

# Sensitivities and inequalities in urban space: emotions and physical activity of older people

## *Sensibilidades y desigualdades en el espacio urbano: emociones y actividad física de personas mayores*

**Alexis Sossa Rojas**

[apsossa@uc.cl](mailto:apsossa@uc.cl)

<https://orcid.org/0000-0002-5524-4980>

Pontificia Universidad Católica de Chile, Chile

<https://ror.org/04teye511>

**Received on:** 03/10/2024 **Revised on:** 18/11/2024 **Accepted on:** 15/12/2024 **Published on:** 01/03/2025

**Suggested citation:** Sossa-Rojas, A. (2025). Sensitivities and inequalities in urban space: emotions and physical activity of older people. *Universitas XXI*, 42, pp. 35-57. <https://doi.org/10.17163/uni.n42.2025.02>

### ***Abstract***

*The growing population of older people in urban contexts poses significant challenges in terms of health, well-being and access to physical activities. This article highlights the importance of exploring sensitivities and inequalities in urban space, specifically in Santiago de Chile, where socio-spatial conditions can limit the active participation of this demographic group. This study investigates how these inequalities influence emotions and physical activity in older people. To do so, an ethnographic approach was carried out over nine months in the communes of San Joaquín and Ñuñoa, where data were collected through field notes, observations and interviews. The stories and life experiences of 40 older people (10 men and 30 women, including two instructors of classes for older people) were used. The main results indicate that inequalities in access to safe and adequate spaces significantly affect the perception of safety, convenience or inconvenience of leaving home, and general well-being, which condition participation in physical activities. Here, we analyze specific examples that may help design more inclusive and accessible urban environments, thereby promoting older people's well-being and quality of life.*

### ***Keywords***

*Santiago de Chile, sensitivities, inequalities, emotions, body, older people, exercise, physical activity.*

## Resumen

La creciente población de personas mayores en contextos urbanos plantea desafíos significativos en términos de salud, bienestar y acceso a actividades físicas. Este artículo evidencia la importancia de explorar las sensibilidades y desigualdades en el espacio urbano, específicamente en Santiago de Chile, donde las condiciones socioespaciales pueden limitar la participación activa de este grupo demográfico. El objetivo de este estudio es investigar cómo estas desigualdades influyen en las emociones y en la realización de actividad física en personas mayores. Para ello, se llevó a cabo un enfoque etnográfico durante nueve meses en las comunas de San Joaquín y Ñuñoa, donde se recolectaron datos a través de notas de campo, observaciones y entrevistas. Se trabajó con las historias y experiencias de vida de 40 personas mayores (10 hombres y 30 mujeres, incluidas dos instructoras de clases para personas mayores). Los principales resultados indican que las desigualdades en el acceso a espacios seguros y adecuados afectan de manera significativa la percepción de seguridad, de conveniencia o no de salir del hogar, y de bienestar general, lo que a su vez condiciona la participación en actividades físicas. Así, aquí analizamos ejemplos concretos que pueden ayudar a diseñar entornos urbanos más inclusivos y accesibles, promoviendo así el bienestar y la calidad de vida de las personas mayores.

## Palabras clave

Santiago de Chile, sensibilidades, desigualdades, emociones, cuerpo, personas mayores, ejercicio, actividad física.

---

## Introduction

The way we understand and relate to the environment is deeply influenced by how we feel, and with it, we perceive things based on our daily experiences and the relationships we establish with others and with our environment from the body (Merleau-Ponty, 2006; Cervio, 2015). This article reflects on how aging can intensify urbanization and urban design challenges (Montomura *et al.*, 2024), because as physical health decreases, the demands on the environment increase (Schwarz, 2012). This reflection is relevant given that numerous studies have shown that many older people consider leaving their homes due to difficulties in displacement, climatic factors, feeling of insecurity and obstacles in the physical environment (Leduc *et al.*, 2023). The-

se conditions can make them feel like going out is too complicated, limiting their activities, sensitivities, and emotions outside the home.

Social isolation among older people is increasingly recognized as a major public health problem. The World Health Organization (WHO) has identified this issue as a priority to be addressed in the context of the older population with the aim of promoting healthy aging (OMS, 2010). For example, a large-scale study in the United States and Japan showed that older people with more social contacts report fewer depressive symptoms (Sugisawa *et al.*, 2002).

Latin America and the Caribbean are experiencing an unprecedented aging process (Arango *et al.*, 2018), and the population is aging faster than in other regions, for example, the number of older people is expected to represent 2.9 times the total population of 2018 over the next 20 years (Zambrano *et al.*, 2024). Likewise, it is a known trend that a large proportion of the world's population now lives in cities (Population Division of the United Nations, 2014), this reality invites us to think how the environment, the territory and the neighborhoods are being built for the enjoyment and functionality of all its residents, especially, of the elderly.

The main recommendation for older people is to exercise and leave their homes, as these activities not only improve their physical well-being, but also benefit their mental and emotional health (Sossa, 2024a). In fact, they are suggested to engage in moderate-intensity physical activity for 300 minutes a week (He *et al.*, 2020). In addition, it is emphasized that the social component is crucial to promote participation in sports activities (Meredith *et al.*, 2023).

However, despite these recommendations, the Pan American Health Organization points out that almost three quarters of the adult population is sedentary; being people of low socioeconomic status, women and older people, the most inactive during leisure or recreation time (Gómez *et al.*, 2004; Monteiro, 2003). In addition, studies in Europe and the United States found that older adults spent between 5.3 and 9.4 hours per day being sedentary, equivalent to 65-80% of their waking time (de Rezende *et al.*, 2014; Harvey *et al.*, 2015; Sjogren *et al.*, 2014). In addition, most studies show that when older people are at home, they do so by watching television, which has been associated with poor physical and mental health (Compernelle *et al.*, 2021; Gardner *et al.*, 2014; Motomura *et al.*, 2024). Studies indicate that by 2030, 20% of the world's population is projected to be older people, and half of this group is estimated to be obese (Ramírez *et al.*, 2024).

