geom_col(fill = color.v[1])+
  labs(x = "Reasons",
       y = "Frequency")+
  scale_x_discrete(labels = c(
    "Taking care of children/elderly people at home",
    "Husband does not allow",
```

```
    "Health reasons",
    "Looking for a job",
    "Retired",
    "Continuing education",
    "No need to work",
    "Family members do not allow",
    "Other"
  ))+
  coord_flip()
ggsave("~/Documents/tez/Output/reasons_no_work.png", width = 2
0, height = 20, units = "cm", bg = "white")

### table
no_work_gender <- syrd |> filter(!is.na(whynot_working)) |>gro
up_by(whynot_working, gender) |>
  count(whynot_working)
no_work_gender |> group_by(gender) |>
  summarize(sum(n))
gendered_no_work <- "Female = 899, Male = 449"

### Work Type ----
syrd |>
  filter(!is.na(work_type)) |>
  group_by(work_type, gender) |>
  count(work_type) |>
  ggplot(aes(x = reorder(work_type, -n),
             y = n,
             fill = gender))+
  geom_col(position = "dodge")+
  scale_x_discrete(labels = c(
    "Regular Salaried",
    "Irregular Wage Labor",
    "Employer",
    "Freelancer",
    "Non-paid family job"
  ))+
  scale_fill_viridis(discrete = TRUE)+
  labs(x = "Type of Work Status",
       y = "Frequency",
       fill = "Gender")+
  coord_flip()

ggsave("~/Documents/tez/Output/work_type.png", width = 20, hei
ght = 20, units = "cm", bg = "white")

### Insurance ----
syrd |> filter(!is.na(insurance)) |>
  ggplot(aes(x = factor(insurance)))+
  geom_bar(aes(fill = gender), position ="dodge")+
  scale_fill_viridis(discrete = TRUE)+
```

```
  scale_x_discrete(labels = c(
    "Registered",
    "Not registered"
  ))+
  labs(x = "",
       y = "Frequency",
       fill = "Gender")+
  theme_ipsum()

ggsave("~/Documents/tez/Output/insurance_gender.png", width =
20, height = 20, units = "cm", bg = "white")

syrd |> filter(!is.na(insurance) & insurance == "Hayır") |>
  count(insurance)

### Work constancy----
syrd |> filter(!is.na(regular_work) &
                 regular_work !=
                 "Diğer (İşaretleyin ve sonraki sayfada yazın)
") |>
  group_by(regular_work, gender) |>
  count(regular_work) |>
  ggplot(aes(reorder(regular_work,-n),
             y= n,
             fill = gender))+
  geom_col(position = "dodge")+
  scale_fill_viridis(discrete = TRUE)+
  scale_x_discrete(labels = c(
    "Regular",
    "Irregular",
    "Seasonal"
  ))+
  labs(x = "",
       y = "Frequency",
       fill = "Gender")

ggsave("~/Documents/tez/Output/regular_work.png", width = 20,
height = 20, units = "cm", bg = "white")

### Working Days----
syrd$working_days
syrd |> filter(!is.na(working_days)) |>
  mutate(work_days = as.numeric(working_days)) |>
  arrange(desc(work_days)) |>
  ggplot(aes(x = work_days, fill = gender))+
  geom_bar(position = "dodge")+
  scale_x_discrete(limits = c(1,2,3,4,5,6,7))+
  scale_fill_viridis(discrete = TRUE)+
  labs(x = "Sum of work days",
       y = "Frequency",
```

```
       fill = "Gender")

ggsave("~/Documents/tez/Output/work_days_graph.png", width = 2
0, height = 20, units = "cm", bg = "white")

table(syrd$working_hours)
mean_weeklyHours <- ((299*12)+(4*12)+(7*165)+(10*385))/(299+12
+165+385)
10.036*5.76

### Working Hours  ----
work_hours <- syrd |> filter(!is.na(working_hours)) |>
  group_by(working_hours) |> count()

work_hours$working_hours <- factor(work_hours$working_hours,
                                   levels = c("5 saatten az",
                                              "6 - 8 saat aras
ı",
                                              "9-10 saat arası
",
                                              "11 saatten fazl
a"))

work_hours |>
  ggplot(aes(x = working_hours, y=n))+
  geom_col(fill = viridis_pal()(1))+
  labs(x = "Hours (Daily)",
       y = "Frequency")+
  scale_x_discrete(labels = c("Less than 5 hours",
                              "6 to 8 hours",
                              "9 to 10 hours",
                              "More than 10 hours"
                              ))

ggsave("~/Documents/tez/Output/daily working hours.png", width
= 20, height = 20, units = "cm", bg = "white")

