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Journal of Aging Studies

journal homepage: www.elsevier.com/locate/jaging





Climate transition and climate adaptation: The experiences of older immigrants from the former Soviet Union in Israel

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ARTICLE INFO

Keywords: Immigration Older immigrants' experiences Climate adaptation Climate change

ABSTRACT

Although immigrant adjustment has been widely studied, the impact of climate and environmental changes on immigrants' experiences, particularly among older immigrants, has received less attention. Older immigrants are especially vulnerable due to challenges arising from the intersection of advanced age and immigrant status, challenges that are further compounded by global climate change. This study addresses this gap by exploring the retrospective experiences and current perceptions of older immigrants from the Former Soviet Union (FSU) in Israel, focusing on their climate transition and adaptation processes. Drawing on the life course perspective and intersectionality approach as key theoretical frameworks, the study examines how past experiences and intersecting social identities influence adaptation to new climatic conditions and natural environment.

We employed a qualitative methodology, utilizing semi-structured interviews and focus groups with 28 older Israeli immigrants from the FSU who arrived in Israel during the 1990s. Thematic content analysis revealed three key themes: 1) the experience of climate transition upon initial arrival in Israel and over time; 2) nostalgia for the climatic and environmental conditions of the FSU; and 3) strategies for acclimating and finding comfort in the new climatic and natural environment of Israel.

The findings highlight the diverse and complex nature of climate transition experiences among older immigrants, shaped by various psychosocial factors. These insights emphasize the need for tailored support to assist older immigrants in adapting to new climate conditions, which is crucial as global climate change continues to impact vulnerable populations.

Introduction

The global migrant population is estimated to be nearly 272 million (UN Migration, 2022), a figure set to increase against the backdrop of wars, economic and political turmoil, and the escalating impacts of climate change. These factors are reshaping human migration patterns, with significant shifts anticipated in the coming decades. Immigration, a multifaceted social phenomenon, has garnered extensive attention across various scientific and professional domains, leading to a rich body of knowledge. However, research on how changes in climate and the natural environment influence personal experiences of transition and adaptation during immigration remains surprisingly scarce. This gap is particularly glaring when considering older immigrants, a group that faces unique challenges in adjusting to new climatic conditions alongside the broader context of immigration. The aim of the current study was to address this gap by focusing on the experiences of climate change and adaptation among a group of older immigrants from the Former

Soviet Union (FSU (in Israel.

Older adults in immigration

Immigration is a complex phenomenon that evolves and affects all areas of life and has both short- and long-term consequences. Various factors and determinants, such as age, gender, motives for immigration, primary language, culture, religion, social resilience and occupation, economic status, environmental conditions, and legislation, contribute to the diversity of immigrants' experience of their transition and influence their adaptation process and life satisfaction (Alegría, Álvarez, & DiMarzio, 2017; Paloma, Escobar-Ballesta, Galván-Vega, Díaz-Bautista, & Benítez, 2021; Van Hear, Bakewell, & Long, 2018). As a human and social event, immigration has gained widespread recognition in the literature, and a great deal of knowledge has accumulated in the fields of psychology, sociology, physical and mental health, and other fields (Berry, Phinney, Sam, & Vedder, 2006; Dorn & Zweimüller, 2021; Misra

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et al., 2021; von Werthern et al., 2018). However, immigration, first and foremost, involves changes in one's geographic location – that is, changes in one's immediate physical environment and climatic conditions. Climatic conditions significantly impact the human body's capacity to adapt to new environments, often affecting physical health. Research indicates that both hot and cold temperatures contribute to increases in health issues and mortality rates (Demoury, Aerts, Vandeninden, Van Schaeybroeck, & De Clercq, 2022; Ebi et al., 2021; Fan et al., 2023).

Older adult immigrants are subject to heightened vulnerability due to the intersection of advanced age and immigrant status, leading to multiple challenges. These include social isolation, lack of strong social support networks, language barriers, and economic insecurity, which may result in poverty and marginalization (Gustafsson, Mac Innes, & Österberg, 2019; Mandell, Lam, Borras, & Phonepraseuth, 2018; Sidani, Northwood, Sethi, Zhuang, & Edhi, 2022; Tonui, Miller, & Adeniji, 2023). These challenges can also lead to difficulties in accessing necessary healthcare services and public assistance programs, thereby increasing their susceptibility to chronic conditions and disabilities (Hawkins et al., 2022; Jacobsen et al., 2023). However, in recent decades, a growing number of older adults have moved abroad upon reaching retirement age of their own free will, a phenomenon known as international retirement migration (Warnes, 2009). Although international retirement migration is a relatively small-scale phenomenon, its conceptual relevance is significant because it relates to broader societal changes, such as aging populations and globalization (Savas, Spaan, Henkens, Kalmijn, & van Dalen, 2023). Interestingly, climate appeared to be the most prominent factor in the decision to move for retirement migrants. For example, for northern Europeans, moving to southern Europe enabled them to avoid wet and cold winters in their country of origin (Casado-Díaz, 2006). However, climate motives were followed by pull factors, such as the lifestyle and environment of the destination country.

