Aging During Environmental Crisis:
Extreme Weather Vulnerability, the Age-Friendly City Framework, and Intergenerational Environmental Justice in Chicago

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I. Abstract

A growing body of research demonstrates that individuals aged 65 years and older are disproportionately impacted by climate change, yet there are few policies that provide specialized support for older people in times of environmental crisis. Using data from interviews with aging advocates, planners, policymakers, and researchers and drawing on analysis of policy documents from local, state, and international levels, this project identifies opportunities for improving support for rapidly aging populations experiencing climate change. This paper proposes an additional domain to the World Health Organization's Age-Friendly Cities (AFC) framework: Climate Resilience. Integrating climate change into this framework centers its impact on older populations not only within age-friendly discourse, but also in the environmental justice (EJ) movement, where age is not yet acknowledged as an intersectional social identity related to environmental inequity. The intended result is an intergenerational climate movement strengthened by the voices and lived experiences of older people.

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I. Introduction

In the face of rapid climate change, how do we safeguard older populations from harm caused by extreme weather? For decades, older communities have consistently borne the brunt of extreme weather events such as heat waves, hurricanes, and winter storms. The 1995 Chicago heat wave was no exception.

In July of 1995, a five-day heat wave exposed age-related extreme weather vulnerability across the city, brutally displaying the disproportionate impact of extreme heat on older adults (Palecki et al. 2001). From July 11th to July 15th, residents of the city of Chicago experienced air temperatures around 115℉ with feels-like temperatures over 125 ℉ (Cusick 2020). The city faced one of the greatest emergency response challenges in its history, as the elevated temperatures led to 49,000 households losing power, twenty-three hospitals exceeding maximum intake capacity, and over 700 people dying from heat-related causes (Klinenberg 1999).

Despite the city's experience with weeks-long heat waves throughout the twentieth century, the 1995 heat wave exposed catastrophic flaws in Chicago's ability to respond to climate emergencies (Palecki et al. 2001, 1352). Even further, the heat laid bare the fact that climate emergencies in Chicago have deeply inequitable impacts across different communities. Out of the fifteen community areas that experienced uncommonly high death rates, eleven of them had "unusually high proportions" of people living below half of the poverty line and ten of them were 94-99% Black communities (Klinenberg 1999, 255). The heat wave is often spoken about as a stark display of the role that class and race play in determining people's vulnerability to extreme heat, but there is another social identity that clearly impacted people's likelihood of survival: age. Out of the more than 700 people who died in the 1995 Chicago heat wave, 70% were aged 65 years and older (Klinenberg 1999, 255).

While the 1995 heat wave is a single extreme weather event from almost 30 years ago, it is relevant to contemporary discussions of aging during environmental crises because (a) the underlying inequities that create extreme weather vulnerability in low-income, Black, and older populations have yet to be addressed and (b) extreme weather events in Chicago have grown increasingly frequent and severe since 1995. While Chicago has been classified as "more prone to elderly heat fatalities" than other U.S. cities, extreme weather in the region is not limited to heat waves (Garner et al. 2020, 572). Researchers also deem the city as "particularly prone to cold-weather fatalities" in older populations (Garner et al. 2020, 572). Flooding is another urgent issue as the Great Lakes region experienced 40% more precipitation between 1979 and 2009 than it did between 1949 and 1979 (Chicago Metropolitan Agency on Planning 2017, 2). The increased intensity of storm events paired with "reduced soil capacity from drought" has resulted in more frequent flooding which causes disproportionate harm to "the elderly and residents with disabilities or illnesses" (Chicago Metropolitan Agency on Planning 2017, 19).

Evidently, the disproportionate impact of climate change on older adults is not unique to a certain type of climate emergency, nor is it unique to a certain city. In 2005, Hurricane Katrina resulted in 971 deaths, 49% of which were people aged 75 and older (Brunkard et al. 2013). In 2021, the Texas Department of State Health Services reported that there were 246 deaths related to the series of severe winter storms in February 2021 and over two-thirds of the deaths were people aged 60 and older (Hellerstedt 2021, 2-3). These statistics speak to a global issue that is becoming increasingly urgent due to the overlapping of three trends: urban migration, aging populations, and the proliferation of climate emergencies.