### Wage Interval ----


syrd |> filter(!is.na(wage_interval)) |>
  group_by(wage_interval, gender) |>
  count(wage_interval) |>
  ggplot(aes(x = reorder(wage_interval, -n), y = n,
             fill = gender))+
  geom_col(position = "dodge")+
  labs(x = "Interval",
       y = "Frequency",
       fill = "Gender")+
  scale_x_discrete(labels = c("Weekly",
```

```
                                "Daily",
                                "Piece-work",
                                "Irregularly",
                                "Hourly"))+
  scale_fill_viridis(discrete = TRUE)

ggsave("~/Documents/tez/Output/wage_interval", width = 20, hei
ght = 20, units = "cm", bg = "white")

### How many working in household ----
hh_work_out <- boxplot(syrd$hh_working, plot=FALSE)$out
hh_size_out <- boxplot(syrd$household_size, plot=FALSE)$out

syrd |> filter(!hh_working %in% hh_work_out &
                 !household_size %in% hh_size_out &
                 !is.na(current_neig_value_cat))|>
  ggplot(aes(x=household_size, y = hh_working,
             color = factor(current_neig_value_cat)))+
  geom_jitter()+
  scale_color_viridis(discrete = TRUE)+
  geom_smooth(method = "lm", se=FALSE, color = "black")+
  labs(x = "Household Size",
       y= "Number of people working",
       color = "Neighborhood Groups"
       # title = "Jitter plot of household size vs. number of
working members
       )+
  facet_wrap(~current_neig_value_cat)

ggsave("~/Documents/tez/Output/hh_size_vs_hh_working.png", wid
th = 20, height = 20, units = "cm", bg = "white")

syrd |> filter(!hh_working %in% hh_work_out &
                 !household_size %in% hh_size_out &
                 !is.na(current_neig_value_cat))|>
  select(hh_working) |>
  skim()

# mean number of person working is 1.38

cor_hh_working <- syrd |> filter(!hh_working %in% hh_work_out
&
                 !household_size %in% hh_size_out &
                 !is.na(current_neig_value_cat)&
                   !is.na(hh_working))|>
  select(hh_working, household_size, current_neig_value_cat) |
>
  group_by(current_neig_value_cat) |>
  summarize(cor(hh_working,household_size), n = n())
cor_hh_working_tb <- flextable(cor_hh_working)
```

```
save_as_docx(cor_hh_working_tb,path = "~/Documents/tez/Output/
cor_hh_work_tb.docx")

### Ownership and Rent ----
syrd |>
  filter(!is.na(h.owner) & h.owner != "Diğer (İşaretleyin ve d
iğer sayfada belirtiniz)" &
           !is.na(current_neig_value_cat)) |>
  ggplot(aes(x=h.owner))+
  geom_bar(fill = viridis_pal()(1))+
  labs(x = "Home ownership",
       y= "Frequency")+
  scale_x_discrete(labels = c("Owner","Tenant"))+
  facet_wrap(~current_neig_value_cat)
ggsave("~/Documents/tez/Output/home_ownership.png", width = 20
, height = 20, units = "cm", bg = "white")

syrd |>
  filter(!is.na(h.owner) & h.owner != "Diğer (İşaretleyin ve d
iğer sayfada belirtiniz)") |>
  count(factor(h.owner)) |>
  mutate(perc = prop.table(n))
# Mültecilerin %99'u kiracı, yalnızca %1'i ev sahibi

syrd |>
  filter(!is.na(h.owner) & h.owner != "Diğer (İşaretleyin ve d
iğer sayfada belirtiniz)" &
           !is.na(current_neig_value_cat)) |>
  group_by(current_neig_value_cat) |>
  count(factor(h.owner)) |>
  mutate(perc = prop.table(n))

### Rent ----
syrd |>
  filter(!is.na(rent)) |>
  ggplot(aes(x = factor(rent,
                        levels=c("0",
                                 "1-249",
                                 "250-499",
                                 "500-749",
                                 "750-999",
                                 "1000-1249",
                                 "1250-1499",
                                 "1500-1749",
                                 "1750-1999",
                                 "2000-2499",
                                 "2500-2999"
                                 ))))+
  geom_bar(fill = viridis_pal()(1))+
  labs(x = "Rent(TRY)",
```

```
       y = "Frequency")+
  theme(axis.text.x = element_text(size=8, angle=45))

ggsave("~/Documents/tez/Output/rent_bar.png", width = 20, heig
ht = 20, units = "cm", bg = "white")