Older adults and global climate change

The global trend of climate change increases the sensitivity and diminishes the adaptive capacity of older adults to climate-related hazards, such as heatwaves, which are influenced by factors such as underlying health conditions, compromised thermoregulatory capacity, and diminished mobility (Ebi et al., 2021; Romanello et al., 2021). Climate change poses additional threats by potentially disrupting essential services such as healthcare and social services, which are crucial for older adults. Furthermore, socioeconomic status, race, and other factors (e.g., immigration) exacerbate vulnerabilities, especially among marginalized groups, rendering climate change experience deeply inequitable (Romanello et al., 2021).

Study aim and theoretical framework

The aim of the current study was to bridge the current research gap by exploring the adaptation processes of older immigrants from the FSU in Israel in relation to climate and the natural environment—both upon their initial arrival and as an ongoing experience. By doing so, we sought to illuminate the broader implications of climate change for vulnerable populations, thereby enriching the discourse on migration, aging, and environmental adaptation. To achieve this, the study employs the life course perspective and intersectionality approach as key theoretical frameworks.

The life course perspective provides a lens to understand how individuals' past experiences, including the timing and sequence of life events, shape their current adaptation processes. For older immigrants, this perspective emphasizes how earlier life events, such as growing up in a particular climate or the age at which they migrated, influence their ability to adapt to the new environmental conditions in Israel. Adaptation to a new climate is not merely a physical or immediate response but

is deeply embedded in a person's broader life narrative, encompassing socio-economic status, health, and social relationships throughout different stages of life (Hendricks, 2012; Szatur-Jaworska, 2020).

Complementing this, the intersectionality approach examines how various social identities-such as age, immigrant status, gender, and socio-economic background-interact to create unique experiences of marginalization or privilege. This approach recognizes that older immigrants are not a monolithic group; their experiences are shaped by intersecting factors such as race/ethnicity, socioeconomic status, education level, language proficiency, and disability status (Ferrer, Grenier, Brotman, & Koehn, 2017). Disadvantages can accumulate over the life course, as experiences of discrimination and marginalization may compound over time. For example, limited access to education or employment opportunities earlier in life can impact economic security in old age, and language barriers and lack of social connections may persist or worsen with age (Cohen, 2021). An intersectional perspective thus highlights the significant diversity in experiences and needs among older immigrants, influenced by factors such as country of origin, reason for migration, length of time in the host country, and cultural background (Calasanti & Giles, 2017). This comprehensive approach provides a deeper understanding of the multifaceted vulnerabilities and adaptive capacities of older immigrants, making the process of climate adaptation more complex and varied across individuals (Crenshaw, 1989).

Context of the present study

FSU Immigrants in Israel

The migration from the FSU to Israel, particularly during the 1990s, introduced over 850,000 immigrants to Israeli society, a movement driven by various push factors, including the search for stability and a better future for their offspring amidst economic crises and difficult living conditions following the collapse of the FSU (Al-Haj, 2019; Kostareva et al., 2020; Tolts, 2020). In the 1990s, the two largest groups of adult immigrants to Israel from the FSU were 35–44 and 45–54 years of age (Central Bureau of Statistics, 2006). However, the proportion of older immigrants (aged 65 and above) increased over time, reaching around 30 % by the early 2000s (Litwin & Leshem, 2008).

Immigrants from the FSU, often highly educated and skilled, have consistently maintained strong ties to their native culture, continuing to speak Russian, observe their customs, and connect with their countries of origin while adapting to life in Israel. They have faced challenges in the housing and labor markets, language barriers, and discriminatory practices, often leading them to accept lower-status and lower-paying jobs (Galili, 2020; Gorbatkin, Ilatov, Shamai, & Vitman, 2021). The most vulnerable group of this population is older immigrants, showing a poverty rate of 36.6 % (compared to a poverty rate of 18.5 for immigrant families) due to the absence of pension rights (Gorbatkin et al., 2021), a lack of sufficient proficiency in Hebrew, and lower health status than that of the total Jewish population (Konstantinov, 2015; Pinchas-Mizrachi, Naparstek, Nirel, & Kukia, 2020). Despite preserving elements of their original identity, most have embraced a new Israeli national identity, showing pride and patriotism toward their new country and forming a unique Russian-speaking socio-cultural enclave (Matusiak, 2021).

Climate and Environmental Conditions in the FSU and Israel

The climatic and environmental conditions of the FSU and Israel show significant contrasts. Between 1917 and 1991, the FSU was the world's largest country, encompassing nearly 22.4 million square kilometers, or about one-seventh of the earth's land surface. The FSU was known for its predominantly snowy and icy conditions in the north but also featured a diverse range of climates, including steppes in the south, humid continental climates across European Russia, subarctic conditions in Siberia, and a tundra climate in the polar north. Winters could be cool along the Black Sea coast or bitterly cold in Siberia, whereas

summers ranged from warm in the steppes to cool along the Arctic coast (Kirilenko & Dronin, 2011; World Bank, 2024a).

