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ORIGINAL ARTICLE

Tendency of older adults to leave big cities in the COVID-19 pandemic: A qualitative regional analysis in Turkey

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Abstract

This study investigates how territorial and age group disparities in implementing COVID-19 measures in Turkey triggered some of the older adults living in those regions to move to rural settlements and small towns. The direction of this mobility was from urbanized regions to rural regions. Data is collected from 201 older adult participants nationwide through longitudinal qualitative research. A combination of purposive and snowball sampling techniques was used to form the sampling of the research. Chi-squared test was applied to the collected data and significant correlation values are found between the age groups and the main motives for them leaving the big cities. Findings show that this mobility caused unexpected problems for older adults and contributed to the spread of the virus, but represents a counter-urbanization tendency in Turkey.

KEYWORDS
65+ population, ageing, COVID-19, COVID-19 related counter-urbanization, place changing, Turkey

JEL CLASSIFICATION
J11, J114, O15

1 | INTRODUCTION

Since the first days of the COVID-19 outbreak, older adults were identified as one of the groups most vulnerable to the effects of SARS-CoV-2 disease. In the first reports, the World Health Organization (WHO) warned about the possibility of severe course of disease and higher death rates among them (WHO, 2020). The Centers for Disease

Control and Prevention (CDC) similarly identified that older adults are under greater risk of requiring hospitalization or of dying if diagnosed with COVID-19, and underlined that those risks increase with age (CDC, 2020). When the first medical data began to be reported, death rates and the terrible course of the disease were shocking: it was, for instance, underlined that care home residents in five European countries accounted for between 42% and 57% of all deaths related to COVID-19 (Comas-Herrera & Zalakin, 2020).

Following studies draw deeper attention to the age-related risks, and present the unbearable difficulties and challenges that older adults have been facing during the illness, quarantine and isolation periods in various countries (Armitage & Nellums, 2020; Gyasi, 2020; Radwan et al., 2021). Armitage and Nellums (2020), for instance, show that the attempts of the governments to 'shield the over-70s, and thereby protect over-burdened health systems, comes as worldwide countries enforce lockdowns, curfews, and social isolation to mitigate the spread of' the disease (p. e256). According to them, those measures, especially isolation 'among older adults is a serious public health concern because of their heightened risk of cardiovascular, autoimmune, neuro-cognitive, and mental health problems' (Armitage & Nellums, 2020, p e256). Many other researchers, such as Gyasi (2020) and Radwan et al. (2021) also draw attention to the side-effects of isolation on older adults.

However, the majority of governments worldwide tended to apply isolation measures to their older adult population. The national policies in Turkey also attempted to protect them by isolation measures, but the strictness of those measures varied regionally. The official announcement of the first COVID-19 case in Turkey was on 11 March, and the national authorities declared certain measures, such as school suspensions and the limitation of daily mobility for the 65+ population. However, in the Greater Municipality Provinces wherein the total amount and density of population is high, strict isolation and continuous curfews were applied for older adults. This regional disparity in Turkey triggered some older adults living in the big cities of the Greater Municipality Regions to change their location to various destinations, including the rural regions of the country.

This study investigates how territorial and age group disparities in implementing COVID-19 measures in Turkey triggered some older adults living in those regions to move to rural settlements and small towns. The direction of this mobility was from urbanized regions such as Istanbul, Ankara and Izmir Provinces, wherein Turkey's healthcare investments were mostly intensified historically, to small settlements and even villages of rural regions, wherein the healthcare service capacities were limited. Following this occurrence, this research aims to qualitatively analyse the tendency of the 65+ population to leave big cities during the COVID-19 pandemic to go to various destinations throughout the country, in relation to their main motives for changing locations, the destinations and the characteristics of these destinations they preferred to live in during the pandemic, and the changing daily routines of their lives. The length of their stay in those destinations, and their tendency either to return or to stay longer were also analysed. This study also analyses regional population ageing in Turkey between 2000 and 2020 on the basis of the Nomenclature of Territorial Units for Statistics (NUTS; from the French *Nomenclature des Unités Territoriales Statistiques*) Level III Regions to provide a geographic insight, especially in terms of the direction and size of this mobility.

2 | BRIEF INSIGHT ON THE INFLUENCES OF ISOLATION MEASURES ON OLDER ADULTS IN DIFFERENT COUNTRIES

Today it is very well known that majority of governments and public health authorities suggested and implemented social isolation measures during the first waves of the COVID-19 pandemic to protect both their older adult populations from infection risks and their healthcare systems from over-burdening problems. Right after isolation measures went through in many countries, isolating older adults became a public health concern worldwide. Reports released in the early period of isolating older adults warned that the measure was needed to mitigate the mental and physical health status of this population, and older adults would face additional risks in relation to the strictness and length of the measures (Armitage & Nellums, 2020). Siew et al. (2021) show, for instance, in Singapore, strict lockdown measures were implemented for older adults, and anxiety levels of older adults under isolation increased.

Similarly, Markotegi et al. (2021) emphasize the strictness of mandatory home lockdown for older adults in Spain and indicated that restricted physical activity of older adults during the isolation period negatively affected both their physical and mental health. Cipolletta and Gris (2021) also convey similar consequences in Italy wherein one of the strictest COVID-19 measures of isolation was implemented in the European region.

However, there are also studies which state that the isolation measures also influence older adults in financial terms. Srifuengfung et al. (2021) state that financial consequences of the isolation measures implemented in Thailand were much more severe than the health problems which the older adults faced. Numerous studies conducted and published recently focus on the influences of isolation measures on older adults under various circumstances in different countries. However, most of them seem to have a lack of consideration on spatial, locational and territorial bases. Various recent experiences of isolating older adults in different countries shed light on the fact that territorial disparities in implementing isolation measures seem to have been one of the basic factors regarding how older adults were affected differently by those measures. Since border closures and international travel restrictions were the first measures almost all countries applied in the first stages, a research path to compare how a particular sampling group of older adults reacted to different levels of strictness of isolation measures seem to have been closed. In Turkey, however, isolation measures were implemented differently on a territorial basis, namely in the NUTS Level III Regions.

2.1 | A brief summary of COVID-19 limitations and measures and the 65+ population in Turkey

In Turkey, the first national COVID-19 precautions went through on 22 January and commercial flights between Wuhan and Istanbul were cancelled right after the National Scientific Advisory Committee (NSAC) was established to guide national policies on 10 January. Until the announcement of the first infection case on 11 March, precautions were focused on international travel restrictions and national measures were mostly advisory in nature, but strict limitations began to be implemented right after the first official case. In the second week of March, functions of education institutions were suspended and online education began nationwide. Right after those measures, all public events were restricted and places such as movie theatres, concert halls, cafes, etc. were closed.