By 2050, more than 65% of the world's population is expected to live in urban areas (UN 2019). By the same year, over 30% of people in the global north and around 20% of people in the

global south are predicted to be aged 60 and older (UN 2019). The Intergovernmental Panel on Climate Change's AR6 Synthesis Report found that the impacts of anthropogenic climate change, like the 1.1℃ increase in global temperature from 1850-1900 to 2011-2020, will continue to intensify in coming years (Calvin et al. 2023, 7). As warming escalates, the IPCC reports that the overall risk levels for extreme weather will transition from "*high*" to "*very high*" (Calvin et al. 2023, 37). In terms of extreme weather in Chicago, scientists have predicted that the southern and midwestern regions of the U.S. will be experiencing heat index temperatures of 125 ℉ at least once each year by 2050 (Kaufman 2022). This phenomenon will be heightened in cities due to the urban heat island effect, which caused Chicago to experience nightly temperatures 2 ℉ higher than surrounding rural areas during the 1995 heat wave (Kunkel et al. 1996). These trends of growing urban communities, aging populations, and increasing climate change are already converging and creating dangerous conditions for older populations. These projections indicate that the dangerous conditions found at the overlap of these issues will continue to get worse.

Despite the demonstrated vulnerability of older populations to environmental emergencies, climate change discourse rarely includes the experiences or perspectives of older people, even when these conversations are said to be built upon environmental justice principles of equal protection and fair treatment (Mohai et al. 2009, 407). This paper will explore the impacts of climate change–induced extreme weather on older populations in Chicago to unpack the social, economic, and health-related contexts which cause members of this rapidly-increasing population to be disproportionately vulnerable to climate emergencies. The purpose of this project is to promote the health and wellbeing of older populations through the development of policy guidelines that achieve climate resilience among older communities; doing so will

increase older populations' ability to safely age in their communities in the face of environmental crisis. Through this process, I will bridge the divide between scholarly conversations regarding the disproportionate impact of extreme weather events on older populations, age-friendly cities, and environmental justice.

II. Overview of Research & Conceptual Framework

This paper seeks to answer the following research questions: how can cities develop policies that safeguard older populations from climate change–induced extreme weather? How can city policies support the ability of older adults to age in their communities in the face of climate change?

My research engages with the World Health Organization's (WHO) Age-Friendly City (AFC) framework, which identifies eight interconnected domains of urban life that are essential to the wellbeing of older communities: housing, social participation, respect and social inclusion, civic participation and employment, communication and information, community support and health services, outdoor spaces and buildings, and transportation (WHO 2007). In the AFC framework diagram, which is depicted in Figure 1, each petal represents one of the eight interconnected domains of urban life.

The AFC framework transformed aging from being treated as a purely medical concern to being thought of as a dynamic process that is influenced by people's social, emotional, and physical environments (UN 1982). Over 1500 cities across 51 countries have adopted AFC guidelines and joined the Global Network of Age-Friendly Cities and Communities (WHO). It is important to note that in the United States, the American Association for Retired Persons (commonly referred to as AARP) was granted control over age-friendly cities designations in April 2012 (AARP). Since then, AARP has established "The AARP Network of Age-Friendly

Communities" and they manage their own process for designating U.S. communities as age-friendly which is separate from the WHO's designation process; a community can receive designation from both organizations separately (AARP).