### Room Number ----
syrd <- syrd |>
  mutate(rooms_new = recode(rooms,
                            "5'ten fazla" = 6,
                            "1" = 1,
                            "2" = 2,
                            "3" = 3,
                            "4" = 4,
                            "5" = 5)
  )
syrd |> filter(!is.na(rooms)) |>
  ggplot(aes(x = rooms))+
  geom_bar(fill = viridis_pal()(1))+
  geom_vline(xintercept = mean(as.numeric(syrd$rooms), na.rm =
TRUE), linetype = 2, size = 0.8, alpha = 0.4)+
  geom_label(aes(x = mean(as.numeric(syrd$rooms), na.rm = TRUE
)), y = 1000, label= paste0 ("Mean =", mean(as.numeric(syrd$ro
oms), na.rm = TRUE)), angle= 0, size = 4)+
  labs(x = "Number of rooms",
       y = "Frequency")+
  scale_x_discrete(labels = c(1,2,3,4,5,"5+"))
ggsave("~/Documents/tez/Output/rooms.png", width = 20, height
= 20, units = "cm", bg = "white")
### rooms vs householdsize ----
rooms_out <- boxplot(syrd$rooms_new, plot=FALSE)$out

syrd |> filter (!household_size %in% hh_size_out & !is.na(hous
ehold_size) &
                  !is.na(current_neig_value_cat) &
                  !rooms_new %in% rooms_out &
                  !is.na(rooms_new)) |>
  ggplot(aes(x= household_size, y = rooms_new,
             color = factor(current_neig_value_cat)))+
  geom_jitter()+
  scale_color_viridis(alpha = 1, discrete = TRUE)+
  labs(x = "Household size",
       y = "Number of rooms",
       color = "Land value groups")+
  geom_smooth(method = "lm", se =FALSE)
ggsave("~/Documents/tez/Output/hh_size_vs_rooms.png", width =
20, height = 20, units = "cm", bg = "white")

syrd |> filter (!household_size %in% hh_size_out & !is.na(hous
ehold_size) &
```

```
                  !is.na(current_neig_value_cat) &
                  !rooms_new %in% rooms_out &
                  !is.na(rooms_new)) |>
  ggplot(aes(x= household_size, y = rooms_new))+
  geom_jitter(color = viridis_pal()(1))+
  labs(x = "Household size",
       y = "Number of rooms")+
  facet_wrap(~ current_neig_value_cat)+
  geom_smooth(method = "lm", se =FALSE, color = color.v[20])

ggsave("~/Documents/tez/Output/hh_size_vs_rooms_smooth.png", w
idth = 20, height = 20, units = "cm", bg = "white")

#### Yeditepe
syrd |> filter (!household_size %in% hh_size_out & !is.na(hous
ehold_size) &
                  !rooms_new %in% rooms_out &
                  !is.na(rooms_new) &
                  neig == "Yeditepe") |>
  ggplot(aes(x= household_size, y = rooms_new))+
  geom_jitter(color = viridis_pal()(1))+
  labs(x = "Household size",
       y = "Number of rooms")+
  geom_smooth(method = "lm", se =FALSE, color = color.v[20])

###  Problem in Gaziantep----
problem_gzt <- syrd %>%
  select(index,gender, 417:424) %>%
  melt(id.vars = c(1,2), measure.vars = 4:9, na.rm = TRUE)

problem_tb <- problem_gzt |>
  filter(!variable %in% c("problem_NA")) |>
  group_by(variable,gender) |>
  summarize(freq = sum(as.numeric(value)))

problem_tb |>
  ggplot(aes(x = reorder(variable, - freq), y= freq,
             fill = gender))+
  geom_col(position = "dodge")+
  scale_x_discrete(labels= c(
    "Language",
    "Unemployment",
    "Discrimination",
    "Security",
    "Other"
  ))+
  labs(x = "Problem",
       y = "Frequency",
       fill = "Gender")+
  scale_fill_viridis(discrete = TRUE)
```

```
ggsave("~/Documents/tez/Output/problems_in_gzt.png", width = 2
0, height = 20, units = "cm", bg = "white")

### Age Groups ----
syrd <- syrd |> mutate(age_groups = case_when(
  Yaşınız. >=15 & Yaşınız. <=24 ~ "15-24",
  Yaşınız. >=25 & Yaşınız. <= 34 ~ "25-34",
  Yaşınız. >=35 & Yaşınız. <=44 ~ "35-44",
  Yaşınız. >=45 & Yaşınız. <=54 ~ "45-54",
  Yaşınız. >=55 & Yaşınız. <=64 ~ "55-64",
  Yaşınız. >=65 ~ "64+"
))

### Back to Syria ----
syrd <- syrd |>
  mutate(back_syria = recode(back_syr,
                             "Evet" = "Yes",
                             "Hayır" = "No"))

syrd <- syrd |>  mutate(back_syria = factor(back_syria,
                                            levels = c("Yes", "
No")))
#### Crosstab
back_syr_age <- sjPlot::tab_xtab(var.row = syrd$age_groups,
                 var.col = syrd$back_syria,
                 show.na = FALSE,
                 show.row.prc = TRUE,
                 var.labels = c("Age groups","Would you like t
o go back Syria?"
                 ))

write.table(back_syr_age, file = "~/Documents/tez/Output/back_
syr_age.txt")
#### Plot

syrd |> filter(!is.na(back_syr)) |>
  select(age_groups,gender,back_syr) |>
  ggplot(aes(back_syr, fill = gender))+
  geom_bar(position="dodge")+
  facet_wrap(~age_groups)+
  labs(x = "",
       y = "Frequency",
       fill = "Gender")+
  scale_x_discrete(labels = c(
    "Yes",
    "No"
  ))+
  scale_fill_viridis(discrete = TRUE)
```