On 21 March, the first limitations directly targeting the 65+ population went through. The Ministry of Interior (MoI) imposed a curfew for this population and established 'Fidelity Social Support Teams' to provide the basic needs of those older adults under curfew in the Greater Municipality Regions (Circular on Curfew of 65+ Citizens, MoI, 2020). Thus, strict lockdown measures targeting older adults in the Greater Municipality Provinces began on the third week of March 2020 and lasted more than 3 months, until the first week of June 2020. National authorities published numerous circulars one after another to gradually tighten isolation and lockdown measures, especially in those provinces. Table 1 summarizes the measures and presents their strictness.

The mobilization of the 65+ population from the Greater Municipality Provinces to rural settlements started at the beginning of this period when travel restrictions had not already gone through. However, intercity travels were restricted on 27 March, and until the end of the first week of April 2020, intercity travel by intercity coaches for the 65+ population was completely banned by the government. Nevertheless, they applied certain exceptions, especially for the older population who lived in the Greater Municipalities in the wintertime but temporarily went to their rural settlements for the beginning of the harvest season. With the help of those exceptions, a mass mobilization of older adults began from the Greater Municipalities both to rural settlements and to summer tourism destinations where their secondary summer houses were located. This mobilization rapidly became the second main national agenda in this period after COVID-19-related news. Never before in the history of Turkey had there been such a mass movement of older adults from the Greater Municipality Provinces to rural settlements, though the quantitative data has not yet been released by the national authorities.

TABLE 1 Gradual striction and loosening of main restrictions – I: From the beginning to the 'new normal'

11 March – the first official case of COVID-19 infection in Turkey	21 March – the first restrictions concerning the 65+ population	27 March – restrictions on intercity travels	2 April – first provincial data released and declaration of higher mortality rates of 65+ population	3 April – travel restrictions in greater municipalities	11 April – weekend curfews in greater municipalities/ the release of the 'life fits into home' Mobile application by the MoH	18 April – travel restrictions extended for another 15 days in greater municipalities	21 April – first 4-day-long holiday curfew in greater municipalities	28 April – second 4-day-long holiday curfew in greater municipalities

Source: Arranged from: 02 April 2020 Press Release of the Ministry of Health; Circular on Curfew of 65 and elderly Citizens, Ministry of Interior of the Republic of Turkey, 2020; Circular on Intercity entrance and exit restrictions and age restrictions in the Greater Municipalities and the Province of Zonguldak, Ministry of Interior of the Republic of Turkey, 2020; Circular on intercity mass transportation, Ministry of Interior of the Republic of Turkey, 2020; Presidential Press Relief on "the route map to return to normal life" 2020.

TABLE 1 (Continued)

4 May – declaration of gradual return to 'new' normal life/declaration of cessation of restrictions in seven greater municipalities	6 May – curfew exceptions for 65+ population and permission for going out during specific hours	12 May – weekend curfew in 15 of the greater municipalities and declaration of cessation of restrictions in 9 more greater municipalities	May 19 – declaration of 5-day-long holiday curfew nationwide	20 May – mandatory usage of individual 'HES codes' which are produced by the Mobile 'Life Fits into Home' application in mass transportation	29 May – curfew exceptions for 65+ population and the permission for going out during specific hours extended	31 May – end of travel restrictions in greater municipalities	9 June – end of curfew for 65+ population

Source: Arranged from: 02 April 2020 Press Release of the Ministry of Health; Circular on Curfew of 65 and elderly Citizens, Ministry of Interior of the Republic of Turkey, 2020; Circular on Intercity entrance and exit restrictions and age restrictions in the Greater Municipalities and the Province of Zonguldak, Ministry of Interior of the Republic of Turkey, 2020; Circular on intercity mass transportation, Ministry of Interior of the Republic of Turkey, 2020; Presidential Press Relief on "the route map to return to normal life" 2020.

In this period, news about village quarantines owing to the arrivals from Greater Municipalities began to increase (e.g. Anadolu Agency, 2020a). According to the national news channels, the first cases in quarantined villages arrived from Istanbul [BBC Turkish, (a), 2020]. On 20 May, all 65+ citizens were allowed to travel under certain restrictions and travel control of the MoI, but mandatorily required to stay at least 1 month in their destination [Deutsche Welle Turkish, (a), 2020]. After travel permissions, many of the intercity bus terminals, especially the ones in the Greater Municipalities, witnessed the overcrowding of older adult citizens [Anadolu Agency, (b), 2020b; CNN Turk News Portal, 2020].

The curfew for 65+ citizens in the Greater Municipality Provinces ended on 9 June, and the period between the first week of June and the last week of August 2020 represents the 'new normal times' in Turkey, officially called the 'Controlled Social Life'. However, on 19 August, a new circular was released which allowed the Provincial Health Boards to limit the mobility of 65+ citizens in the provinces where the total number of active cases tended to increase. This date represents the beginning of the second period of limitations which, again, primarily and intensely targeted older adults in Turkey, and the strictness of them gradually increased, as presented in Table 2.

Beginning from the second week of August 2020, national authorities elevated the intensity of their warnings about the increasing number of active cases, especially in the Greater Municipality Provinces, and intensive care units' over-burdening problems, especially in the destinations where mainly older adults had moved. The strict measures targeting older adults went through in the Greater Municipalities again. This territorial disparity in implementing the isolation measures thus made the older adults who had moved to the rural regions postpone their return to the Greater Municipality Provinces at that time. However, when the National COVID-19 Vaccination Schedule began to be prepared, and the Ministry of Health (MoH) declared that local primary healthcare centres would be responsible for vaccination implementations, especially for 65+ citizens, many older adults tended to return back to their usual places of residence, where they were registered at their local primary healthcare centres.

Even though the quantitative data of older adults' mobility from the Greater Municipality Provinces to other regions has not been released, it is possible to provide an insight to the intensity of it through a brief NUTS Level III Provinces-based population-ageing analysis of Turkey. According to 2019 census data, while total population of the country was 83,154,997; population of 65+ groups was 7,550,727, which corresponds to 9.08% nationally. When compared with many countries in the developed world, this rate, may not seem to be significantly high at first. However, the increase in the rate of the 65+ population in the last two decades has been dramatic, and the population of this group almost doubled in this period. Table 3 presents the increase in the rate of the 65+ population in Turkey between 2000 and 2019.

Both the total and the 65+ group's population change rates vary regionally, but older adult population has increased in every region, even in the ones wherein the total population has declined. There are 81 NUTS Level III Regions that are provinces in Turkey, and in 23 of them, the 65+ age groups' population has increased more than 100%. The number of provinces in which the 65+ age groups' population has increased more than 50% is 67, including the 23 provinces mentioned before. Figure 1 and Figure 2 show a NUTS Level III Regions-based regional comparison of population change trajectory of 65+ groups in Turkey between 2000 and 2019.