In contrast, Israel, much smaller in size, is situated in a subtropical zone at the southeastern edge of the Mediterranean Sea. Its climate is predominantly Mediterranean in the north and central regions, transitioning to semiarid and arid in the south and southeast. Israel's complex topography contributes to significant climatic diversity within a relatively small area. The country experiences hot, dry summers and cool, wet winters. The rainy season extends from October to May, with the bulk of precipitation occurring from December through February (World Bank, 2024b; Yosef, Aguilar, & Alpert, 2019). However, in recent years, Israel has experienced an increase in annual mean temperatures alongside a rise in extreme weather events, such as heatwaves, droughts, and intense rainfall. These phenomena, expected to intensify due to global climate change, present significant challenges, particularly for vulnerable populations (Ministry of Environmental Protection, 2024). Given the significant climatic differences between the FSU and Israel, older immigrants may find the transition especially daunting. Adapting to Israel's hotter and drier climate, in contrast to the colder and more varied climate of the FSU, presents substantial challenges, underscoring the need for a detailed understanding of older FSU immigrants' adaptation experiences and needs amidst such environmental changes.

Methods

Study design

For the current study, we adopted a qualitative approach, employing both semi-structured face-to-face interviews and focus group discussions. This methodology was chosen for its ability to provide comprehensive insights into the participants' retrospective experiences and current views on climate transition and adaptation. The use of both group and individual interviews was strategically decided upon and reflects an understanding that aging encompasses diverse lifestyles and levels of activity. Thus, we conducted semi-structured, in-depth interviews with individuals between the ages of 65-70. This group often remains active, possibly still participating in the workforce, and provided deep personal insights into their adaptation processes through one-on-one interviews. For participants aged 70 and above, we conducted focus groups in day centers, also referred to as "veteran clubs." These venues are typical meeting points for this demographic group, and focus groups were held to illuminate collective experiences, coping mechanisms, and both individual and shared perspectives on adapting to and living in Israel's climate conditions. The triangulation of individual and group interviews significantly enriched our data, providing a multifaceted view of the participants' thoughts, memories, emotions, and experiences (Lambert & Loiselle, 2008).

Participants

The study included 28 Israeli Russian-speaking older immigrants, all of whom immigrated to Israel between 1990 and 2002 and are now living in the northern part of Israel in small cities located near one of Israel's largest cities. This area is characterized by a very mild Mediterranean climate with only two seasons: summer and winter. Summers are hot and more prolonged than winters, and winters are very mild, with snow occurring very rarely (Lionello et al., 2006).

We conducted 13 face-to-face interviews and two focus groups (n/ FG1=7; n/FG2=8). Most of the participants were women (75 %), married (57.1 %), and their mean age was 74.92 years (SD = 6.69, range = 65–86). The participants' average age at immigration was 49.07 years (SD = 7.62, range 37–65), and they had been living in Israel for an average of 26.39 years (SD = 4.4). Most participants immigrated to Israel from the European republics of the FSU, such as Russia, Belarus, and Ukraine (89.2 %). In addition, (according to participants' subjective evaluation), 79 % of the participants reported having "average-for-their-

age" health conditions, and 68 % reported having an average socioeconomic status. For detailed information, see Table 1.

Sampling and procedure

We used purposive and snowball sampling. First, participants were recruited via one of the researchers' connections within the Israeli FSU immigrant community, and recruitment was then expanded via snowball sampling. Individual face-to-face interviews were held in participants' homes at their convenience. In addition to interviews, we organized two focus groups. The participants recruited from two daycenters for older individuals in the northern part of Israel with the assistance of social workers at these centers. These social workers facilitated connections with coordinators of cultural and leisure activities tailored for older immigrants from the FSU, part of what is colloquially known as the "Club of Veterans." (It is important to note that although this club includes World War II veterans among its members, not all participants are necessarily war veterans.) The focus groups took place in meeting rooms within these day centers.

The study was funded by a grant from Israel Science Foundation (ISF 217/20) to LA and received approval from the ethics committee of Bar-Ilan University (February 2022). All participants were informed about the aims and importance of the study, and all signed informed consent before participating. In addition, all participants were asked to complete a short questionnaire, by which sociodemographic information was collected.

The guidelines for interviews and FGs included questions about participants' experiences with and adaptations to climate transition during their immigration, as well as their current experiences with the Israeli climate. For example, we asked, "How would you describe your adaptation to climatic conditions in Israel after your immigration?" and "What is your current experience of climate conditions?" In addition, we asked more specific questions, such as, "How did the climate conditions in your country of origin differ from those in Israel?"; "What climate conditions or phenomena were the most difficult for you to adapt to in Israel?"; and "Do you miss anything in terms of the climate conditions and nature of your country of origin? If so, tell me about it." The average interview length was between 40 min and one hour, and the two focus

Table 1 Sociodemographic characteristics of the sample (n = 28).