```
ggsave("~/Documents/tez/Output/bakc_to_syria.png", width = 20,
height = 20, units = "cm", bg = "white")

### Probs

### Where to go ----
syrd |> filter(!is.na(where_go)) |>
  select(gender,age_groups,where_go) |>
  ggplot(aes(x = factor(where_go,
                        levels = c("Gaziantep'te kalmak isteri
m",
                                   "Başka bir ülkeye gitmek is
terim",
                                   "Türkiye'de başka bir şehre
gitmek isterim"))))+
  geom_bar(aes(fill = gender), position = "dodge")+
  scale_fill_viridis(discrete = TRUE)+
  coord_flip()+
  scale_x_discrete(labels= c(
    "Stay in Gaziantep",
    "Go to another country",
    "Go to another city in Turkey"
  ))+
  labs(x = "Prefered Option",
       y = "Frequency",
       fill = "Gender")+
  facet_wrap(~age_groups)

ggsave("~/Documents/tez/Output/stay_go_prefer.png", width = 20
, height = 20, units = "cm", bg = "white")

syrd |> filter(!is.na(where_go)) |>
  count(where_go) |>
  summarise(where_go, n, n / sum(n) * 100)



### Why Turkey ----
whyStayTR <- syrd %>%
  select(index,gender,age_groups, 441:450) %>%
  melt(id.vars = c(1,2,3), measure.vars = 4:9, na.rm = TRUE)

whyStayTR_tb <- whyStayTR |>
  filter(!variable %in% c("stayTr_NA")) |>
  group_by(variable,gender) |>
  summarize(freq = sum(as.numeric(value)))

whyStayTR_tb |>
  ggplot(aes(x = reorder(variable, - freq), y= freq,
             fill = gender))+
```

```
  geom_col(position = "dodge")+
  scale_x_discrete(labels= c(
    "No Future in Syria for us",
    "Locals treat us well here",
    "We started a business here",
    "We have Turkish citizenship",
    "We bought home here",
    "Married with local "
  ))+
  labs(x = "Reasons",
       y = "Frequency",
       fill = "Gender")+
  scale_fill_viridis(discrete = TRUE)+
  coord_flip()

ggsave("~/Documents/tez/Output/why_stay_tr.png", width = 20, h
eight = 20, units = "cm", bg = "white")

### Neighborhood Content ----

syrd <- syrd |>
  mutate(sat_neig_new = recode(sat_neig,
                               "Kesinlikle katılmıyorum" = 1,
                               "Katılmıyorum" = 2,
                               "Kararsızım" = 3,
                               "Katılıyorum" = 4,
                               "Kesinlikle katılıyorum" = 5))

syrd |>
  filter(!is.na(sat_neig_new)) |>
  ggplot(aes(x = factor(sat_neig_new)))+
  geom_bar(fill = color.v[1])+
  labs(x = "1 = Not satisfied, 5 = Satisfied",
       y = "Frequency")

ggsave("~/Documents/tez/Output/neighborhood_content.png", widt
h = 20, height = 20, units = "cm", bg = "white")

syrd |>
  filter(!is.na(sat_neig_new)&
           sat_neig_new == 4 |sat_neig_new == 5) |> count()
(2029/2265)*100

### Local Neighbor ----
syrd |>
filter(!is.na(gzt_neighbor) & !is.na(current_neig_value_cat))
|>
  ggplot(aes(x = gzt_neighbor))+
  geom_bar(aes(fill = gender), position = "dodge")+
  scale_x_discrete(labels = c(
```

```
    "Have",
    "Have not"))+
  scale_fill_viridis(discrete = T, name = "Gender")+
  labs(x = "Have a local neighbor",
       y = "Frequency")
  # facet_wrap(~ current_neig_value_cat)

ggsave("~/Documents/tez/Output/having_neighbor.png", width = 2
0, height = 20, units = "cm", bg = "white")