While a higher increase in rates in the urban 65+ population were observed in the Greater Municipality Provinces, rural ageing has already become a challenging demographic change tendency in other regions (Hovardaoğlu, 2021). Therefore, the tendency of the older adults to move from urbanized regions to rural regions in Turkey during the pandemic also represents a mobilization of them from where the older adult population was mostly concentrated to where the social and technical infrastructural problems related to population ageing have already become a challenging burden for the local administrative authorities.

TABLE 2 Gradual restriction period – II: From the end of 'new normal' to mid-January 2021

19 August – provincial health boards allowed to limit 65+ citizens mobilities	25 August – restrictions concerning engagement, wedding and related ceremonies nationwide	8 September – restrictions concerning urban mass transportation, mandatory mask wearing in all public places	2 October – settlement quarantines in provinces, additional allowance to provincial health boards for further limitations	3 November – limiting the working hours of urban services	11 November – stricter restrictions for 65+ citizens nationwide and allowance to the provincial health boards to determine stricter measures in case of increasing cases, or loosening the limitations in case of decreasing cases

Source: Arranged from: Covid-19 Pandemic Management and Working Guide of the Ministry of Health of the Republic of Turkey, 2020; News about the Circular on allowing the Provincial Health Councils to limit the time periods of 65+ citizens, 2020; Circular on restrictions about wedding, engagement and related ceremonies, Ministry of Interior of the Republic of Turkey, 2020; Circular on arranging the working hours of restaurants, diners, cafes, etc. Ministry of Interior of the Republic of Turkey, 2020.

TABLE 2 (Continued)

18 November – second curfew for 65 + citizens except in the hours between 10:00 and 13:00	1 December – National Vaccination Strategies begun to be prepared and weekend curfews restarted	8 December – circular for the province governors to leadership about the COVID-19 vaccination	15 January 2021 – National COVID-19 vaccination schedule was released

Source: Arranged from: Covid-19 Pandemic Management and Working Guide of the Ministry of Health of the Republic of Turkey, 2020; News about the Circular on allowing the Provincial Health Councils to limit the time periods of 65+ citizens, 2020; Circular on restrictions about wedding, engagement and related ceremonies, Ministry of Interior of the Republic of Turkey, 2020; Circular on arranging the working hours of restaurants, diners, cafes, etc. Ministry of Interior of the Republic of Turkey, 2020.

TABLE 3 Comparison of the increase of rates of 65+ and total population at national level in Turkey between 2000 and 2019 (per cent)

Population change rates	2000–2010	2010–2019	2000–2019
65+ population	37.23%	41.73%	94.49%
Total population	8.73%	12.79%	22.64%

Source: Organized by the authors from TURKSTAT Census data of 2000, 2010 and 2019.

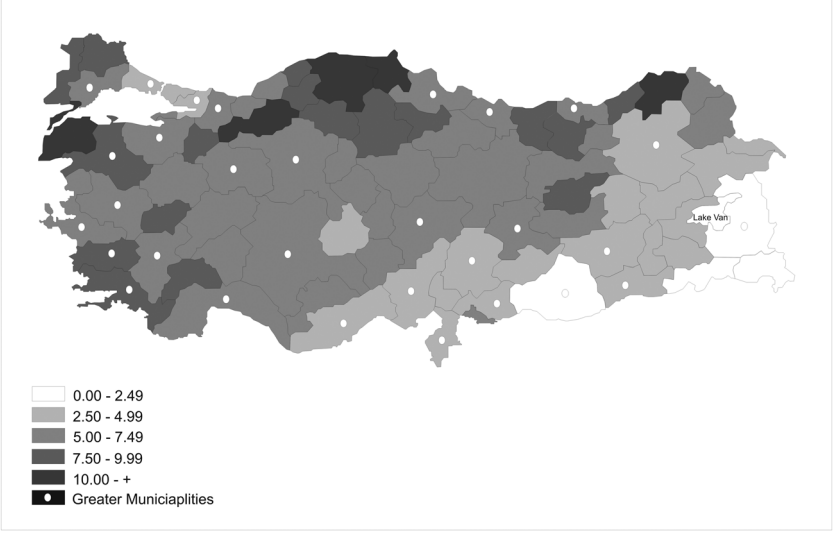

FIGURE 1 Rate of the population of 65+ age groups in total population in Turkey (%) (2000) (NUTS Level III provinces)

3 | METHODS AND DATA SOURCES

This study adopted multi-methods to answer its research questions. The methods employed in the study include secondary data and structured interviews conducted with key informants. Secondary data include public mandates regarding COVID-19 limitations and social isolation measures issued both by the Presidency of the Republic of Turkey and the Ministry of Internal Affairs, NSAC recommendations, the Turkish Statistical Institute (TURKSTAT) census, and population data of 65+ age groups on the basis of provinces that are classified as NUTS Level III Regions, and the news concerning temporary location change experiences of 65+ age groups from national and local news sources. Any quantitative data regarding this mobility has never been transparently released by the authorities and kept inaccessible. Owing to this fact, we are indispensably obliged to use the biggest and most well-known national and local news sources to provide insight to national and regional size, prevalence, and direction of this mobility nationwide.

3.1 | Study context

There are 81 provinces in Turkey which are officially classified as NUTS Level III Regions, and all the central settlements of those provinces are urban areas in various scales, ranging from small compact cities to greater metropolitan

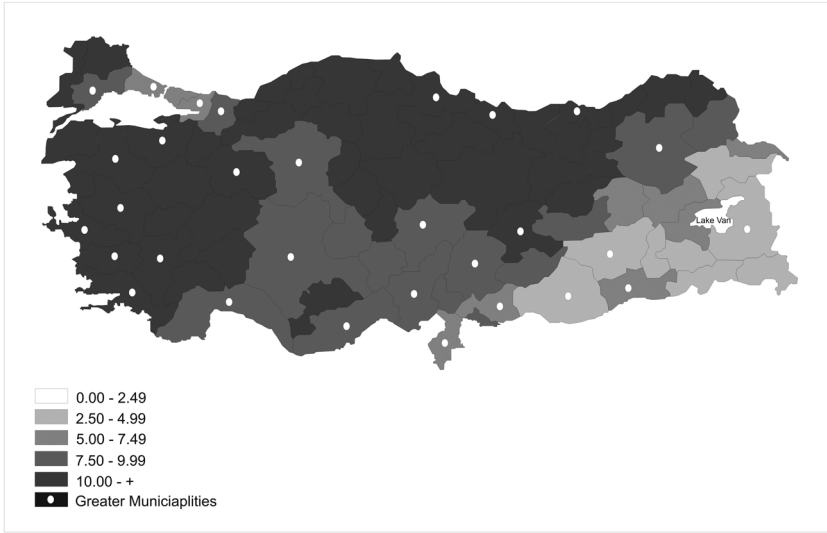

FIGURE 2 Rate of the population of 65+ age groups in total population in Turkey (%) (2019) (NUTS Level III provinces)