	Mean (SD)
Age	74.92 (6.69)
Number of years of education	15.35(1.9)
Number of children	1.85(0.65)
Age at immigration	49.07 (7.62)
Number of years in Israel	26.39 (4.4)
Gender	n (%)
Male	25
Female	75
Marital status	
Single	3.6
Married	57.1
Divorced	3.6
Widowed	35.7
Place of immigration	
Russia	32.1
Belarus	32.1
Ukraine	25.0
Moldova	7.1
Uzbekistan	3.6
Socioeconomic status (subjective)	
Below average	3.6
Average	67.9
Above average	28.5
Health condition	
Below average	7.1
Average	78.6
Above average	14.3

groups lasted one and a half hours. The interviews and group discussions were conducted in Russian by a Russian-speaking group facilitator who was skilled and experienced in qualitative methodologies. All interviews were audio-recorded, transcribed verbatim, and pseudonymized to ensure participants' confidentiality.

Data analysis

The analysis included several recommended steps for thematic content analysis (Braun & Clarke, 2012). In the first step, individual and group interviews were transcribed, translated into Hebrew, and reread by the two researchers several times. In the second step, we more thoroughly categorized each interview into thematic categories that represented descriptive themes in accordance with the main study topic: experiences of change in climate during immigration. At this stage, for example, categories such as "enjoy summer/or heat/or Israeli weather" and "dislike summer/or heat/or Israeli weather" were identified. Coding sheets compiled in tables enabled quotations to be organized by categories. In the next step, we reread all interview data to arrive at more interpretive thematic categories, which in turn were combined into overarching themes. For example, the two mentioned categories were grouped into two themes, positive and negative experiences, which were subsequently combined into the theme "experiences of climate transition upon initial arrival." In the last step, the themes were grouped into key themes. The two researchers discussed categories and themes until reaching a consensus.

Findings

During data analysis, three main themes were identified: 1) the experience of climate transition upon initial arrival in Israel and over time; 2) longing for the climate, environmental features, and natural landscape of the native country; and 3) approaches to acclimating and finding comfort in a new climatic and natural environment.

Theme 1. "I must confess... I like Israel's climate much more than the climate in Russia."

The experience of climate transition upon initial arrival in Israel and over time included two sub-themes: participants' retrospective experience of climate transition and their current experience of Israel's climate.

The retrospective experience of climate transition

Among the participants, there was a notable diversity in their experiences of climate transition. Despite the sharp contrast between the climate in their countries of origin (primarily European countries of the FSU) and that of Israel, many participants viewed the change positively. This positive shift in climate perspective could be seen as a part of their overall positive experience of immigration and adaptation to Israel or as a reflection of their personal climate preferences. For instance, Svetlana (age 67) expressed her contentment with the climate in Israel:

I'm fine; I like the heat. I love the sun and always go out in it, whether I need to or not. I'm really fine with the climate here, and I'll tell you more than that - I like it much more than the climate we had back there everything was gray, mostly cloudy, cold, with mud on the streets. And in general - I love being here.

Alexander (age 84) described himself as having a "climate-dependent personality," meaning that his good mood was directly related to sunny weather, which was abundant in Israel:

In general, my mood depends on the climate. When it is sunny, and it does not matter how many degrees it is, I am in a very good mood, and when it is cloudy, and there is no sun, and the sky is covered with clouds, and it is raining—I do not like it. That is it. In other words, this climate in Israel suits me better.

Other participants, however, mainly from group interviews, described the change in climate conditions as "very hard," stressing the significant difference between climates (i.e., in their native country vs. in Israel) as a prominent reason for the difficulty they experienced. This finding implies that the adaptation to the climatic conditions of the host country, which significantly contrasts with those of the country of origin, is particularly challenging for immigrants who are older at the time of their immigration. Irina (age 80) shared:

It was very difficult, and I was sweating profusely. I did not have the strength to do anything; I just lay under the fan. Back then, we did not have air conditioners at home.

Lina, age 65, recounted her own and her mother's experiences, noting that her mother was older at the time of immigration and had chronic illnesses:

I managed somehow...it took time, of course, but I was younger then. I was occupied with my family and my children, studying Hebrew in "ulpan" in the morning and working as a cleaner in the evening— a normal way of life for FSU immigrants. However, it was particularly difficult for my mother. Her high blood pressure, asthma, and heart problems made it very challenging for her, especially in the summer.

The participants described the devastating effect of climate change on their health, which manifested in various physical ailments, such as weakness, fatigue, high blood pressure, and muscle pain. Anna (age 75) described her intolerance to heat as follows:

I had a tough time during the first period. I immigrated from Siberia. The heat here was killing me. I just could not stand on my feet. I lay down and almost lost consciousness from the heat. Siberia is Siberia. There is winter, snow, and the temperature reaches minus forty-five in the winter; in the summer, the temperatures there are like what they are here in the winter.