### Woman Content ----
syrd <- syrd |>
  mutate(w.content.new = recode(woman_content,
                                "Kesinlikle katılmıyorum" = 1,
                                "Katılmıyorum" = 2,
                                "Kararsızım" = 3,
                                "Katılıyorum" = 4,
                                "Kesinlikle katılıyorum" = 5))

syrd |>
  filter(!is.na(w.content.new)) |>
  ggplot(aes(x = w.content.new))+
  geom_bar(fill = color.v[1])+
  # scale_x_discrete(labels = c(
  #   "Have",
  #   "Have not"))+
  labs(x = "1 = Not satisfied, 5 = Satisfied",
       y = "Frequency",
       # subtitle = "How content with your neighborhood (Women
)")
  )
ggsave("~/Documents/tez/Output/woman_content.png", width = 20,
height = 20, units = "cm", bg = "white")

### Content in Gaziantep ? ----
syrd <- syrd |>  mutate(gzt_cont_new = recode(gzt_content,
                                              "Kesinlikle katılmıyorum"
= 1,
                                              "Katılmıyorum" = 2,
                                              "Kararsızım" = 3,
                                              "Katılıyorum" = 4,
                                              "Kesinlikle katılıyorum"
= 5))
)

syrd |> filter(!is.na(gzt_cont_new)) |>
  ggplot(aes(x = gzt_cont_new))+
  geom_bar(aes(fill = gender), position = "dodge")+
  scale_fill_viridis(discrete = T, name = "Gender")+
  labs(x = "1 = Not satisfied, 5 = Satisfied",
```

```
       y = "Frequency")
ggsave("~/Documents/tez/Output/gzt_content.png", width = 20, h
eight = 20, units = "cm", bg = "white")

### Neighborhood Communication ----
syrd <- syrd |>  mutate(gzt_neighbors_comm = recode(gzt_neighb
or_comm,
                                                    "Kesinlikle katı
lmıyorum" = 1,
                                                    "Katılmıyorum" =
2,
                                                    "Kararsızım" = 3
,
                                                    "Katılıyorum" =
4,
                                                    "Kesinlikle katı
lıyorum" = 5))

syrd |> filter(!is.na(gzt_neighbors_comm)) |>
  ggplot(aes(x = gzt_neighbors_comm))+
  geom_bar(aes(fill = gender), position = "dodge")+
  labs(x = "1 = Not good, 5 = Good",
       y = "Frequency",
       fill = "Gender")+
  scale_fill_viridis(discrete = T)
ggsave("~/Documents/tez/Output/neig_comm.png", width = 20, hei
ght = 20, units = "cm", bg = "white")

### Feel at home in neighborhood----
syrd <- syrd |>
  mutate(feel_home = recode(neig_home,
                                       "Kesinlikle Katılmıyorum"
= 1,
                                       "Katılmıyorum" = 2,
                                       "Kararsızım" = 3,
                                       "Katılıyorum" = 4,
                                       "Kesinlikle katılıyorum"
= 5))

syrd |> filter(!is.na(feel_home)) |>
  ggplot(aes(x = feel_home))+
  geom_bar(aes(fill = gender), position = "dodge")+
  labs(x = "1 = Disagree, 5 = Agree",
       y = "Frequency",
       fill = "Gender")+
  scale_fill_viridis(discrete = T)

ggsave("~/Documents/tez/Output/feeling_home.png", width = 20,
height = 20, units = "cm", bg = "white")
```

```r
### Neighborhood change vs Duration of stay in neighborhood --
--
syrd <- syrd |> mutate(neig_change_yn = case_when(
  neig_change == 1 ~ "No",
  neig_change > 1 ~ "Yes"
))

graph_1 <- syrd |> filter(neig_change_yn == "Yes"&
                  !is.na(years_in_neig)) |>
  count(years_in_neig)

graph_2 <- syrd |> filter(neig_change_yn == "Yes" &
                            !is.na(real_years)) |>
  count(real_years)
graph_1 <- rbind(graph_1, c(9,NA))
graph_1 <- rbind(graph_1, c(10, NA))
graph3 <- merge(graph_1,graph_2, by.x ="years_in_neig", by.y =
"real_years")

graph3 |> gather(key = "variable", value = "value", -years_in_
neig) |>
  ggplot(aes(x = years_in_neig))+
  geom_line(aes(y = value, color = variable, linetype = variab
le))+
  scale_color_manual(values = c("Duration in current neighborh
ood"=color.v[1],
                                "Duration in Gaziantep" = colo
r.v[10]))

years_out <- boxplot(syrd$real_years, plot=F)$out
years_neig_out <- boxplot(syrd$years_in_neig, plot = F)$out

syrd |> filter(neig_change_yn == "Yes" &
                  !is.na(years_in_neig) &
                  !is.na(real_years)&
                  !real_years %in% years_out &
                  !years_in_neig %in% years_neig_out &
                  years_in_neig <=real_years
                  ) |>
  ggplot(aes(y = years_in_neig, x = real_years))+
  geom_jitter(color = color.v[1], alpha = 0.3)+
  scale_x_continuous(breaks = c(1:9))+
  geom_smooth(method = "lm", se= F, color = color.v[19])+
  labs(x = "Years in Gaziantep",
       y = "Years in current neighborhood")
ggsave("~/Documents/tez/Output/real_years_vs_years_in_neig.png
", width = 20, height = 20, units = "cm", bg = "white")