FIGURE 3 Greater Municipality Provinces and the Province of Zonguldak in Turkey

areas. After the enactment of the Greater Municipality Law number 6360, which came into force in 2012, the Greater Municipality borders of 30 cities were extended to provincial borders, and those 30 provinces were officially classified as Greater Municipalities in Turkey (Greater Municipality Law number 6360, 2021). According to 2019 census data from TURKSTAT, the population of them changed from approximately 750,000 to 15,500,000 inhabitants, and approximately 80% of the national population live in those provinces. These Greater Municipalities as well as the Province of Zonguldak, owing to the dominance of the coal mining sector in this province, were the focal point of all COVID-19 limitations and social isolation measures. Figure 3 shows the locations of these provinces and the Province of Zonguldak in Turkey.

When the first COVID-19 limitations and isolation measures, which targeted the 65 + population, went through in the earliest days of the pandemic in Turkey, some of this population living in the Greater Municipalities changed their place of residence and moved from those urban areas to different locations in Turkey. This tendency has continued even in times of quarantine, and increasingly, in 'new normal' times. We focus on this 65+ population, and their main motives for changing their place of residence, characteristics of the various destinations they have chosen to live during the times of limitation and quarantine, the length of their stay in those destinations, and their tendency either to return or to stay longer were comparatively analysed.

We also analysed the population-ageing trajectories of Turkey on the basis of the NUTS Level III Provinces as shown in the previous section. Ageing has recently begun to be identified as a national demographic structure problem in Turkey, and most importantly, all of the provinces in Turkey face the problem of population ageing in various degrees. We analysed the changing rates of the 65+ population within the total population from the TURKSTAT census data for 81 provinces in a two-decade-long period between 2000 and 2019. Census data from 2020 was decided to be excluded to form the province-based geographical distribution of population ageing in Turkey before the COVID-19 pandemic. This analysis reveals significant connections between urban-to-rural migration and place-changing tendencies of older adults. Most of the urban areas in these Greater Municipalities experienced rapid population increases in the period between the mid-1950s and the mid-1990s, owing mostly to the migration of the masses from rural areas from all over the country. In fact, some of the 65+ population, who temporarily changed their place of residence and moved from the Greater Municipalities, once had been the young rural-to-urban migrants of this period between the mid-1950s and the mid-1990s.

3.2 | Methods

Primary data were collected through a longitudinal and two-phased study covering a period of 14 months between June 2020 and July 2021. To collect data from older adults, a combination of purposive and snowball sampling techniques was used. In purposive sampling, Schutt (2006) identifies that 'the selection process involves identifying themes, concepts and indicators through observation and reflection' (p. 348). The identifying theme of this research for purposive sampling was defined as the 65+ population who lives in the Greater Municipalities but tended to temporarily change their place of residence, and moved from these municipalities to different locations in Turkey during the times of the COVID-19 pandemic. Owing to this identifying theme, we excluded the younger population and other 65+ populations who did not live in the Greater Municipalities and who did not change their place of residence.

The first phase consisted of seven steps, including one starting stage and six snowball stages. In this phase, we reached out to 1,437 older adults nationwide and completed 201 structured interviews with participants who moved from urbanized regions. This phase was started in the first week of June 2020 when the strictest measures ended, and completed in the last week of November 2020, when the first official news about the national vaccination program was announced. This phase began with the starting step of the snowball sampling. The main challenge in this first step was to find this older adult population who tended to temporarily change their place of residence. In April and May 2020, intercity mobilizations from and to the Greater Municipality Provinces were restricted and people could only travel with express permission. Even after July 2020, during the 'new normal' times, intercity mobilization by mass transportation systems required a code produced by the 'Life Fits into Home' application released by the MoH (Life Fits into Home Application of the Ministry of Health, 2020). Every passenger was asked to have this code when they had to use mass intercity transportation systems. Moreover, the 65+ population was asked to have this code even when travelling by car or other transportation options. However, these data have not yet been released by the national authorities.

The large majority of intercity passenger transportation in Turkey is by intercity buses operated by private travel firms. Those firms were also not allowed to share their passenger data. However, the intercity bus terminals,

especially in the Greater Municipalities, are the places where passengers can most easily be found. With regard to this fact, we decided to form the starting point of the snowball sampling in the two largest intercity bus terminals of Turkey, which were the bus terminals of the City of Istanbul and the City of Ankara.

However, in the period between the last week of March 2020 and the first week of June 2020, intercity travel by intercity buses was mostly restricted. In this period, the intercity bus terminals were only open for the passengers who were issued a travel permission by the Province Administrations. Intercity travel restrictions were loosened, and travel permission requirements and travel bans for older adults were lifted in the first week of June 2020. After the national intercity passenger flows normalized, intercity bus terminals became the main nodes of those flows again. We began to collect data after the national intercity passenger flows normalized and between the first week of June 2020 and last week of September 2020, and we went to the intercity bus terminals of the City of Istanbul and the City of Ankara – both departures and arrivals– and asked potential older adult respondents in person whether they would consent to give their telephone numbers to participate in the research. We only introduced ourselves, gave a few sentences of information regarding the aim of the research and asked whether they would consent to give their telephone numbers to participate. Within this time period, 384 respondents consented to participate and gave their communication information. However, only 61 of them actually completed the interviews when we called them. Since the COVID-19 infection risk was high both for the respondents and the researchers, all the interviews were conducted via telephone calls. Table 4 presents the respondent details of this starting step.

While forming the starting step, we simultaneously began to conduct the interviews by telephone, and at the end of every interview, we asked the participants whether they knew and consented to give telephone numbers of other people they knew who lived in the Greater Municipalities but tended to temporarily change their place of residence and moved from these municipalities to different locations in Turkey. The steps of snowball sampling were formed by the responses of the participants to this question. We also texted a message by short message service (SMS) before we called the respondents whose telephone numbers were provided by the participants. In the SMS, we informed them from whom we got their telephone number, and briefly introduced ourselves and the aim of the study and asked their consent to participate in the research. Table 5 presents the respondent details of the snowball steps. The data collection of the first phase was completed within six snowball steps and in the last week of November 2020, when the first official news about the national vaccination program was announced. In this first phase, 14 participants who had moved to their children's homes were excluded since they moved from one Greater Municipality Province to another.

The second phase was started in the last week of June 2021, when a third dose of the vaccination was starting to be given to older adults, and ended in the last week of July 2021, when 170 interviews were completed with the same participants of the first phase. The number of interviews dropped, since some of the participants did not complete the second phase and, unfortunately, some of them passed away.