Consequently, there are three interacting phenomena that need further research. First, the global trend is that the more years a person has, the less physical exercise they will do (Sossa, 2024b). Second, older people tend to leave their homes less and less, which decreases their quality of life and their chances of socializing with others and/or exercising. Finally, the territory, whether neighborhoods, communes, cities where these elderly people live, can help or restrict older people from wanting to leave their homes in addition to affecting their emotions and sensitivities.

In this work, we will explore these phenomena from a qualitative perspective, focusing on a group of elderly people who, unlike the global trend, are regularly exercised in Santiago de Chile. It will be these people, their experiences, emotions and recommendations, who will guide us in identifying effective strategies to improve the health and well-being of this population group.

## **Materials and method**

This study is based on a qualitative cross-sectional approach that employed a convenient sample to explore the practices and meanings associated with physical exercise among older people in the post-COVID-19 context (Sossa, 2024a, 2024b). Data collection was conducted through an ethnographic study over a nine-month period, from May 2022 to January 2023. Most of the participants were people who exercised in Santiago in centers for older adults in the communes of Ñuñoa and San Joaquín. Other participants exercised privately, although they were also residents of these areas. For a more detailed analysis of contributors, see Sossa (2024a, 2024b, 2024c).

The inclusion criteria for participants were that they should be over 65 years of age and should exercise moderately to intensively at least twice a week, with a minimum duration of 60 minutes per session. All contributors exceeded this criterion, with an average of 250 minutes of physical exercise per week. In addition, two monitors of sports activities for older people were included due to their specialization in this group and their proximity to that age range. In total, data were collected from 38 people aged 65-83 years (mean age 72 years) and two female monitors aged 63 years, with a distribution of 10 men and 30 women.

## **Data analysis**

Data were analyzed using MAXQDA software (v12.0) through a thematic analysis, in which emerging patterns and categories were identified from narratives and observations. Special attention was given to inequalities in access to safe and adequate spaces, and how the environment affects the emotions, perception of safety and well-being of older people. Field notes complemented the interviews, providing additional context and allowing for triangulation of the data. One of the objectives of the study was to investigate how socio-spatial inequalities influence the emotions and participation in physical exercise of older people.

Data collection was carried out through field notes, direct observations and ethnographic interviews with a total of 40 older people. The interviews focused on the stories and life experiences of the participants, which allowed a deep understanding of their perceptions of the urban environment and its impact on their well-being and physical activity.

In this article, the results will be presented in two interconnected sections: one related to the territory and another to the physical exercise.

## **Ethical considerations**

Participants were informed about their participation in an academic study and understood the requirements of the research. The main guidelines were explained to them, and they were assured of their right to withdraw at any time. All participants gave their informed consent, which was signed. In addition, this research received the approval of the Ethics Committee of the Pontifical Catholic University of Chile.

## **Results and discussion**

### **The territory**

Although the literature indicates that a neighborhood or neighborhood is defined as an area with a radius of 500 meters (Parra *et al.*, 2010). In this work I prefer the use of the term, territory, because as such it is more flexible.

Generally speaking, it refers to an extension of land that is distinguished by geographical, political, cultural (and emotional) characteristics. In relation to older people, it is important to think about how they define the territories they inhabit, and why they define them in certain ways.

For example, although older people were approached in two communes in Santiago de Chile, it is not entirely necessary to point out that my informants inhabited those communes. For them, the territory varied in relation to their abilities, sensitivities and habits. For some people, their territory was limited to the neighborhood where they lived; for others, it encompassed spaces within a 10-block radius. In addition, this perception of territory depended on factors such as the availability of a car and its degree of independence to use it.

Therefore, it is favorable to start thinking that older people are a heterogeneous group in terms of both their abilities and their emotions, expectations and experiences. For some of my informants, Santiago was their territory and they visited parks and families in different communes of the city, in other cases, people only went to the church and the center for older adults where they did their physical exercises, with it, they only walked a few blocks around their homes. This is independent of sometimes having good health, having a car or family members in other places.

The commune of Ñuñoa and the commune of San Joaquín present significant contrasts in terms of safety and quality of life. Ñuñoa is known for its residential and quiet environment, with a greater number of green areas, parks and services. This makes it a residential area and valued for its security and access to recreational spaces. In addition, it has a more developed infrastructure and a general perception of greater well-being among its inhabitants.

On the other hand, San Joaquín faces challenges related to population density and security. Often, residents report a greater sense of vulnerability due to congestion and traffic, which can make mobility difficult, especially for older people. Although the commune has worked to improve its infrastructure and services, perceptions of insecurity and the lack of adequate public spaces contrast with the experience of life in Ñuñoa, reflecting a more complex and challenging urban reality for its inhabitants.

Likewise, talking about inequality reveals a duality between the objective and the subjective. Objectively, disparities in access to resources, services and opportunities that directly affected my informants can be identified, being the commune of Ñuñoa better equipped than that of San Joaquín. However,

the experience of inequality is also subjective, as it depends on the physical and cognitive abilities of each individual. Healthy older people may perceive their environment as more accessible and thus experience less inequality, while those with physical limitations may feel marginalized, regardless of the material conditions of the place where they live. Thus, inequality manifests itself in a complex way, influenced by both structural factors and the lived experiences of each person.

Territory is also an emotional experience. A Ñuñoa collaborator told me about concepts such as memory and nostalgia that her neighborhood produced for her, she told me: “this is my house, my neighborhood, I was born here, and I want to die here. Imagine everything I have been through here. My childhood, watching my children grow up, dictatorship, my divorce, everything from these four walls [referring to their home].” For her, there was a deep emotional connection with her home and neighborhood, and inhabiting this space was a fundamental part of her physical and mental well-being.

Fried and Barron (2005) point out that unlike young adults, older people tend to develop their vital activities in their micro-territories of residence; hence, they are especially susceptible to urban changes. While some may move in different areas, all of them belong to a neighborhood and this is their first and closest territory. The neighborhood is a cornerstone in the well-being and health of older adults (Krause, 2004; Cortés and Tavares-Martínez, 2022). Older people also tend to be more physically active in family neighborhoods, where they have a sense of belonging and local experience (van Hoven and Meijering, 2019). |

Having worked with 40 people and considering the heterogeneity that characterizes the elderly, I will not delve into the specific details of each of the neighborhoods or territories of my collaborators. Instead, I will focus on the common features that emerged during my fieldwork, the main one being the “walkability” of the nearby environment.