#### Correlation
```

```
syrd |> filter(neig_change_yn == "Yes" &
                 !is.na(years_in_neig) &
                 !is.na(real_years)&
                 !real_years %in% years_out &
                 !years_in_neig %in% years_neig_out &
                 years_in_neig <=real_years
) |>
  select(years_in_neig, real_years) |>
  corrr::correlate()

syrd |> filter(neig_change_yn == "Yes" &
                 !is.na(years_in_neig) &
                 !is.na(real_years)&
                 !real_years %in% years_out &
                 !years_in_neig %in% years_neig_out &
                 years_in_neig <=real_years
) |>
  select(years_in_neig, real_years) |>
  summarise(var(real_years))


gap_stay <- syrd |> filter(neig_change == 2 &
                 !is.na(years_in_neig) &
                 !is.na(real_years)&
                 !real_years %in% years_out &
                 !years_in_neig %in% years_neig_out &
                 years_in_neig <=real_years
) |>
  select(years_in_neig, real_years) |>
  mutate(gap = (real_years - years_in_neig))
var(gap_stay$gap)

mean(gap_stay$gap)
gap_stay |> filter(real_years != 10) |>
  ggplot(aes(x = gap))+
  geom_histogram(bins = 9, fill = color.v[1])+
  facet_wrap(~ real_years)+
  scale_x_discrete(limits = c(min(gap_stay$gap):max(gap_stay$g
ap)))+
  labs(x = "Years",
       y = "Frequency")
ggsave("~/Documents/tez/Output/gap_years.png", width = 20, hei
ght = 20, units = "cm", bg = "white")


### Citizenship data ----
#### Neighborhood Change
neig_c_out <- boxplot(syrd$neig_change, plot = FALSE)$out
syrd |> filter(!is.na(citizenship) &
                 !is.na(neig_change) &
```

```
                  !neig_change %in% neig_c_out) |>
  ggplot(aes(x = citizenship))+
  geom_bar()+
  facet_wrap(~neig_change)

#### Homeownership

syrd |> filter(!is.na(citizenship)&
                  !is.na(h.owner)&
                  h.owner != "Diğer (İşaretleyin ve diğer sayfa
da belirtiniz)") |>
  ggplot(aes(x = h.owner))+
  geom_bar(aes(fill= citizenship), position = "dodge")+
  scale_fill_viridis(discrete = TRUE, label = c("Have", "Have
not"))+
  labs(x = "Tenure status",
       y = "Frequency",
       fill = "Turkish citizenship")+
  scale_x_discrete(label = c("Homeowner", "Tenant"))

syrd |> filter(citizenship != "Evet") |>
  count(citizenship)


### Credit Card ----
#### Ownership
syrd |> filter(!is.na(credit_card)) |>
  count(credit_card)

#### Debt
syrd |> filter(credit_card == "Evet") |>
  summarize(mean = mean(cre_card_debt))

syrd |> filter(credit_card == "Evet" & cre_card_debt == 0) |>
  summarise(n = n())

### Debt to bank----
syrd$debt
syrd |> filter(debt == "Var") |> count(debt_bank)

#### credit card debt vs bank debt
syrd |> filter(cre_card_debt > 0) |>
  select(debt_bank)

#### expense - income and debt
syrd |> filter(!income %in% inc_out &
                  income != 0 &
                  !expense %in% exp_out &
                  expense != 0 &
                  expense > income) |>
```

```
  select(expense, income) |>
  summarise(n=n())
syrd |> filter(!income %in% inc_out &
                 income != 0 &
                 !expense %in% exp_out &
                 expense != 0) |>
  select(expense, income) |>
  summarise(n=n())
1002/2113*100

### Camps ----
syrd |> filter(!is.na(Kamplarda.hiç.kaldınız.mı.)) |>
  group_by(Kamplarda.hiç.kaldınız.mı.) |>
  summarize(prop = n()) |>
  mutate(prop = prop/sum(prop))

### Aids ----
syrd |> filter(!is.na(hh_aid)) |> count(hh_aid) |>
  mutate(perc = n/sum(n))

# HYPOTHESIS TESTING ----

## Change of Neighbors ~ Household Size ----

household_neig_change <- as.data.frame(table("household_size"
= syrd$household_size, "neighborhood_change" = syrd$neig_chang
e))