TABLE 4 Respondent details of the starting point of snowball sampling

	Ankara intercity bus terminal	İstanbul intercity bus terminal	Total
Number of people who consented to give communication information	181	203	384
Number of respondents who completed the interviews via *telephone call*	**36**	**25**	**61**
Number of people who did not respond to the telephone call/ whose telephone was not accessible	23	19	42
Number of people who consented to give communication information first, but changed their minds and refused to complete the interviews when they were called	122	159	281

TABLE 5 Respondent details of the snowball sampling steps

	Starting step	Snowball steps						
Total number of telephone numbers acquired	**384**							
Number of non-respondents	**323**							
Number of participants	**61**							
		First step	**Second step**	**Third step**	**Fourth step**	**Fifth step**	**Sixth step**	**Total**
Total number of telephone numbers acquired from the participants of the former step		342	271	191	106	87	56	1,437
Number of non-respondents		293	235	164	91	77	53	1,236
Number of participants		49	36	27	15	10	3	201

All the interviews were conducted by the authors via telephone calls and lasted between 20 and 45 min. The ones conducted with the participants whose telephone numbers were acquired from other participants lasted longer, simply because of the necessary introductory information. Those interviews consisted of four main parts. The first part focused on the general information regarding the participants, including age, education and occupation and/or profession. The second part obtained information about place of residence and any changes, including the main motives and time of place changing, the length of stay and the type of transportation they used to change their place of residence. The third part focused on the daily life of the participants in the destination place, investigating how the daily routines of life had been influenced both by the pandemic and the decision to change place. The final part explored the participants' return information, including the motives and time (or planned time) of return. Finally, the chi-squared test was applied as a method for calculating the correlation values in frequency distributions, and to explain whether the correlations between the examined variables were significant.

4 | FINDINGS AND DISCUSSIONS

4.1 | General findings

In the first place, it is necessary to present the participants' departure from the Greater Municipality urban areas. Figure 4 shows the participants' distribution in the Greater Municipality Provinces, and the basic demographic characteristics of the participants are presented in Table 6.

The Regional Development Department of the Ministry of Industry and Technology of Turkey prepares temporal reports for socio-economic development levels and rankings of NUTS Level III Provinces in Turkey. The last report was prepared and released in 2017 (Ministry of Industry and Technology of Turkey, Socio-Economic Development Rankings of the Provinces in Turkey, 2017). The rankings of provinces in Turkey are calculated on the basis of eight main variables, including in turn, demographics, employment, education, health services, competitiveness and innovative capacity, financial, accessibility, and quality of life variables. In this report, 81 provinces are classified under six socio-economic development levels, and the higher rankings of the provinces in this report represent a higher level of socio-economic development. Table 7 presents both the socio-economic development levels of the provinces of Turkey and the distribution of the participants in those provinces on the basis of their departure settlements. A total

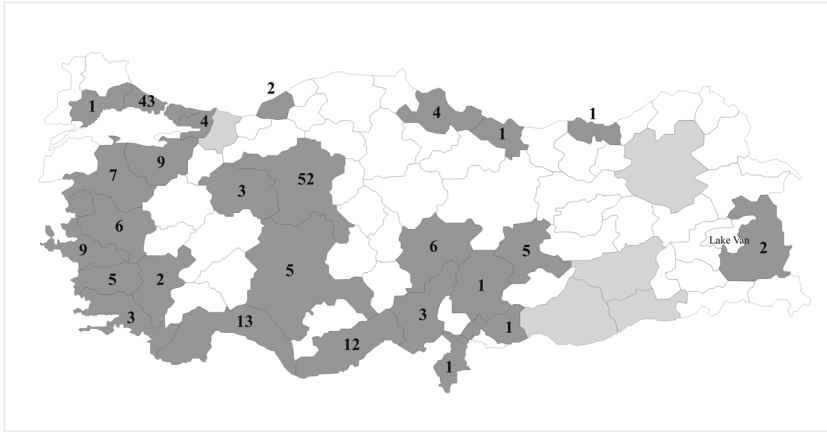

FIGURE 4 Distribution of the participants in the Greater Municipality Provinces

TABLE 6 Basic demographic characteristics of the participants

	Age groups (years)					
Education	**65–69**	**70–74**	**75–79**	**80–84**	**85+**	**Total**
Primary school	10	6	8	11	8	**43**
Secondary school	13	7	6	2	1	**29**
High school	38	31	10	2	3	**84**
Higher education	25	16	2	2	0	**45**
Total	**86**	**60**	**26**	**17**	**12**	**201**

of 68.16% of our participants' departure points were located in the central urban areas of the nine most developed provinces of Turkey.

When the participants' first dates of travel to the destination settlements were investigated, results show that 23% of them decided to move from the Greater Municipality Provinces in March 2020, either just before the announcement of the stricter measures targeting older adults or just after those measures had gone through. In addition, 55% of the participants moved to the rural regions in the following 2 months, in April and especially in the first week of May, when the measures became stricter. Therefore, a total of 78% of the participants got themselves out of the Greater Municipality Provinces before the measures were loosened. Table 8 presents the participants' first date of travel to the destination on the basis of age groups.

When the destination settlements were investigated, results show that 45% of the participants moved to their homeland rural settlements where they once had migrated from, but still had property ownership and familial relations. In addition, 37% of them moved to their secondary summer homes which were located in or around traditional domestic tourism destinations. The rest of the participants moved either to their children's or relatives' homes. Table 9 presents the distribution of the participants in the destination settlements on the basis of age groups and Figure 5 shows those settlements in Turkey on the basis of NUTS Level III Provinces.

Chi-squared test was applied to investigate if there were correlations between the destination settlements and age groups. Calculated chi-squared test score was 64.83, and this score is significant for $\alpha = 0.05$. For this chi-squared test score, the correlation between the destination settlements and age groups is found at $r = 0.57$, and this

TABLE 7 Socio-economic development levels and rankings of the provinces in Turkey and the distribution of the participants in the provinces