Research indicates that older people are more likely to engage in physical activity on the streets of their neighborhoods than other public spaces (Giles-Corti and Donovan, 2002; Huston *et al.*, 2003). Walkability is therefore the first step in promoting this activity. As one contributor told me “Leaving the house is the first step to a better life.” However, literature suggests that many older people face difficulty walking in their local neighborhood due to factors such as traffic, noise, air pollution, and poor sidewalk condition (Roe *et al.*, 2020).

This walkability is full of incarnate senses and subjective experiences, for example, what for me could be a normal sidewalk, for my collaborators could be an uneven sidewalk, with bumps and/or slippery. For me, walking is moving with a destiny, for some collaborators walking was the end in itself. Therefore, their subjective perceptions of the environment played a fundamental role. The presence of bad odors, stray dogs, the availability of benches to rest (with or without a backrest and shade), ramps, nearby public toilets, good lighting and even the aesthetics of the space could significantly influence the decision on which paths to choose (similar situations can be observed in Pleson *et al.*, 2014). In this sense, and as highlighted in other research (van Dyck *et al.*, 2015), the sense of security regarding one's body and the environment is perhaps the fundamental characteristic when deciding whether to go for a walk or not.

On the other hand, the walking times of older people varied significantly; for example, the time they had to cross at traffic lights was not always enough for everyone (situations like this can be seen in the work of the National Academies of Sciences, Engineering, and Medicine, 2016). In addition, studies have shown that a dense city generates a high volume of vehicular traffic and a perception of danger among older people, making it difficult to leave home (He *et al.*, 2020). However, this density is also a subjective concept that varies according to the individuals who experience it. A San Joaquin contributor, for example, said she preferred to avoid walking on streets with more than three young people, as she considered them "too packed". This perception aligns with the widespread opinion among my informants, who agree that San Joaquín is a less safe commune compared to Ñuñoa.

Another common feature of the territory highlighted by my collaborators is that it should "invite" people to move around it. It should not only be walkable, but also attractive in terms of design, aesthetics and functionality. This implies the inclusion of green spaces, rest areas and easy accessibility to services and recreational activities. A San Joaquin contributor pointed out:

It's been a while since I've felt comfortable living here; this place is ugly, insecure and neglected, everyone cares about his/her homes, and what about the neighborhood? No one cares for it, no one cares. Besides, it no longer gives me the confidence to go for a walk like I used to. I leave the house by car; I don't even want to walk these streets anymore.

Collaborators from both communes pointed out that the squares are mainly designed for young people and children, which causes dust accumulation due



to recreational activities, generating discomfort for the elderly. In addition, disturbing noises, the presence of people smoking marijuana, and the risk of being hit by high-speed thrown balls represent an additional concern. These areas often include swings, slides and climbing structures, which clearly show that these spaces were not designed to meet the needs of older people.

One contributor pointed out to me:

We all forget that we're going to get old, it's all about production, consumption, competition, you know, always being on the move. Then you get old and realize that the only thing that has been thought of for older people are a couple of priority rows and nothing more.

A third frequently mentioned element was that there was an uneven distribution of recreational, sports and green areas facilities, especially in neighborhoods with residents of lower socioeconomic status (as residents of San Joaquín tend to be compared to those of Ñuñoa). Arguments such as the following were frequently mentioned:

I often feel that recreational activities are a luxury; in neighborhoods like ours, there is a lack of support and resources to promote sport among the elderly. (Contributor to the San Joaquín commune)

At least this commune has enclosed spaces and priority use for older people, that helps a lot to get out and meet people. (Contributor to the municipality of Ñuñoa)

The two communes where I worked are close, but Ñuñoa is a commune with more purchasing power than San Joaquín, and indeed my collaborators of this commune showed a greater number of minutes of exercises, more variation between their sports activities and more variability of their places of residence (this because they did not attend their recreational activities by car, or because they are less resistance to walk). Instead, San Joaquín's collaborators were people who lived a few blocks from senior centers where they performed their sports activities, people who lived farther away mostly chose not to attend these spaces given the distance. Also, squares and parks were not seen as safe spaces for them.

Reflecting on this is important as living in environments more conducive to physical activity could help the average resident achieve between 45 and 59 % of the weekly minutes of physical activity recommended by spe-

cialists (OMS, 2010; Sallis *et al.*, 2016). Studies have also found that even in low-income neighborhoods with a high proportion of older residents, they are disproportionately healthier if their neighborhoods contain good-quality, publicly accessible green spaces (Dennis *et al.*, 2019).

In other words, a positive relationship between parks and open spaces and physical activity has been demonstrated, as well as health benefits in older people (Lee *et al.*, 2012; OMS, 2010; Koohsari *et al.*, 2015; Van Cauwenberg *et al.*, 2018). Studies in both eastern and western countries have shown that living between 800 and 1200 meters away from a park is positively associated with more physical activity by older people (Motomura *et al.*, 2024), and there is research indicating that there is a link between the existence of green spaces close to the home of the elderly and longevity (Takano *et al.*, 2002).

On the other hand, it is worth mentioning that collaborators from both communes indicated that preferring only the metro within the possibilities of public transportation, minibuses and buses were considered a violent, dangerous option and not recommended for older people. One contributor said:

In the bus there is no respect for anyone, I have seen how young people have fallen, the drivers drive like crazy, and if young people fall, imagine what will happen to us if our physical strength is not the same anymore?

As a conclusion, it can be noted that a promising intervention to increase both physical activity and well-being of older people may involve increasing the integration of green infrastructure in urban settings (Miller, 2005; Benton *et al.*, 2018). Also, that exposure to nature and safe spaces should be promoted to increase the health, happiness and well-being of older people (Gesler, 2005; Lachowycz and Jones, 2011).