Most participants mentioned *heat and humidity* as climate characteristics that were the most difficult for them to adapt to; however, others noted that in the winter months in Israel, they also felt very uncomfortable, probably because of the different way in which one's home is heated in Israel compared to in the FSU (air conditioning with heating elements versus central heating) and the fact that due to poor insulation, Israeli homes often do not retain heat. In addition, as new immigrants in Israel, participants needed to be frugal and try to save money by reducing electricity expenses. Ella (age 67) shared her memories of her first cold winters in Israel, almost 30 years previously:

In 1991 and 1992 [in Israel], there were very harsh winters. We saved on everything..., and it was terribly cold at home, and even with the air conditioning unit [these units also have heating elements], you cannot heat the house; the walls here are cold. This is an entirely different way of heating up the house here.

Some participants stressed that even after many years in Israel, they had not yet fully adapted to the long Israeli summers with very high temperatures and high levels of humidity. For example, although two study participants, Raya and Rina, came from areas in the FSU with different climates, both of them claimed that the climate adaptation process had taken them almost 20 years:

The adaptation was hard. Only now have I started to get used to this climate... after so many years, after twenty years... (Raya, age 67).

I immigrated from Uzbekistan. The climate there is also very hot, but not so humid (...), and it was hard for me to breathe here. I have been in Israel for twenty years; I still have not gotten used to it. (Rina, age 80).

Many study participants stated that "climate adaptation" was an integral part of the general process of their adaptation to their new life and reality after immigration. Interestingly, in the words of the

participants, there was an association between the experience of climatic transition and climatic adaptation and several psychosocial factors. These factors included motives for immigration, preparedness, readiness to face and cope with difficulties, personal features, and attitudes toward the host country (Israel). Thus, David (age 70) explained that his "acceptance" of the Israeli climate stemmed from his decision to immigrate to Israel and his preparedness to do so:

Before we came to Israel, we already knew it was hot here (...). However, it was our decision; we were the ones who chose the country to live in, and we were ready "mentally" for Israel in every way. (...) I think we just "dove into the water"; we jumped [into Israeli life] "head first," and in terms of the climate.

Sonya (age 82) stated that people's ability to accept and adapt to the climate was related to their attitude toward the host country or, in other words, to their satisfaction with life in Israel:

I think that it's all about the person's attitude to it. If he likes Israel in general, if he likes this country, then he'll also like the climate. If he feels uncomfortable here, and he misses the place he came from or wants to live somewhere else, then, of course, he will notice the shortcomings in the climate and perhaps also the things that are missing here, things that are not good, things that are not perfect in the local culture.

Another important factor mentioned by several participants (mostly from the group interviews) as having helped them adapt to Israel, including its climate, was the importance of the family unit and the fact that their children lived in Israel and were happy there. Olga (age 75) shared: "I got used to the heat. Everything is fine! If the children are happy here, then it is good for us too, wonderful!" Liza (age 72) voiced a similar sentiment: "First, it is the children, the family... after that, you simply adapt to what is here, (also) in terms of climate."

Current Experience of Climate Conditions in Israel.

Now, approximately 20–30 years after immigrating, many participants reported coping primarily with the intense heat of Israeli summers. This challenge was likely compounded by typical health issues associated with aging. Boris, aged 76, elaborated:

And now, with age, you start to feel this heat...and you are somehow tired and sweaty (...) I am already starting to feel it. Because the body is already different, all the problems that come with age anyway.

Additionally, participants noted that their difficulty tolerating heat was exacerbated by the global warming trend, a consequence of global climate change. Israel, predominantly a warm country, now felt even hotter than before, at times reaching unbearable temperatures. Elena (age 85) shared:

We think that all this [global climate change] is terrible and that all this affects our health. There is high blood pressure, especially when it is very hot, and the temperatures in the summer continue to rise. (...) It affects us. When we were young, we did not notice it. Currently, we are more sensitive to what happens in the environment, which is reflected in our health and affects our health.

Theme 2. "Longing for the feeling when it is hot at home and cold outside."

Although the study participants had resided in Israel for many years, the majority (with few exceptions) expressed a longing for the climate, environmental conditions, and nature of their country of origin, which they "lost" upon immigrating. They frequently reminisced about cold weather, especially snow, a common feature of FSU winters and a rarity in Israel; summer rain, which seldom occurs in Israel; distinct seasonal changes; and forests, which differ from those in Israel. Notably, expressions of longing were consistent among participants, showing no differences between the comparatively younger individuals in individual interviews and the older individuals in group interviews, regardless

of their age at the time of immigration to Israel. Natan (age 75) shared his longing for snow and his childlike excitement to see and feel it:

I miss the snow. We had snow there [in Russia] ...I want to go to the Hermon [Mount Hermon in Israel] and bring home two buckets of snow with me. Once a truck brought snow to Kiryat Yam [a city in Israel], there was a party for the children. I just went and sat right down in this snow... and did not want to get up.