Socio-economic development level	Provinces classified in this level (*/**)	Total number of participants	Rate of participants (%)
I	*İstanbul/ Ankara /İzmir /Kocaeli/Antalya /Bursa /Eskişehir/ Muğla/Tekirdağ*	137	68.16
II	*Denizli /Sakarya* /Yalova / Bolu/ *Konya /Aydın*/Isparta / *Kayseri* / Kırklareli/ Bilecik /Çanakkale /Edirne/Karabük/*Manisa/ Balıkesir*	31	15.42
III	*Mersin /Trabzon /Adana*/Zonguldak /Uşak/*Gaziantep/Samsun* /Burdur/ Kırıkkale /Düzce/ Karaman/Rize/Kütahya	23	11.44
IV	Amasya /*Hatay*/Nevşehir / Afyonkarahisar / Elazığ/ Kırşehir/ *Malatya*/Sivas/Bartın /Erzincan /Kastamonu/ Artvin/Çorum/ Aksaray	6	2.98
V	Sinop/ Giresun/ Osmaniye /Çankırı/ Tokat /Niğde / *Kahramanmaraş*/Tunceli/*Ordu*/Erzurum/Kilis/Yozgat/ Gümüşhane/Bayburt	2	1.00
VI	Adıyaman / Ardahan /*Diyarbakır* /Kars /Iğdır/ Bingöl/ batman / *Şanlıurfa/ Mardin* /Siirt/Bitlis/*Van*/Hakkari/Muş/Ağrı/Şırnak	2	1.00
Total		201	100

Source for the Socio-Economic Development Levels and Rankings of the Provinces: Socio-Economic Development Rankings of the Provinces in Turkey. https://www.sanayi.gov.tr/merkez-birimi/b94224510b7b/sege/il-sege-raporlari
*Greater Municipalities are written in *italics*. All the participants were from the Greater Municipality Provinces.
**Provinces are written in accordance with the provincial rankings.

TABLE 8 Participants' first date of travel to the destinations in relation to age groups

	Age groups (years)					
First date of travel to the destination	65–69	70–74	75–79	80–84	85+	Total
March	19	9	6	6	7	**47**
April	32	17	6	6	3	**64**
May	19	15	7	3	2	**46**
June	16	19	7	2	0	**44**
July	0	0	0	0	0	**0**
August	0	0	0	0	0	**0**
Total	**86**	**60**	**26**	**17**	**12**	**201**

TABLE 9 Distribution of the participants to the destination settlements based on age groups

	Age groups (years)					
Destination	65–69	70–74	75–79	80–84	85+	Total
To homeland rural settlement	44	25	13	5	3	**90**
To summer house	38	27	8	1	0	**74**
To their child's or relatives' house	4	8	5	11	9	**37**
Total	**86**	**60**	**26**	**17**	**12**	**201**

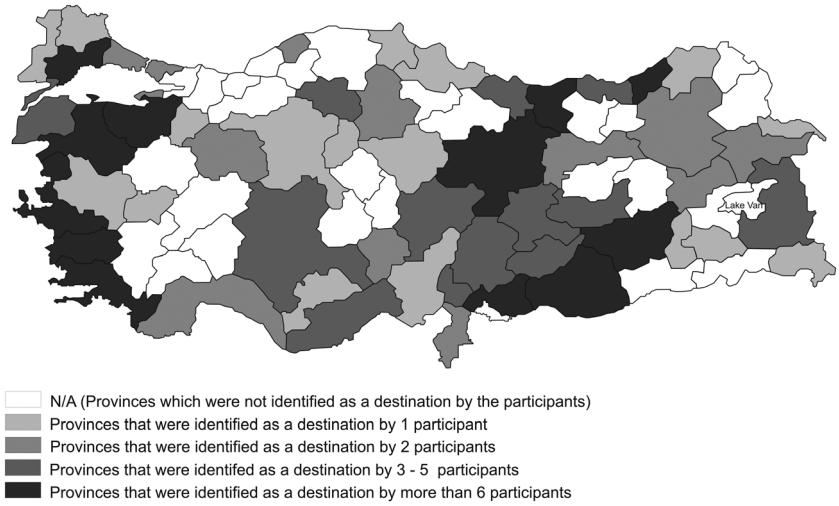

FIGURE 5 Destination provinces of the participants

correlation value is also significant. Significant correlation between the age groups and the destination settlements, and the frequency distribution of the participants to these destinations indicate that, the destination choices of 'younger' and 'older' older adults seem to differ from each other significantly. This finding becomes much more visible with the relationship between the age groups and the participants' main motives to move from the Greater Municipality settlements below.

In the first place, it is necessary to emphasize that none of our participants' destination settlements was located in the central urban areas of the provinces. A total of 158 of our participants (78.61%) moved to the villages located within the borders of those provinces, and 43 of our participants (21.39%) moved to towns located in the centres of districts. Districts are officially classified as NUTS Level IV Local Administrative Units (LAUs) in Turkey, and the spatial administration division of Turkey consists of 81 Level III Provinces which are subdivided into 922 LAUs. All the villages in Turkey are spatial components of those LAUs located within the administrative borders of them. Detailed statistical health care data, such as the number of doctors per 10,000 persons was only available for the LAU level in Turkey, and those data based on villages were not available. Therefore, comparing the destination settlements with the departure urban areas for the whole sampling on the basis of detailed health care capacity data is not possible, but it is possible to provide the study with an 'available health care facility'-based comparison between the departure and destination settlements.

In Turkey, healthcare facilities are officially classified in three stages; primary-, secondary- and third-stage healthcare facilities (Regulation on the Classification of Healthcare Providers, 2022). According to this regulation, primary health care facilities consist of outpatient diagnosis and treatment facilities, including community healthcare units, emergency services, dental clinics, pharmacies, etc.; and inpatient diagnosis, treatment and rehabilitation facilities, including non-branch district hospitals. Secondary health care facilities consist of outpatient and inpatient diagnosis and treatment facilities, including branch hospitals; and third-stage health care facilities consist of inpatient advanced diagnosing and treatment facilities, including university hospitals and state education and research hospitals (Regulation on the Classification of Healthcare Providers, 2022).

To provide more insight about the health care capabilities of the destination settlements, it is necessary to emphasize that 158 of our participants (78.61%) moved to the villages wherein only outpatient diagnosis and treatment facility type primary health care facilities are located, and 43 of our participants (21.39%) moved to towns wherein either non-branch hospital type primary or branch-hospital type secondary health care facilities are located.

All the departure settlements, on the other hand, are the provincial centre urban areas wherein both primary-, secondary-, and third-stage health care facilities are located.

Another important finding was about the mode of transportation the participants used in their first mobilization. Only 13% of the participants used intercity coaches in their first trip to the destination settlements, even though this mode of transportation was mostly used by passenger travel nationwide. It is found that all those participants who travelled by intercity coach moved just before the travel restrictions went through, and intercity travel was restricted on 27 March, and until the end of the first week of April 2020, intercity travel by intercity coaches for the 65-+ population was completely banned by the government. In this period, older adults were not officially allowed to travel by intercity coaches. After the first week of April 2020, the government issued certain exceptions for the intercity travel ban by intercity coach for the 65+ population, but it is found in the research that many of the older adults chose to travel by alternative modes since the government's control over those alternative transportation modes was not as strict as that regarding intercity bus terminals. Some of the intercity travel firms even cancelled their services to some destinations owing to very low levels of travel demand because of the restrictions, and some of our participants informed that they were simply worried about travelling by intercity coach for their first trip to the destination settlements during the pandemic. Therefore, in their first trip to the destination during the times of isolation, the large majority of the participants moved either by their own vehicles or their children's or relatives' cars, or paid shuttles such as rental cars with drivers. When the restrictions loosened and travel bans for older adults were lifted, the large majority of the participants, especially the ones who did not travel by their own cars for the first trip to the destinations, began to use intercity busses again for their following trips. Table 10 presents the modes of first transportation of the participants to the destination on the basis of age groups.