The safety factor is essential for older people to feel motivated to move through their neighborhoods and out of their homes. This concept covers various dimensions, such as road safety, social security and protection against crime. Adequate street lighting, the presence of other neighbors and well-maintained areas all contribute to creating a conducive environment for them to feel comfortable when leaving. In addition, the perception of a safe environment not only encourages mobility, but also promotes active participation in community, sports and recreational activities, which in turn improves their emotional and social well-being. Without a sense of security, many older people may choose to remain at home, limiting their opportunities for exercise and socialization, which can negatively impact their quality of life.

It should also be noted that approximately one third and one half of all falls in older people in the community are due to environmental factors (Phillips *et al.*, 2004). Because of their greater functional limitation, older people are more sensitive to features of the urban environment that may seem minor. For example, surface irregularities, slippery conditions, lack of lighting and other factors can significantly increase the risk of falls and fractures (Hernández *et al.*, 2010).

It can be argued that the elderly population is violated due to the absence of gerontological planning that has worsened their habitability (Cortés and Tavares-Martínez, 2022). Thus, excessive noise, unattractive and/or poorly maintained territories, unsafe neighborhoods, and recreational spaces designed mostly for children and young people make it less likely that older people will want to leave their homes.

In this sense, it is important to note that the difficulty or disability of transiting certain territories arises from interactions with the surrounding environment, which are susceptible to structural or design interventions, and not inherent in the levels of capacity, health status or deterioration degree of individuals (Clarkson and Coleman, 2015).

Finally, improved access to social activities, along with the availability of a natural environment, can support active living (Loo *et al.*, 2017; Stier *et al.*, 2021; Barnett *et al.*, 2017). These factors not only provide spontaneous opportunities for social interaction (van den Berg *et al.*, 2016; Lachowycz and Jones, 2011; Ward *et al.*, 2012), but also contribute to stress reduction (Gong *et al.*, 2016) and decreased levels of depression and dementia (Roe *et al.*, 2020).

## **Physical Exercise**

For most of my contributors, who are active and travel-free, walking does not necessarily count as part of their exercise practices, unless, as the literature suggests, it is done for 5.6 kilometers or more daily, which is equivalent to the suggested recommendation of at least 7000 steps per day for older people (Tudor-Locke *et al.*, 2011). They know the importance of regular physical exercise and its benefits for their physical and mental health. In addition, they understand this habit as one that provides them with happiness (Sossa, 2024a). They have also experienced that older people who engage

in physical activity are more likely to integrate in a social support network (Hernández *et al.*, 2010).

In this regard, it is important to note that during my fieldwork in sports centers for older people of the indoor gym type, I observed various groups that attended weekly, although they did not always participate in physical exercises. For many of these people, the social aspect was more relevant than physical activity itself. In relation to these groups, one contributor told me: “These people come here to sit and talk. It’s their moment of distraction, otherwise they would be all day in their homes alone or taking care of grandchildren.”

Several studies show that the social dimension is key to motivate people to leave their homes and, eventually, to exercise (Money *et al.*, 2023). The literature also notes that: 1) having an exercise partner is a crucial factor in maintaining physical activity routines (Kosteli *et al.*, 2016); 2) having a calendar and routine makes it easier for older people to continue exercising (Money *et al.*, 2023); and 3) using appropriate music at an appropriate volume increases enjoyment of activities (Du *et al.*, 2023).

In relation to the first point, most of my collaborators participated in group activities of exercises for older people, valuing very positively the social aspects of these interactions. However, those who spent the most time exercising were those who trained individually. In addition, studies have shown that some older people do not like to exercise in groups (Robins *et al.*, 2016; Zhang *et al.*, 2022).

The social dimension of adherence to exercise among my collaborators presents several variables. On the one hand, social pressure and the enjoyment of sharing with peers contribute to maintaining training routines and attending sports centers. In addition, this social aspect provides a sense of security, as several informants mentioned having suffered assaults or attempted assaults while walking alone. As a result, many organize to go to their fitness centers together. A collaborator from San Joaquín says: “we all call each other, and we encourage each other, sometimes one does not want to go to exercise, but as we are all a group, we all encourage each other to continue.”

On the other hand, when talking about friends and acquaintances, my collaborators emphasize that establishing an exercise routine is not always easy. To encourage this practice, positive incentives are key. The support networks they have help them maintain their exercise habits by valuing and reinforcing them in a positive way. However, comments that warn about the dangers of training at older ages, suggest that it is not worth risking a fall, or that exer-

cise could aggravate existing health problems, generate fear and discouragement, thus making it difficult to form a regular exercise habit.

One contributor says:

In this age there is a lot of fear, fear of being dependent, of falling, of being scammed, then the best thing is that the group remains positive and provide positive energies. If one gets scared, then we will all be, and it is a cycle.

As for the second point, almost all of my collaborators expressed their satisfaction with having clear routines and schedules about their workouts, schedules and practice locations. Individuals who trained individually created their own routines and followed the planning as much as possible. This factor is significant, considering that my collaborators are individuals who exercise regularly and therefore can be seen as examples of what works to promote physical activity in this population group.

Finally, in relation to music, there are several interesting aspects as it can evoke intense body sensations and emotions, which not only enrich life experience, but also promote emotional well-being. These feelings can include joy, nostalgia, relaxation or even motivation, all essential to maintain a good quality of life. In addition, music has a significant role in the creation of memories and in the sense of belonging. Sharing and enjoying common songs with others not only creates an atmosphere of friendship, but also strengthens social bonds. This sense of community is especially relevant for older people, as socialization can be a key factor in combating loneliness and promoting active participation in activities. Music, therefore, not only acts as a means for enjoyment, but also facilitates the continuity of training routines. By integrating familiar or preferred songs into their exercises, older people can feel more motivated and committed to their physical activity.

On the other hand, ethnographic work allowed me to observe that in order to understand adherence to physical exercise as a routine, it is essential to consider factors underlying sport and physical activity, such as short-term sensations, sensitivities and body emotions associated with movement. Phoenix and Orr (2014) present a type of the pleasure of physical activity in old age that includes sensual pleasure (for example, feeling the breeze when walking outdoors), documented pleasure (such as the narratives when walking), the pleasure of habitual action (which gives a purpose to everyday life) and the pleasure of immersion (consisting of concentrating the mind through movement practices, such as yoga).