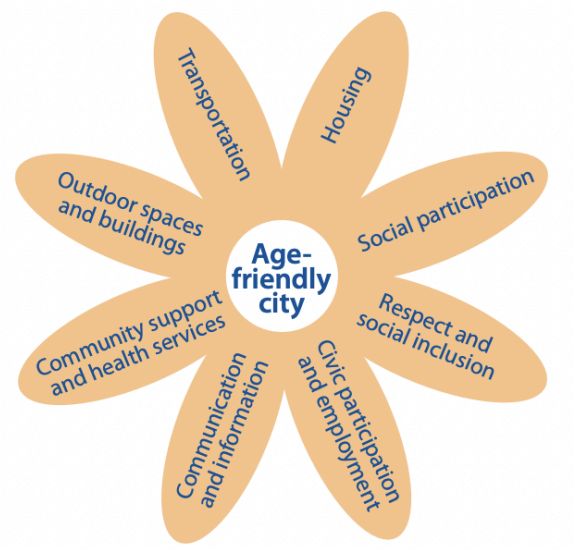

Figure 1. The World Health Organization's Age-Friendly City Framework (WHO 2007).

While the AFC framework has proved valuable in its comprehensiveness, it is still lacking an essential interconnected domain of urban living: Climate Resilience. Adding a domain related to climate change was recently suggested by Dabelko-Schoeny et al. in a paper published in March 2024, but there is still extremely limited research into policies that will effectively address the intersection of climate and aging. Additionally, Dabelko-Schoeny et al.'s research does not engage with on-the-ground professionals that have firsthand experience working on aging issues and can provide critical insight into the content of the ninth domain (Dabelko-Schoeny et al. 2024, 1). Through interviews with aging advocates, planners, policymakers, and researchers and drawing on analysis of policy documents from local

(Chicago), state, and international levels, I develop possibilities for a Climate Resilience domain primarily based on the context of the city of Chicago. An updated version of the AFC framework with the additional Climate Resilience domain is depicted in Figure 2.

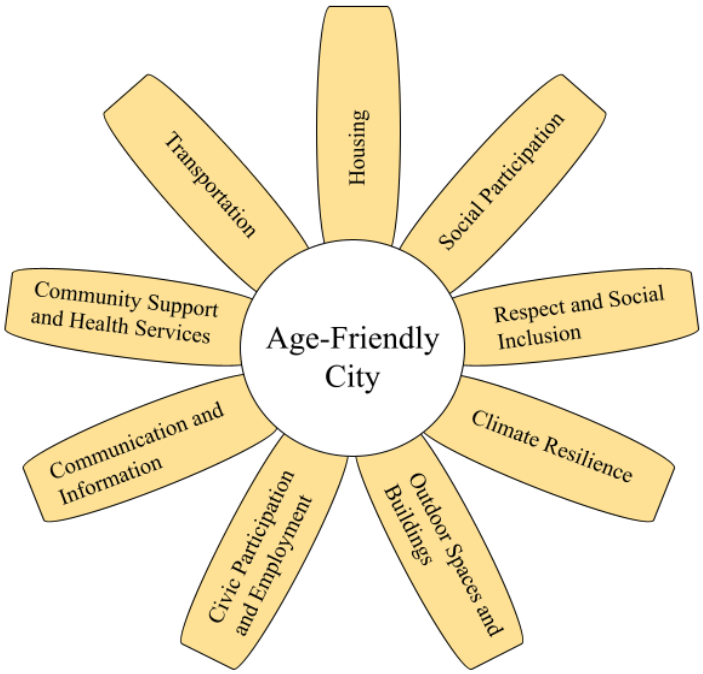

Figure 2. Updated AFC framework with ninth domain: Climate Resilience.

By incorporating policies for Climate Resilience into the existing AFC framework, this project aims to center the impact of climate change on older populations not only within age-friendly discourse, but also in environmental justice discussions, where age is not yet acknowledged as a social identity that significantly impacts people's experience with climate change.