### Tile Graph ----

negi_tile <- household_neig_change %>%
  filter(household_size != 31 & Freq != 0) %>%
ggplot(aes(x =household_size, y = neighborhood_change))+
  geom_tile(aes(fill = Freq), color = "white")+
  scale_fill_viridis(na.value = "white")+
  labs(x = "Household Size",
       y = "The number of different neighborhoods",
       subtitle = paste("n=", sum(household_neig_change$Freq))
,
       fill = "Frequencies",
       caption = "*Zero frequencies are not shown")
png("./Output/neig_tiles")
print(negi_tile)
dev.off()


### Point Graph ----
neig_point <- household_neig_change %>%
  filter(household_size != 31 & Freq != 0) %>%
  ggplot(aes(x =household_size))+
```

```
  geom_point(aes(y = Freq), fill = "black")+
  scale_fill_viridis(na.value = "white")+
  labs(x = "Household Size",
       y = "Frequency",
       subtitle = paste("n=", sum(household_neig_change$Freq))
,
       caption = "*Zero frequencies are not shown",
       title = "The Number of different neighborhoods resided
in Gaziantep")+
  facet_wrap(~ neighborhood_change)+
  theme(axis.text.x = element_text(size=8, angle=90))
grid.arrange(neig_point, negi_tile, ncol = 2)

png("./Output/neig_points.png")
print(neig_point)
dev.off()

### Logistic Regression ----
syrd <- syrd %>%
mutate(more_than_1 = neig_change > 1)
syrd$more_than_1 <- as.integer(syrd$more_than_1)

# Poisson
log_poisson <- syrd %>%
  glm(formula = neig_change~household_size,
      family = "poisson")

poisson_summary <- summary(log_poisson)

write.table(poisson_summary, file="./Output/poisson_table.csv"
,
          sep ="/n", fileEncoding = "UTF-8" )

exp(log_poisson$coef)
exp(9 * log_poisson$coef) # 10 kişilik aile için
exp(confint(log_poisson))

### multiple poisson
log_poisson_mul <- syrd %>%
  glm(formula = neig_change~household_size + real_years,
      family = "poisson")

mul_poisson_summary <- summary(log_poisson_mul)
exp(0.017835)
exp(0.295768 + 0.017835)
exp(0.295768 + 0.017835+ 0.010854)

# GROUPING ----
## Density Based ----
migration <- migration |> mutate(density_groups =
```

```
                                    case_when(
                                      pop_rat >= 0 & pop_rat <
0.15 ~ 1.0,
                                      pop_rat >= 0.15 & pop_rat
< 0.3 ~ 2.0,
                                      pop_rat >= 0.3 & pop_rat
< 0.45 ~ 3.0,
                                      pop_rat >= 0.45 & pop_rat
< 0.6 ~ 4.0,
                                      pop_rat >= 0.6 & pop_rat
<= 1 ~ 5.0,
                                      TRUE ~ 0
                                    ))
write_csv(migration, path = "~/Documents/tez/Output/mig_densit
y.csv")


### Survey Count CSV----
neig_tablex <- table(syrd$neig)
survey_count <- data.frame(rbind(neig_tablex))
write_csv(survey_count, file = "~/Documents/tez/Output/survey_
count.csv")


### Adding current neighborhood value groups to migration df -
---
table.neighbor <- syrd |> group_by(neig, current_neig_value_ca
t) |>
  summarise(count = n())

migration <- left_join(migration, table.neighbor, by = c("alt_
neig" = "neig"))

migration$current_neig_value_cat[is.na(migration$current_neig_
value_cat)] <-
  c(1,6,6,6,6,6,6,6,6,6,6,6,6,6)

### Calculation Group Weights Value Based

spop_sum <- migration |> group_by(current_neig_value_cat) |>
  summarise("sum_pop"= sum(spop, na.rm = TRUE),
            "sum_survey" = sum(sur_count, na.rm = TRUE))
spop_sum$group_weight <- spop_sum$sum_pop / spop_sum$sum_surve
y

### Calculation of Group Weights Density Based
spop_sum2 <- migration |> group_by(density_groups) |>
  summarise("sum_pop"= sum(spop, na.rm = TRUE),
            "sum_survey" = sum(sur_count, na.rm = TRUE))
spop_sum2$group_weight <- spop_sum2$sum_pop[!is.na(spop_sum2$s
```

```
um_pop)] / spop_sum2$sum_survey[!is.na(spop_sum2$sum_survey)]

# NETWORK ANALYSIS ----
## Land price based ----
### Edge creation ----

# sources <- syrd |>
#   filter(neig_change != c(1, NA)) |>
#   distinct(label = previous_neig_value_cat)
# sources <- na.omit(sources)
#
# destinations <- syrd |>
#   filter(neig_change != c(1,NA)) |>
#   distinct(label = current_neig_value_cat)
# destinations <- na.omit(destinations)
#
# nodes <- full_join(sources, destinations, by = "label")
# nodes <- nodes |>
#   rowid_to_column("id")


per_route <- syrd |>
  filter(neig_change != 1 & !is.na(neig_change)) |>
  group_by(previous_neig_value_cat,current_neig_value_cat) |>
  summarise(weight = n()) |>
  ungroup()
per_route <- na.omit(per_route)

edges <- per_route |>rename(from = previous_neig_value_cat,
                                      to = current_neig_valu
e_cat
)

edges <- edges |> arrange(desc(weight))