In fact, in each of the sports activities of my collaborators there is an incarnate dimension that transforms physical exercise into something more than a search for improvement in health; it is also about the enjoyment of seeing and feeling the body in movement. These feelings can influence individual preferences for physical activity. Some people may not enjoy intense exercise due to sweat and discomfort (Grossman and Stewart, 2003), while others value the adrenaline that is felt when moving the body with intensity. In addition, some people enjoy the sensation of their lungs breathing deeply or muscles elongating during certain movements. There are also those who find pleasure in exploring the city, either by cycling or jogging.

As a conclusion, it can be noted that it is relevant to rethink exercise and physical activity as pleasant activities with movement, instead of a purely health-related behavior and against aging (Devereux *et al.*, 2016; Tulle, 2015). In addition, elements such as having a clear routine, using music, and having other people perform exercises can be elements that help encourage and maintain training routines.

It has been noted that some older people, through ignorance or comments from family members, fear the unpredictability, fragilities and vulnerabilities associated with aging, and are thus more careful or elusive to the exposure of risks (real or perceived) that exercise can cause. But fear of crime is seen as a real fear, and one that must be sought out for ways to prevent. As in other research, the most common strategy for prevention is that older people adopt avoiding outdoor activities (Stathi *et al.*, 2012; Bjornsdottir *et al.*, 2012).

It could also be speculated, based on other studies (Benton *et al.*, 2018; NICE, 2007), that individually targeted interventions to increase physical exercise in older people could lead to modest and uncertain long-term improvements in effectiveness. However, creating a supportive environment at the population, family, and neighborhood levels can be a more effective, sustainable, and more far-reaching approach to increasing levels of physical exercise among older people, as it focuses on broader determinants of health and physical activity.

## Conclusions

Faced with the challenge posed by the aging of our societies, this work has explored the factors that facilitate older people to exercise more, with the aim of improving their health and well-being. A main aspect of our re-

search has been the concept of territory and its influence on the practice of physical activity. The territory, understood as the built and imagined environment is closely related to what we have called the “walkability” of the space close to the elderly.

This walkability is positively associated with physical and mental components that encourage older people to get out of their homes and lead a more active life. Objective factors, such as sidewalks in good condition, benches to rest, pedestrian crossings and clean and well-maintained green areas are crucial (Cervero and Kockelman, 1997). However, walkability also depends on the perceptions that older people have about their neighborhoods, including aspects such as safety, sense of belonging and aesthetics of the environment.

The data presented, based on an ethnographic work carried out in two communes of Santiago de Chile, reveal that the appropriation of public spaces is not always guaranteed for different social and age groups. Parks, gardens and squares contribute to urban social sustainability by offering opportunities for recreation, relaxation and social interaction. However, some contributors expressed that these spaces have not considered the needs and preferences of older people, generating a sense of injustice by observing that not all neighborhoods receive the same level of care and services. This difference causes a feeling of abandonment that negatively impacts the practice of physical exercise and, therefore, the health and well-being of this population group.

This study revealed that the commune with the highest number of services and green areas presented the highest levels of well-being among my collaborators. In addition, more time was devoted to recreational activities and physical exercise in this commune, which reinforces the relationship between the available environment and the quality of life of its inhabitants.

Both this work and previous studies indicate that physical activity is associated with the microenvironment of the street and the neighborhood, where environmental activity is a key factor to attract people (Gunn, 1988). In addition, the security conditions in the inhabited territories allow (or not) older people to participate more actively in social, cultural and recreational activities (Hernández *et al.*, 2010).

The group of collaborators I worked with is made up of older people who exercise constantly and have maintained this habit for several years. Therefore, their testimonies and experiences can serve as examples and valuable resources for interventions to promote physical activity in this population group. For them, the first step towards an active life is to leave home, and



environmental factors such as safety, walkability and the attractiveness of spaces are determinants in this process. It is essential to better understand the relationships that are established between people and public spaces, as well as how these interactions are linked with emotions, sensitivities and perceptions of security and social justice. This approach can be key to developing policies and programs that promote active and healthy aging.

## References

- Barnett, D., Barnett, A., Nathan, A., Van Cauwenberg, J., Cerin, E. and Council on Environment and Physical Activity (CEPA). Older Adults Working Group. (2017). Built environmental correlates of older adults' total physical activity and walking: A systematic review and meta-analysis. *International Journal of Behavioral Nutrition and Physical Activity*, 14(1), 103. <https://doi.org/10.1186/s12966-017-0558-z>
- Benton, J., Anderson, J., Cotterill, S., Dennis, M., Lindley, S. and French, D. (2018). Evaluating the impact of improvements in urban green space on older adults' physical activity and wellbeing: Protocol for a natural experimental study. *BMC Public Health*, 18, 1-15. <https://doi.org/10.1186/s12889-018-5812-z>
- Bjornsdottir, G., Arnadottir, S. and Halldorsdottir, S. (2012). Facilitators of and barriers to physical activity in retirement communities: Experiences of older women in urban areas. *Physical Therapy*, 92, 551-562. <https://doi.org/10.2522/ptj.20110149>
- Cervero, R. and Kockelman, K. (1997). Travel demand and the 3Ds: Density, diversity, and design. *Transportation Research Part D: Transport and Environment*, 2(3), 199-219. [https://doi.org/10.1016/S1361-9209\(97\)00009-6](https://doi.org/10.1016/S1361-9209(97)00009-6)
- Cervio, A. (2015). Experiencias en la ciudad y políticas de los sentidos. Lecturas sobre la vista, el oído y el olfato. En R. Sánchez Aguirre (comp.), *Sentidos y sensibilidades: exploraciones sociológicas sobre cuerpos/emociones* (pp. 17-48). Estudios Sociológicos Editora.
- Clarkson, J. and Coleman, R. (2015). History of inclusive design in the UK. *Applied Ergonomics*, 46, Part B, 235-247. <https://doi.org/10.1016/j.apergo.2013.03.002>
- Compernelle, S., De Bourdeaudhuij, I., Cardon, G. and Van Dyck, D. (2021). Sex-specific typologies of older adults' sedentary behaviors and their associations with health-related and socio-demographic factors: A latent profile analysis. *BMC Geriatrics*, 21(1), 66. <https://doi.org/10.1186/s12877-021-02011-5>