The participants' main motives for leaving the urban settlements they had been living in shed light on why some of them hurried to leave in the first place, and why they moved to certain places. In Table 11, the participants' main motives for changing place of residence are presented.

Chi-squared test was also applied to those findings to investigate if there were correlations between the age groups and the main motives of the participants to move from big cities. Calculated chi-squared test score was 151.33 and this score is significant for $\alpha = 0.05$. For this chi-squared test score, correlation between the age groups and the main motives of the participants is found at $r = 0.46$, and this correlation value is also significant. This significant correlation and the frequency distribution of the responses regarding the main motives show that 'younger' and 'older' older adults decided to move from their Greater Municipality homes for mostly age group-related reasons. For instance, while the participants, who moved to their homeland rural settlements because of the coming harvest season and seasonal agricultural labour bottlenecks, were the 'younger' older adults, while the participants who moved to their children's or relatives' houses, especially for their care needs, were the 'older' older adults.

TABLE 10 Mode of transportation used by the participants to the destination in their first trip

	Age groups (years)					
First mode of transportation to the destination	**65–69**	**70–74**	**75–79**	**80–84**	**85+**	**Total**
By intercity coach*	7	11	6	2	0	26
By own car	52	9	1	0	0	62
By children's car	7	22	8	11	4	52
By a relative's car	6	1	0	0	2	9
By neighbour's help	2	1	1	0	1	5
By paid shuttle (such as cab rental with driver)	11	16	10	4	5	46
Other	1	0	0	0	0	1
Total	***86***	***60***	***26***	***17***	***12***	***201***

TABLE 11 Main motives of the participants to move from the greater municipality provinces to rural regions

	Age groups (years)					
Main motives for changing place of residence*	**65–69**	**70–74**	**75–79**	**80–84**	**85+**	**Total**
Escape from crowds	44	21	12	13	2	92
Escape from high building density of big city	33	24	13	11	8	89
To become more isolated	1	7	3	3	1	15
Worry about/fear of a possible famine	26	24	22	11	9	92
Worry about/fear of loneliness during a possible quarantine	34	32	21	12	11	110
Seeking a more natural and/or a healthier place	38	35	12	5	0	90
Care needs	2	0	2	8	7	19
To be with the family	5	8	5	11	8	37
To take care of grandchildren	17	11	2	2	1	33
Seasonal agricultural labour bottlenecks	31	21	4	1	0	57
Early bird usual routine (including holiday, harvesting, seasonal shopkeepers and managers of small tourism enterprises)	21	18	7	5	0	51
Low income or seeking a cheaper place to live	8	6	5	0	0	19

*Participants were allowed to express more than one reason.

Age group distinctions seem to have been much more distinguishable between the younger and older margins of the older adult age group classifications. It is found that most of the youngest older adult groups moved without hesitation, either to take care of the harvest of their agricultural production in their homeland rural settlements, or to open their seasonal after-retirement jobs early in the settlements where their summer houses are located. Even though most of these participants also indicated other reasons, such as their desire to move away from high population and building density of big urban areas or to spend their time in more natural places, the main determinants of their destination choices were the previously mentioned motives. There were also younger older adult participants who moved to their children's houses to take care of their grandchildren during the school suspension period.

It is also found that older home care services which were purchased by the participants as urban services were replaced by family-based solidarity during the quarantine when those home services were no longer available because of the restrictions. Explanations from an 82-year-old participant from the Province of Ankara, for instance, shed light on those worries:

> I have two children and both of them live with their families in different cities. After my husband passed away, I have been living in my home alone for 9 years. In the beginning, I was able to take care of myself. But for 3 years, owing to my health conditions, a care giver has been living with me during the day times. When this disease popped up, the care giver did not want to come because of the risk of infection. I cannot blame her, she was using the public transportation to come here and taking care of everything including shopping. My neighbour (he was one of the participants and gave the communication information of this lady) advised me to go to my daughter's home and my son-in-law came and took me.

However, some of the motives did not differentiate from each other on the basis of age groups. For instance, the participants' worries about and fears of a possible famine, loneliness, and being left unattended during quarantine are found to be shared by most of the respondents. An 88-year-old participant from the Province of Izmir explained his growing fear of loneliness in relation to TV and social media footage:

> I saw those people on TV who were fighting over a pack of toilet paper, emptied shelves of malls, people trying to stock food all around the world. We live alone in our home with my wife and when we went to the mall, it was crowded and even a bottle of cologne was run short. We decided to move to our son's house. Even though he is living in a different city, we all thought that it would be better to be together with the family.

Similarly, some of the participants who moved to their homeland rural settlements indicated their fears of a possible famine mainly owing to that TV footage. A 67-year-old participant from the Province of Konya gave a valuable comment:

> The government guaranteed that there would be no food shortage in the country, but we decided to move to our village home even though it was an early time. If there was a food shortage in the city, we would at least be able to feed ourselves with our own agricultural production. We also had relatives living in the village who had poultry and farm animals.

It is found that social media and TV footage of quarantine times in other countries influenced them and seemed to have fed certain fears not only about getting infected, but also regarding the deprivation of basic needs. Results from the second phase of the interviews, however, show that the participants faced and experienced unanticipated problems in the destination they moved to. It is important to underline that all the participants have now returned back to their usual homes in the Greater Municipality Provinces at least once for various reasons. The first reason most of them identified was their rush when they were first leaving. They decided to move so suddenly and immediately that most of them did not find enough time to bring many of their basic needs, such as spare clothes and even their medication.

In the second phase, data was collected from 170 participants who responded in the first phase, and 151 of them expressed that they moved again to their destinations after returning to their urban homes and preparing properly. Nineteen of them highlighted that their living conditions were seriously worsened due mostly to lack or overcrowding of local health facilities since they have permanent care needs, and also due to wrongful and/or bad treatment in the destination place. All of the 151 participants, on the other hand, stated that they faced unexpected problems in the destination settlements. Yet they still decided to move back to those rural settlements and emphasized that they prefer to deal with those problems rather than be trapped by the lockdown. A total of 108 of the participants openly expressed their intention to go back their homes, while 43 of them expressed their intention to stay in the destination settlements. However, 61 of those 108 participants also stated that they would like to stay if the local conditions, such as the social infrastructure and health care capacities, were adequate. Table 12 presents the main challenges that the participants faced in their destination settlements.