### Intra Mig Table ----
intra_mig_table <- flextable(edges)

intra_mig_table <-
  set_header_labels(intra_mig_table,
                    values = list(from = "Previous Neighborhoo
d Group (Price Based)",
                                  to = "Current Neighborhood G
roup (Price Based",
                                  weight = "n"))

intra_mig_table <- italic(intra_mig_table,part = "header",  i=
1, j= 3)
intra_mig_table <- theme_vanilla(intra_mig_table)
```

```
intra_mig_table <- set_table_properties(intra_mig_table, layou
t = "autofit")
save_as_docx(intra_mig_table, path = "~/Documents/tez/Output/s
yr_mig_table.docx")
### Graph Plot ----

per_route_graph <- graph_from_data_frame(vertices=unique(edges
$from),
                                         d = edges,
                                         directed= TRUE)

edges <- edges |> mutate(weight2 = case_when(to == 1 ~ 136,
                                             to == 2 ~ 131.6429,
                                             to == 3 ~ 125.7049,
                                             to == 4 ~ 134.0494,
                                             to == 5 ~ 129.3571,
                                             to == 6 ~ 135.8830
))
edges |> group_by(to) |> summarize(sum(weight*weight2))

png("~/Documents/tez/Output/syr_intra_mobility2.png", width =
12, height = 12,
    units = "cm", res = 600)
plot(per_route_graph, layout =layout_in_circle,
     edge.width =(edges$weight * log(edges$weight2))/50,
     edge.arrow.size = 0.5,
     vertex.size = 40,
     vertex.color = viridis_pal()(1),
     vertex.label.color = "white",
     edge.color = "goldenrod",
     edge.curved = TRUE
)
# legend(title = "Neighborhood Groups",
#        x = "bottomright",
#        horiz = FALSE,
#        legend = c("1 = low price", "2 = high price"),
#        lwd = 0,
#        bty ="n"
#        )
dev.off()

## Density Based ----
### Edge Creation ----

per_route_dense <- syrd |>
  filter(neig_change != 1 & !is.na(neig_change)) |>
  group_by(previous_neig_density_cat,current_neig_density_cat)
|>
  summarise(weight = n()) |>
  ungroup()
```

```
per_route_dense$previous_neig_density_cat[per_route_dense$prev
ious_neig_density_cat== 999] <- NA
per_route_dense <- na.omit(per_route_dense)

edges_dense <- per_route_dense |>rename(from = previous_neig_d
ensity_cat,
                                to = current_neig_density_cat
                                )
edges_dense <- edges_dense |> arrange(desc(weight))

### Intra Mig Table ----
intra_mig_table_dense <- flextable(edges_dense)

intra_mig_table_dense <-
  set_header_labels(intra_mig_table_dense,
                    values = list(from = "Previous Neighborhoo
d Group (Density Based)",
                                  to = "Current Neighborhood G
roup (Density Based",
                                  weight = "n"))

intra_mig_table_dense <- italic(intra_mig_table_dense,part = "
header",  i=1, j= 3)
intra_mig_table_dense <- theme_vanilla(intra_mig_table_dense)
intra_mig_table_dense <- set_table_properties(intra_mig_table_
dense, layout = "autofit")
save_as_docx(intra_mig_table_dense, path = "~/Documents/tez/Ou
tput/syr_mig_table_dense.docx")
### Graph Plot ----
per_route_dense_graph <- graph_from_data_frame(
  vertices=unique(edges_dense$to),
                                       d = edges_dense,
                                       directed= TRUE)

edges_dense <- edges_dense |> mutate(weight2 = case_when(to ==
0 ~ 1,
                                           to == 1~ 129.4379
,
                                           to == 2 ~ 135.223
8,
                                           to == 3 ~ 128.577
0,
                                           to == 4 ~ 149.184
6,
                                           to == 5 ~ 138.5
))

edges_dense |> group_by(to) |> summarize(sum(weight*weight2))
png("~/Documents/tez/Output/syr_intra_mobility_dense.png", wid
```

```
th = 12, height = 12,
    units = "cm", res = 600)
plot(per_route_dense_graph, layout =layout_in_circle,
     edge.width = (edges_dense$weight * log(edges_dense$weight
2))/50,
     edge.arrow.size = 0.5,
     vertex.size = 40,
     vertex.color = viridis_pal()(1),
     vertex.label.color = "white",
     edge.color = "goldenrod",
     edge.curved = TRUE
)
dev.off()
```