- Cortés-Topete, M. and Tavares-Martínez, R. A. (2022). Oportunidades de inclusión y bienestar de las personas mayores en sus vecindarios. *Estudios demográficos y urbanos*, 37(2), 719-746. <https://doi.org/10.24201/edu.v37i2.2031>
- de Rezende, L., Rey-Lopez, J., Matsudo, V. and Luiz, O. (2014). Sedentary behavior and health outcomes among older adults: A systematic review. *BMC Public Health*, 14. <https://doi.org/10.1186/1471-2458-14-333>
- Dennis M., Scaletta, K. L. and James, P. (2019). Evaluating urban environmental and ecological landscape characteristics as a function of land-sharing-sparing, urbanity and scale. *PLoS ONE*. 14, e0215796. <https://doi.org/10.1371/journal.pone.0215796>
- Devereux-Fitzgerald, A., Powell, R., Dewhurst, A. and French, D. P. (2016). The acceptability of physical activity interventions to older adults: A systematic review and meta-synthesis. *Social Science & Medicine*, 158, 14-23. <https://doi.org/10.1016/j.socscimed.2016.04.006>
- Du, Y., Roberts, P. and Liu, W. (2023). Facilitators and barriers of Tai Chi Practice in Community-Dwelling older adults: qualitative study. *Asian/Pacific Island Nursing Journal*, 7, e42195. <https://doi.org/10.2196/42195>
- Fried, L. and Barron, J. (2005). Older adults: Guardians of our city. En S. Galea, D. Vlahov (eds.), *Handbook of urban health. Populations, methods and practice* (pp. 177-200). 1st ed. Springer.
- Gardner, B., Iliffe, S., Fox, K., Jefferis, B. and Hamer, M. (2014). Sociodemographic, behavioural and health factors associated with changes in older adults' TV viewing over 2 years. *International Journal of Behavioral Nutrition and Physical Activity*, 11(1), 102. <https://doi.org/10.1186/s12966-014-0102-3>
- Gesler, W. (2005). Therapeutic landscapes: An evolving theme. *Health Place*, 11(4), 295-297. <https://doi.org/10.1016/j.healthplace.2005.02.003>
- Giles-Corti, B. and Donovan, R. J. (2002). The relative influence of individual, social and physical environment determinants of physical activity. *Soc. Sci. Med.*, 54(12), 1793-1812. [https://doi.org/10.1016/s0277-9536\(01\)00150-2](https://doi.org/10.1016/s0277-9536(01)00150-2)
- Gómez L. F., Mateus, J. C. and Cabrera, G. (2004). Leisure time physical activity levels among women in an urban district of Bogotá: Prevalence and sociodemographic correlates. *Cadernos de Saude Pública*, 20, 1103-1109. <https://doi.org/10.1590/s0102-311x2004000400026>
- Grossman, M. and Stewart, A. (2003). 'You aren't going to get better by just sitting around': physical activity perceptions, motivations, and barriers in adults 75 years of age or older. *American Journal of Geriatric Cardiology*, 12, 33-37. <https://doi.org/10.1111/j.1076-7460.2003.01753.x>

- Gunn, C. (1988). *Vacationscape: Designing tourist regions*. Van Nostrand Reinhold Company.
- Harvey, J., Chastin, S. and Skelton, D. (2015). How sedentary are older people? A systematic review of the amount of sedentary behavior. *Journal of Aging and Physical Activity*, 23(3), 471-487. <https://doi.org/10.1123/japa.2014-0164>
- He, H., Lin, X., Yang, Y. and Lu, Y. (2020). Association of street greenery and physical activity in older adults: A novel study using pedestrian-centered photographs. *Urban Forestry & Urban Greening*, 55, 126789. <https://doi.org/10.1016/j.ufug.2020.126789>
- Hernández, A., Gómez, L. and Parra, D. (2010). Ambientes urbanos y actividad física en adultos mayores: Relevancia del tema para América Latina. *Revista de Salud Pública*, 12, 327-335. <https://bit.ly/3ZcPiv2>
- Huston, S., Evenson, K., Bors, P. and Gizlice, Z. (2003). Neighborhood environment, access to places for activity, and leisure-time physical activity in a diverse North Carolina population. *Am. J. Health Promot.*, 18(1), 58-69. <https://doi.org/10.4278/0890-1171-18.1.58>
- Koohsari, M., Mavoa, S., Villianueva, K., Sugiyama, T., Badland, H., Kaczynski, A., Owen, N. and Giles-Corti, B. (2015). Public open space, physical activity, urban design and public health: Concepts, methods and research agenda. *Health Place* 33, 75-82. <https://doi.org/10.1016/j.healthplace.2015.02.009>
- Kosteli, M., Williams, S. and Cumming, J. (2016). Investigating the psychosocial determinants of physical activity in older adults: A qualitative approach. *Psychology & Health*, 31(6), 730-749. <https://doi.org/10.1080/08870446.2016.1143943>
- Krause, N. (2004). Neighborhoods, health, and well-being in late life. En H. Wahl, R. Scheidt y P. Windley (eds.), *Annual Review of Gerontology and Geriatrics, Aging in context: Socio-physical environments* (pp. 223-249). Springer Publishing Company.
- Lachowycz, K. and Jones, A. (2011). Greenspace and obesity: A systematic review of the evidence. *Obes. Rev*, 12, e183-e189. <https://doi.org/10.1111/j.1467-789X.2010.00827.x>
- Leduc, D., Bier, N., Couture, M., Ansaldo, A., Belleville, S., Gaied, N., Chesneau, S., Belchior, P., Fonseca, R., Hebblethwaite, S., Jarema, G., Lacerda, A., Rousseau, J., Rousseau, J., Van De Velde, C. and Filiatrault, J. (2023). Social isolation of older adults living in a neighbourhood of Montreal: a qualitative descriptive study of the perspectives of older adults and community stakeholders. *Canadian Journal on Aging/La Revue canadienne du vieillissement*, 42(3), 434-445. <https://doi.org/10.1017/S071498082300003X>