This sense of nostalgia and longing for the "climatic features" of the country of origin seemed primarily to be about childhood memories and feelings of warmth, joy, and love in the family of origin, most of which were associated with winter and the FSU's main winter family holiday: "Novy God" (New Year). Thus, Darya (age 65) shared in an emotional way her longing for snow and her nostalgic memories of childhood and her home:

I long for the snow itself and when it is cold outside, and even for these clothes when you dress up and are warm and comfortable, I am truly missing it (...)I long for this feeling of joy of the Novy God holiday, when children gather and go skiing or sculpt a snowman, running in the snow, screaming for joy...this feeling of the celebration of the winter holiday, this is what I am missing... It is our childhood...that feeling when it is hot at home and cold outside. Moreover, heat is not just a temperature but the "heat (warmth) of the house!"

... with family inside... with a sense of safety, with the mother who waits for you at home when you are a child... I miss it...

Raya (age 67) excitedly talked about the first rain of the season in Israel, which reminded her of the rains in her country of origin:

When the first rain comes, I always go outside. It is raining, and I go out, sit and look... I miss it so much because it rarely happens here... it makes me very excited!

Alina (age 66) expressed a longing for seasons with "proper" characteristics (as she viewed them), which she felt were lost upon transitioning to Israel.

There was a proper spring there like it should be... when everything bloomed, winter with frost and snow... and when we came here, we lost that too. There is no winter; there are only two seasons here—autumn and summer.

Some participants also expressed nostalgia for the natural environment of their country of origin, particularly deciduous and coniferous forests. These types of forests, for which the European part of the FSU is well-known, contrast significantly with the forests found in Israel. Ilana (age 75) shared her thoughts:

I miss the forest. I truly liked to pick mushrooms and berries. I generally liked Russia's landscape. I love and miss it very much. I mean, if it were not for this situation [war in Ukraine], I would have already returned there, entered the forest, and stayed there.

Theme 3. "A human being is a creature capable of adapting to anything."

Through interviews, we identified several approaches to acclimating and finding comfort in a new climatic and natural environment in Israel to cope with longings for the climate and natural landscapes of their country of origin and feel comfortable in their new environment.

One approach used by participants was denial—a well-known psychological mechanism. In this context, individuals deny the challenges associated with climate transition and adaptation. According to some participants, "climate acceptance" is part of "country acceptance," wherein they minimize or ignore the difficulties of climate transition to "accept the country." As articulated by several participants, they regarded the climate and environment as "secondary" to what must be

accepted — viewing it as a "package deal" in accepting Israel in its entirety, "warts and all." Dina (age 86) elaborated:

D: True, there are days when it is very hot, and this heat is unbearable. However, this is not the main thing.

Interviewer: And what is the main thing?

D: The main thing is probably how you live in this country, how you feel here... this is the main thing. Do you feel good here? If yes, then you can adjust to the rest. It was not difficult for us to adapt to the climate here...because we felt good about being here...

Another approach used by participants to manage their longing for the landscape of their former country was the belief that individuals could craft their own micro-environment, or "micro-world," and populate it with beloved elements. For instance, to mitigate his yearning for his original country's landscape, Samuel (age 65) planted trees in his backyard, which helped him feel "at home" in Israel:

I miss the forest... Belarus is the land of forests... and so I planted the trees I missed in my garden here. A human being is a creature capable of adapting to anything; he can create a micro-world around him that satisfies him. (...)Small things from the previous life add to the current situation, and everything will work out. Therefore, the forest that was there... I planted trees here. (...) I planted these trees for myself here so that I can feel... at home.

Additionally, Raya (age 67), who cherished and missed tending to the soil, purchased an apartment with access to a plot of land. Thus, in Israel, she was able to cultivate fruits, vegetables, and plants, reconnecting with her passion within her new environment:

I really like the land [the soil]. I had a plot of land [in Russia], and I really liked to tinker with it and grow plants, vegetables, and so on. That is why we bought an apartment on the ground [ground floor], so I do not suffer. Here, I am engaged in planting and growing flowers; I love it. In this way, I feel "like a fish in water," I truly like being here [in Israel], honestly. We came to Israel, and I accepted Israel very well. I accepted this land in good faith.

Participants also mentioned coping by embracing the host country's nature and landscapes, focusing on and appreciating the distinct yet beautiful aspects of Israel's natural environment. They spoke of Israel's natural beauty, the joy it brought, and the aesthetic pleasure derived from it. Sonya (age 82) shared her experiences:

 \dots I really liked the landscape there [in the FSU]. I generally like nature. I liked the lilacs... but I have everything here. There are beautiful things here; I also see lilac trees here when I walk. They are similar and different from what was there.

Finally, participants mentioned that to avoid intense summer heat, they preferred to stay indoors in air-conditioned spaces. Although none of the study's participants explicitly stated difficulties in paying their electricity bills (i.e., for air conditioning), some noted that not everyone had the financial capability, especially older individuals who were not working and had chronic health conditions requiring significant medication. These individuals often economized on electricity due to limited pensions, attributed to being immigrants with fewer working years in Israel. Alik (age 69) shared:

I still work, so I can afford to pay the bills. Yes, I have high blood pressure, diabetes, and a few other "nice" things, but I do not truly suffer from heat because I just do not go outside. I'm not referring to those who are hesitant to use the air conditioner during the heat—they indeed suffer. Many pensioners, including some I know, do not heat their homes in the winter or use air conditioners in the summer because they cannot afford the extra cost of their medication. These people, usually older than me and from the FSU, have very low pensions.