Chi-squared test was also applied to those findings to investigate if there were correlations between the age groups and the main challenges that the participants faced. Calculated chi-squared test score was 482.09, and this score is significant for $\alpha = 0.05$. For this chi-squared test score, correlation between the age groups and the main challenges that the participants faced is found at $r = 0.75$ and this correlation value is also significant. This significant correlation indicates that, similar to the main motives, the challenges that the participants faced in the destination settlements differ from each other on the basis of age groups, which also seem to have been much more distinguishable between the younger and older margins of the age group classifications. In addition, those challenges seem to be related to what extent the participants' main motives to leave the big cities were satisfied.

Basically, the 'younger' older adult groups expressed their complaints about the inadequacy and overcrowding of basic facility and services they used to access much easily in the urban settlements, or the challenges concerning working hard physically. Age-group-based differentiations became much more visible in terms of basic maintenance of daily life routines, such as lack of or overcrowding of health facilities, pharmacies, delivery services or even the groceries and shops. However, the challenges that the 'older' older adults faced seem to have been much more complicated and sentimental. Feelings of shame due to their care needs and feeling useless were the most intense

TABLE 12 Main challenges that the participants faced in the destination settlements

Main challenges they face in the destination*	Age groups (years)					
	65–69	70–74	75–79	80–84	85+	Total
Lack of health facilities	38	11	8	2	2	61
Lack of pharmacies and challenges to get their routine medication	33	29	2	3	4	71
Lack of access to market, shops, etc.	28	1	4	1	0	34
Being outside of the coverage area of the national cargo facilities network	56	4	2	0	0	62
Lack of maintenance services	31	9	0	0	0	40
Being tired of working owing to seasonal agricultural labour bottlenecks	44	5	1	0	0	50
Health facility overcrowding	26	18	2	1	0	47
Pharmacy overcrowding	41	25	2	1	0	69
Market overcrowding	29	20	2	1	0	52
Overcrowding of municipal services	17	6	0	0	0	23
Overcrowding of cargo services and long waiting times for delivery	24	5	0	0	0	29
Overcrowded maintenance services	26	9	0	0	0	35
Loneliness	8	16	14	11	8	57
Boredom of being isolated from their ordinary daily routines	29	33	2	1	0	65
Inappropriate physical conditions of the house	28	10	0	0	0	38
House overcrowding	4	1	1	3	4	13
Falling into the centre of family fights	2	4	2	2	1	11
Shame to be in need of care	0	1	1	0	2	4
Feeling useless	0	1	1	6	2	10
Getting infected because of the family members	8	11	3	2	1	25
New health problems due to isolation	35	27	0	0	0	62
Wrongful or bad treatment	1	1	1	2	1	6

*Participants were allowed to express more than one reason.

challenges. Moreover, a large majority of 'older' older adult participants indicated that their daily life quality dropped considerably because of the house being overcrowded.

However, it is important to emphasize that the number of participants of the 'older' older adult groups in the second phase decreased dramatically. In the first phase, there were 29 participants who were aged above 80, but this number dropped to 10 in the second phase. Twenty-two of our participants unfortunately passed away between the first and second phases of the interviews, and 14 of them were aged above 80. Owing to the sentimental intensity of the situation, we did not ask their children any further questions for ethical reasons.

5 | CONCLUSION

The COVID-19 pandemic triggered many of the older adults who have been living in big cities to change their place of residence to certain destinations which were eventually determined by the social, psychological and health care-

related consequences of this pandemic. It is found that the majority of older adults do not consider urban areas, in particular big cities, as reasonably liveable places in pandemic times, even though the accessibility of the central health care services is much higher. Detailed data, such as the number of doctors per 10,000 persons, was only available for district levels which are classified as NUTS Level IV LAUs in Turkey, and the data based on villages were not available. Instead, only the number of primary health care service facilities was available for villages. A total of 44.78% of our participants' destination settlements were classified as 'Homeland Rural Settlements', including villages with at least one or at most three primary health care service facilities. In addition, 36.82% of our participants' destination settlements were classified as 'Summer House' locations, including the settlements which were either equipped with primary and secondary health care facilities or district hospitals, and the participants whose destination settlements were their children's or relatives' houses were almost the same as those with summer house locations. Therefore, all of our participants have experienced a mobilization from the central urban settlements of the Greater Municipality Provinces, where the hospitals that are equipped with various health care services were centralized and intensified, to the settlements where primary or secondary health care facilities were mostly located.

One of the most important characteristics of urban areas for some of the 65+ population seems to be the availability of certain urban services, such as relatively easier access to complex health care services, accessibility to various recreational services and facilities, and the habitual social environment in which their daily routines created. When those daily routines and accessibility options of these older adults were restricted, the main attraction of urban life seems to fade and the 'seasonal' ties of these people with the destinations they moved to in pandemic times seem to gain even more strength.

The findings regarding the tendency or decision of the participants to return back to their urban homes show that most of these people intend to stay longer in those destinations and do not want to go back. However, almost all of the participants also indicated that their periodic health care needs and the challenges concerning lack of urban services in those destinations eventually seem to force them to return. In fact, this necessity is a consequence of urbanization that Turkey has gone through for more than half a century. Urban areas are the centres of almost every substantial service in Turkey, but do not seem to be friendly to older age groups, particularly in pandemic times.

In regard to the responses of the other 'older' and 'younger' older adult groups, and the mortality rate between the first and second phases of the field research, a main tendency regarding older adult reverse migration from urban areas to rural settlements becomes much more visible in Turkey. It becomes identifiable when the age group population changes in the rural areas that were investigated. It is a contemporary fact that rural population is ageing rapidly in Turkey, and the 65+ population is increasing in many of the rural regions even though their total population is dropping, and this is not just a proportional change: the amount of the 65+ population has also been increasing while the population of younger groups has been declining. As underlined in the previous sections, this is one of the main quantitative indicators of older adult migration from urban areas to rural settlements. However, the results of our study indicate that it is mostly the 'younger' older adult age groups, who do not require elderly care services and who seem to be able to take care of themselves, seem to create this reverse mobility. Our findings also indicate that this tendency seems to be observably underpinned by the pandemic, especially for the youngest older adult groups.

Our research did not have a geographic location based on the 'proximity to urban areas' and 'accessibility to urban services' dimensions regarding the destination rural settlements, but the findings clearly pave a way for further research questions, especially on investigating if these two dimensions are, more or less, influencing the reverse migration decisions of 'older' and 'younger' older adult groups differently. Furthermore, our findings also indicate that local administrative authorities and policy makers should consider that the needs, necessities, and requirements of the 65+ population vary from each other on the basis of 'older' and 'younger' older adult age groups.

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