- Lee, I., Shiroma, E., Lobelo, F., Puska, P., Blair, S. and Katzmarzyk, P. (2012). Effects of physical inactivity on major non-communicable diseases worldwide: an analysis of burden of disease and life expectancy. *Lancet*. [https://doi.org/10.1016/S0140-6736\(12\)61031-9](https://doi.org/10.1016/S0140-6736(12)61031-9)
- Loo, B., Lam, W., Mahendran, R. and Katagiri, K. (2017). How is the neighborhood environment related to the health of seniors living in Hong Kong, Singapore, and Tokyo? Some insights for promoting aging in place. *Annals of the American Association of Geographers*, 107(4), 812-828. <https://doi.org/10.1080/24694452.2016.1271306>
- Meredith, S., Cox, N., Ibrahim, K., Higson, J., McNiff, J., Mitchell, S., Rutherford, M., Wijayendran, A., Shenkin, S. D., Kilgour, A. and Lim, S. (2023). Factors that influence older adults' participation in physical activity: a systematic review of qualitative studies. *Age and ageing*, 52(8), afad145. <https://doi.org/10.1093/ageing/afad145>
- Merleau-Ponty, M. [1962] (2006). *The Phenomenology of Perception*. Routledge & Kegan Paul.
- Miller, J. 2005. Biodiversity conservation and the extinction of experience. *Trends Ecol. Evol.*, 20, 430-434. <https://doi.org/10.1016/j.tree.2005.05.013>
- Money, A., Harris, D., Hawley-Hague, H., McDermott, J., Vardy, E. and Todd, C. (2023). Acceptability of physical activity signposting for pre-frail older adults: a qualitative study to inform intervention development. *BMC geriatrics*, 23(1), 621. <https://doi.org/10.1186/s12877-023-04202-8>
- Monteiro, C., Conde, W., Matsudo, S., Matsudo, V., Bonseño, I. and Lotufo, P. (2003). A descriptive epidemiology of leisure-time physical activity in Brazil, 1996-1997. *Rev Panam Salud Publica*, 14, 246-254. <https://doi.org/10.1590/s1020-49892003000900005>
- Motomura, M., Koohsari, M., Ishii, K., Shibata, A., Nakaya, T., Hanibuchi, T., Kaczynski, A. Veitch, J. and Oka, K. (2024). Park proximity and older adults' physical activity and sedentary behaviors in dense urban areas. *Urban Forestry & Urban Greening*, 95, 128275. <https://doi.org/10.1016/j.ufug.2024.128275>
- National Academies of Sciences Engineering and Medicine. (2016). *Families caring for an aging America*. Schulz R, Eden J. (eds.). Washington, D. C. The National Academies Press. <https://doi.org/10.17226/23606>
- National Institute for Health and Clinical Excellence (NICE). (2007). Behaviour change: general approaches: NICE. <https://bit.ly/3Cyy96d>
- OMS. (2010). Recomendaciones mundiales sobre actividad física para la salud. Ginebra: Órgano Mundial de la Salud. <https://doi.org/10.1080/11026480410034349>

- Parra, D., Gómez, L., Sarmiento, O., Buchner, D., Brownson, R., Schmid, T., Gomez, V. and Lobelo, F. (2010). Perceived and objective neighborhood environment attributes and health related quality of life among the elderly in Bogotá, Colombia. *Social Science and Medicine*, 70(7), 1070-1076. <https://doi.org/10.1016/j.socscimed.2009.12.024>
- Phillips, D., Siu, O., Yeh, A. and Cheng, K. (2004). Ageing and the urban environment. En G. J. Andrews y D. R. Phillips (eds.), *Ageing and place: Perspectives, policy, practice* (pp. 147-163). Routledge.
- Phoenix, C. and Orr, N. (2014). Pleasure: A forgotten dimension of physical activity in older age. *Social Science & Medicine*, 115, 94-102. <https://doi.org/10.1016/j.socscimed.2014.06.013>
- Pleson, E., Nieuwendyk, L., Lee, K., Chaddah, A., Nykiforuk, C. and Schopflocher, D. (2014). Understanding older adults' usage of community green spaces in Taipei, Taiwan. *Int J Environ Res Public Health*, 11, 1444-1464. <https://doi.org/10.3390/ijerph110201444>
- Population Division of the United Nations, Department of Economic and Social Affairs (UNDESA) United Nations, & Department of Economic and Social Affairs. (2014). Urban and rural population by age and sex, 1980-2015. New York: United Nations. <https://bit.ly/3V0gDOx>
- Ramírez, Y. V. P., Calvo, M. M. and Patón, R. N. (2024). Efectos de programas de ejercicio físico en la composición corporal, condición física y calidad de vida de personas mayores con sobrepeso u obesidad: una revisión sistemática. *Retos: nuevas tendencias en educación física, deporte y recreación*, (56), 47-62. <https://bit.ly/4hOhRpX>
- Robins, L., Dyer, J. and Smith, K. (2016). Older adult perceptions of participation in group and home-based fall prevention exercise. *Journal of Aging and Physical Activity*, 24(3), 350-362. <https://doi.org/10.1123/japa.2015-0133>
- Roe, J., Mondschein, A., Neale, C., Barnes, L., Boukhechba, M. and Lopez, S. (2020). The urban built environment, walking and mental health outcomes among older adults: a pilot study. *Frontiers in public health*, 8, 575946. <https://doi.org/10.3389/fpubh.2020.575946>
- Sallis, J. F., Cerin, E., Conway, T. L., Adams, M. A., Frank, L. D., Pratt, M., Salvo, D., Schipperijn, J., Smith, G., Cain, K. L., Davey, R., Kerr, J., Lai, P.-C., Mitáš, J., Reis, R., Sarmiento, O. L., Schofield, G., Troelsen, J., Van Dyck, D., De Bourdeaudhuij, I. and Owen, N. (2016). Physical activity in relation to urban environments in 14 cities worldwide: a cross-sectional study. *The Lancet*, 387(10034), 2207-2217. [https://doi.org/10.1016/S0140-6736\(15\)01284-2](https://doi.org/10.1016/S0140-6736(15)01284-2)