Discussion

In our study, we sought to delve into the experiences and current views of older FSU immigrants in Israel, focusing on their adaptation to the climate and natural environment. Our findings revealed a spectrum of experiences. Surprisingly, despite the stark climatic contrast between the FSU and Israel, a majority of participants reported positive experiences, enjoying the warm and sunny weather of Israel. This positive outlook on climatic transition could provide insights into the adaptation experiences of immigrants moving from colder countries to countries with significantly warmer climates, such as Italy, Greece, and Turkey, especially in the context of increasing retirement migration (in which warmer winter conditions are a prominent factor influencing the decision to immigrate) and the broader implications of global warming (International Rescue Committee (IRC), 2022; Romanello et al., 2021; Savas et al., 2023). Conversely, some participants reported negative impacts of this abrupt geographic and climatic change on their health, including high blood pressure, weakness, and fatigue. These accounts align with previous research highlighting the adverse effects of meteorological changes on human health, potentially leading to physiological disorders and pathological conditions (Shor & Roelfs, 2019; Yaskevich et al., 2014).

Additionally, our findings indicated that the experiences of climate transition among immigrants were intricately connected to the wider context of their migration journey, influenced by a variety of psychosocial factors. According to the life course perspective, it becomes evident that both individual preferences and societal influences—from personal climate inclinations and reasons for immigrating to overarching socioeconomic conditions—play a crucial role in shaping older immigrants' processes of adaptation and integration (Paloma et al., 2021). Elements such as climate preferences, immigration motives, levels of preparedness, and the pursuit of children's well-being are significant in their social adaptation journey. These insights underscore the complex interplay of factors affecting older adults' experiences of climate change during immigration, offering valuable perspectives on navigating these transitions.

Interestingly, many participants regarded adapting to the new climate as a secondary concern despite the significant climatic differences between their country of origin and Israel, which could potentially hinder personal adaptation. Instead, they prioritized family unity and their children's well-being, demonstrating that familial considerations outweighed the challenges of adjusting to a different climate. This emphasis on family during the migration process is supported by research depicting immigration as primarily a family-centric endeavor (Riazantsev, Pismennaya, Lukyanets, Sivoplyasova, & Khramova, 2018; Van Hook & Glick, 2020). The tendency to prioritize one's children's happiness, leading to the overlooking of adaptational challenges, seemed to stem from the life experiences and cultural norms specific to this group of immigrants. In the FSU, the bond between parents and children, particularly in Jewish families, was exceptionally strong, with older parents frequently being the main support system for younger generations (Slonim-Nevo, Sharaga, & Mirsky, 1999). Moreover, the 1990s saw a trend of families immigrating to Israel to maintain multigenerational households, encompassing grandparents, parents, and grandchildren (Burr et al., 2012). This focus on maintaining familial well-being above climatic comfort illustrates a purposeful adaptation strategy characterized by either downplaying or outright denying the difficulties of acclimating to a new climate. For some, it may also represent a necessary and worthwhile adjustment to prioritize being together as a family despite the challenges of acclimating to a new climate. This insight is particularly valuable for professionals working with immigrant populations, emphasizing the need to address climatic adaptation sensitively and recognizing that immigrants, especially older ones, may downplay or overlook the challenges involved in adapting to a new climatic environment.

However, most participants, regardless of their age at the time of

immigration and even those who initially reported positive experiences with the climate transition to Israel, expressed a deep longing and nostalgia for the climate and natural landscapes of their native country. They reminisced about snow, frost, summer rain, and the changing seasons—experiences largely absent in Israel. For some, these environmental elements were not merely missed climatic conditions but pathways to childhood memories, serving as "triggers for nostalgia," with their country of origin being vividly remembered in terms of color, smell, and texture. This connection suggests that environmental cues can significantly evoke past experiences, contributing to a sense of nostalgia (Ayalon, Ulitsa, AboJabel, & Engdau-Vanda, 2024; Stamboli-Rodriguez & Visconti, 2012). Although nostalgia and longing among immigrants have been traditionally associated with feelings of sadness, loneliness, and even anxiety and depression (Akhtar, 1996), contemporary views regard nostalgia more positively as a psychological resource fostering social-emotional bonds and recalling meaningful life events with loved ones (Wildschut & Sedikides, 2022). The current study revealed that such nostalgic memories might not only hold emotional significance but also positively impact well-being and social connectedness, inspiring actions such as gardening or planting trees reminiscent of the older FSU immigrants' homeland. These activities represent adaptive strategies, helping immigrants emotionally and physically engage with their new environment.