- Schwarz, B. (2012). Environmental gerontology: What now? *Journal of Housing for the Elderly*, 26(1-3), 4-19. <https://doi.org/10.1080/02763893.2012.673374>
- Sossa, A. (2024a). Bodily practices and meanings articulated in the physical exercise of older adults in Santiago de Chile Post-COVID-19, *International Journal of Environmental Research and Public Health*, 21, 567. <https://doi.org/10.3390/ijerph21050567>
- Sossa, A. (2024b). “Espero todavía me queden muchos años más de vida útil”. Ejercicio físico, cuerpo y emociones de quien envejece, *RELACES. Revista Latinoamericana de Estudios sobre Cuerpos, Emociones y Sociedad*, 44(16), 9-19. <https://bit.ly/3VmKqRN>
- Sossa, A. (2024c). Physical exercise and older people: always a happy relationship? Four qualitative reflections to deepen understanding. *Social Sciences*, 13(2), 1-13. <https://doi.org/10.3390/socsci13020120>
- Stafford, L. and Baldwin, C. (2018). Planning walkable neighborhoods: are we overlooking diversity in abilities and ages? *J Plan Lit.* 33(1), 17-30. <https://doi.org/10.1177/0885412217704649>
- Stathi, A., Gilbert, H., Fox, K. R., Coulson, J., Davis, M. and Thompson, J. L. (2012). Determinants of neighborhood activity of adults aged 70 and over: A mixed-methods study. *Journal of Aging and Physical Activity*, 20, 148-170. <https://doi.org/10.1123/japa.20.2.148>
- Stier, A., Schertz, K., Rim, N., Cardenas-Iniguez, C., Lahey, B., Bettencourt, L. and Berman, M. (2021). Evidence and theory for lower rates of depression in larger US urban areas. *Proceedings of the National Academy of Sciences of the United States of America*, 118(31), Article e2022472118. <https://doi.org/10.1073/pnas.2022472118>
- Sugisawa, H., Shibata, H., Hougham, G., Sugihara, Y. and Liang, J. (2002). The impact of social ties on depressive symptoms in U.S. and Japanese elderly. *Journal of Social Issues*, 58(4), 785-804. <https://bit.ly/3CMasHi>
- Takano, T., Nakamura, K. and Watanabe, M. (2002). Urban residential environments and senior citizens' longevity in mega city areas: The importance of walkable green spaces. *Journal of Epidemiology and Community Health*, 56(12), 913-918. <https://bit.ly/4eygx7v>
- Tudor-Locke, C., Craig, C., Aoyagi, Y., Bell, R., Croteau, K. A., De Bourdeaudhuij, I., Ewald, B., Gardner, A. W., Hatano, Y., Lutes, L. D., Matsudo, S. M., Ramirez-Marrero, F. A., Rogers, L. Q., Rowe, D. A., Schmidt, M. D., Tully, M. A. and Blair, S. N. (2011). How many steps/day are enough? For older adults and special populations. *Int. J. Behav. Nutr. Phys. Act.* 8, 80. <https://doi.org/10.1186/1479-5868-8-80>

- Tulle, E. (2015). Physical activity and sedentary behaviour: A vital politics of old age? En E. Tulle y C. Phoenix (eds.), *Physical Activity and Sport in Later Life* (pp. 9-20). Palgrave Macmillan.
- Van Cauwenberg, J., Nathan, A., Barnett, A., Barnett, D. and Cerin, E. (2018). Relationships between neighbourhood physical environmental attributes and older adults' leisure-time physical activity: A systematic review and metaanalysis. *Sports Medicine*, 48(7), 1635-1660. <https://doi.org/10.1007/s40279-018-0917-1>
- Van den Berg, P., Kemperman, A., de Kleijn, B. and Borgers, A. (2016). Ageing and loneliness: the role of mobility and the built environment. *Travel Behav Soc.*, 5, 48-55. <https://doi.org/10.1016/j.tbs.2015.03.001>
- Van Dyck, D., Teychenne, M., McNaughton, S. A., De Bourdeaudhuij, I. and Salmon J. (2015). Relationship of the perceived social and physical environment with mental health-related quality of life in middle-aged and older adults: mediating effects of physical activity. *PLoS One*. 10(3), e0120475. <https://doi.org/10.1371/journal.pone.0120475>
- Van Hoven, B. and Meijering, L. (2019). Mundane mobilities in later life: Exploring experiences of everyday trip-making by older adults in a Dutch urban neighbourhood. *Research in Transportation Business & Management*, 30, 100375. <https://doi.org/10.1016/j.rtbm.2019.100375>
- Zambrano Vélez, T. F., Thais Jamileth, L. Álvarez, Troncoso Saverio, C. J. and Ponce Alencastro, J. A. (2024). Avances en la tecnología asistiva para mejorar la calidad de vida en adultos mayores. Revisión actualizada en el contexto latinoamericano. *Ciencia Latina Revista Científica Multidisciplinar*, 8(1), 645-662. [https://doi.org/10.37811/cl\\_rcm.v8i1.9450](https://doi.org/10.37811/cl_rcm.v8i1.9450)
- Ward Thompson, C., Roe, J., Aspinall, P., Mitchell, R., Clow, A. and Miller, D. (2012). More green space is linked to less stress in deprived communities: Evidence from salivary cortisol patterns. *Landsc. Urban Plan*, 105, 221-229. <https://doi.org/10.1016/j.landurbplan.2011.12.015>
- Zhang, J., Bloom, I., Dennison, E., Ward, K. A., Robinson, S. M., Barker, M. and Cooper, W. L. (2022). Understanding influences on physical activity participation by older adults: A qualitative study of community-dwelling older adults from the Hertfordshire Cohort Study, UK. *PLoS ONE*, 17(1), e0263050. <https://doi.org/10.1371/journal.pone.0263050>

## Research support and financial support

Entity: National Agency for Research and Development (ANID)

Country: Chile

City: Santiago de Chile

Subsidized project: Yes

Project Code: 3220031

Declaration of Authorship - Taxonomy CRediT	
Author	Contributions
Alexis Sossa Rojas	Roles: conceptualization, methodology, software, validation, formal analysis, research, resources, data curation, original draft-writing, review-writing and editing, visualization, supervision, project management, fund acquisition.