Finally, our study focused on older immigrants, making it crucial to assess the long-term impact of climate change emphasizing the importance of assessing the long-term impact of climate change during their migration journey as well as their current experiences with this transition. Our findings revealed that even those who initially perceived the climate transition to Israel positively reported negative health effects due to prolonged exposure to heat and increased humidity as they aged. Global climate change, which leads to extreme temperatures, poses a greater risk for older individuals due to their increased vulnerability, compounded by factors such as old age and immigration status. Vulnerability to climate change is influenced by sociodemographic, economic, historical, and political factors, which affect individuals on multiple levels (Thomas et al., 2019). The rising temperatures disproportionately impact marginalized and under-resourced groups, who have limited access to cooling mechanisms and healthcare, thus exacerbating health and social disparities (Romanello et al., 2021). Our study specifically revealed that older immigrants, particularly those who migrated at an advanced age, face significant challenges. These individuals often suffer from chronic conditions that lead to high medication costs, rely on government allowances, and tend to economize on electricity, often avoiding the use of air conditioning during extreme heat. Furthermore, during their initial years in Israel, some participants struggled to adequately heat their homes in winter, trying to save on heating costs due to their limited financial resources as immigrants, which may have exacerbated health issues. This intersection of marginal locations—older age, health frailty, and immigrant status—places them at heightened risk amidst global climate change. Understanding these challenges is crucial for addressing the needs of older immigrants who are currently arriving and will continue to migrate to Israel and other countries in the future.

Limitations

This research had several limitations. First, in this study, we aimed to explore immigrants' experiences of climate transition using a qualitative methodology. Although the number of participants was sufficient for qualitative research, the findings represent only the specific participants and do not aim to generalize` to other immigrants (Lee, 1993). Since immigrants are not monolithic and are characterized by significant variations between and within groups, further studies addressing experiences of climate change during immigration would benefit from broader sampling. This could include immigrants from France, North America, or Ethiopia, as well as younger immigrants who might have

different experiences of climate change. Second, we explored immigrants' experiences of climate transition based on their retrospective views; this perspective could be a potential limitation, as such views rely on people's memories and may have been influenced by other experiences they had during their years in Israel. Therefore, additional studies regarding experiences of change in climate among older newcomers (new immigrants) in their first or second year after immigrating are also important. In addition, because of global climate change, further studies focusing especially on this topic (climate transition and climate adaptation) in a broader way may be beneficial for deepening our understanding of the experiences of potentially vulnerable groups, such as older new immigrants.

Despite these limitations, the current research significantly contributes to the literature and offers insights for professionals working with older immigrant populations. This study illuminates the experiences of climate change during immigration, enhances our understanding of the factors influencing older individuals' experiences of such changes, and elucidates the adaptation process to the host country's climate, especially when this climate significantly differs from that of the country of origin. This topic is increasingly critical amid rising global migration and climate change, which may further accelerate immigration rates. Additionally, the findings underscore the importance of supporting older adults—a group that, due to intersecting vulnerabilities, may face greater challenges in adjusting to new climates—and highlight the need for comprehensive assistance to help older immigrants adapt holistically to their new country, including its climate.

Conclusion

This study illuminates the complex experiences of climate transition and adaptation among older immigrants from the FSU in Israel. It highlights how these transitions are shaped by the interplay of psychosocial, cultural, and environmental factors, as understood through the life course perspective and intersectionality framework.

The life course perspective underscores how past experiences, including climatic conditions and the timing of immigration, shape older immigrants' adaptation trajectories. These findings reveal that climatic adaptation is not an isolated phenomenon but part of a broader narrative shaped by migration motives, familial responsibilities, and individual resilience. The participants' reflections illustrate how their life histories interact with the challenges of climate transition to influence their strategies for coping and adapting.

The intersectionality framework further enriches this analysis by highlighting the compounded vulnerabilities experienced by older immigrants at the intersection of age, immigrant status, and socioeconomic position. These intersecting factors create unique challenges, such as disparities in health outcomes and access to resources, particularly in the face of global climate change. However, the findings also showcase the resilience of participants, who employ creative strategies to navigate their new environment, prioritize familial well-being, and maintain meaningful connections to their past.

This research makes several important contributions. First, it addresses the critical yet underexplored intersection of aging, migration, and climate change, offering valuable insights into the psychosocial dimensions of climate adaptation. Second, it emphasizes the significance of tailored interventions that account for the diverse experiences and needs of older immigrant populations, particularly as global climate change accelerates. Finally, applying life course perspective and intersectionality framework, this study advances scholarly understanding of how older immigrants navigate climatic transitions, offering practical insights for professionals and researchers dedicated to fostering equitable adaptation in the context of global environmental challenges.

Funding

The study was funded by a grant from the Israel Science Foundation.

ISF 217/20 to Liat Avalon.

CRediT authorship contribution statement

Natalie Ulitsa: Writing – review & editing, Writing – original draft, Formal analysis, Data curation, Conceptualization. **Liat Ayalon:** Supervision, Project administration, Formal analysis, Conceptualization.

Declaration of competing interest

The authors declare none.

Data availability

Data will be made available on request.

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