This paper begins by exploring the existing body of literature with a focus on age-related weather vulnerabilities, global aging initiatives, and the relationship between environmental justice and ageism. The literature review highlights the clear intersection between climate change

and aging issues, while also exposing the lack of research and implementation of policies that reckon with this increasingly urgent issue. In the following section, I outline my data collection and analysis methodology and provide information regarding the interview participants. The analysis section explores the existing barriers to implementing policy that address the impact of climate change on older adults, including the climate/aging gap, false aging narratives, and both aging and climate denial. I then synthesize these findings with an analysis of existing climate and aging policy documents to outline clear policy recommendations for Chicago that can be used to develop a generalized ninth domain of the AFC framework titled Climate Resilience.

III. Literature Review

As a result of the increase in average lifespan and rapid growth in the 65 and older population in the past century, there is a growing body of literature that investigates the wellbeing of older communities. Gerontologists and climate scientists alike have produced research that analyzes the impact of extreme weather events on older populations, the mass majority of which supports the finding that older populations experience increased vulnerability due to physiological, social, and economic factors (Garner et al. 2020, 383). Despite this conclusion, there is limited research that translates the identified vulnerabilities into environmental policy, much less policy that specifically addresses the manifestation of these issues in urban contexts.

The following subsections synthesize the main scholarly conversations related to my project, which include (A) the investigation of age-related extreme weather vulnerabilities, (B) international discourse on aging initiatives and perspectives on the Age-Friendly Cities movement, and (C) the inclusion of age as a prominent social identity within environmental justice frameworks.

A. Age-Related Extreme Weather Vulnerability

Researchers have found that the extreme heat vulnerability of older populations arises from a variety of factors including the physiological, social, and economic conditions of older people. Using the National Oceanic and Atmospheric Administration *Storm Data*, Garner et al. analyzed age-group fatalities across a range of extreme weather hazards to investigate the relationship between age and weather vulnerability (Garner et al. 2020, 367). Their research found that age groups with relative immobility, such as the very young and very old, experience "more severe impacts during times of hazardous weather" as these populations face physical barriers to accessing key public resources and may experience difficulty engaging in proper preparation and evacuation measures (Garner et al. 2020, 368). This finding, which is based on quantitative data, is also mirrored in sociologist Eric Klinenberg's paper "Dying Alone: The Social Production of Urban Isolation" which features his ethnographic research on the 1995 Chicago heat wave. When Klinenberg spoke with older people who were living in the Chicago Housing Authority's senior facilities during the heatwave, various residents mentioned that the elevators in their buildings were often broken (Klinenberg 2001, 520). When the heat wave hit, the lack of functioning elevators resulted in residents who were unable to use stairs being relegated to their non air-conditioned apartments (Klinenberg 2001, 520). This is one example of how reduced mobility can directly affect the ability of older residents to survive extreme weather events.

In addition to reduced mobility, older people also have a decreased ability to physically withstand heat stress (Kenny et al. 2010, 1054). Kenny et al. found that people aged 60 years and older experience higher risk of heat exhaustion, cramps, and heat strokes. This is a result of the fact that as people age, their body's ability to maintain its core temperature is greatly decreased

(Kenny et al. 2010, 1054). When an older person experiences high temperatures, their body is also less likely to trigger responses that combat heat stress such as sweat production, which facilitates evaporative heat loss (Kenny et al. 2010, 1054). These decreased thermoregulatory capabilities exist in conjunction with the fact that underlying health conditions and subsequent medication use, which can also play a role in heat-related mortality, are more prevalent in older populations (Kenny et al. 2010, 1054). Garner et al. also found that older people that experience cognitive impairment from health conditions more common in older age, such as dementia, may also have a lower perceived danger of extreme weather events and are thus less likely to adequately prepare for climate emergencies (Garner et al. 2020, 368).

Another key factor that causes older populations to experience increased vulnerability to extreme weather is social isolation. Jan Semenza, the Head of Health Determinants Programme for the European Centre for Disease Prevention and Control, studied deaths from the 1995 Chicago heat wave and found that the people who had the largest risk of heat-related death or cardiovascular illness were "those in frail health, such as elderly persons, and those who were socially isolated" (Semenza et al. 1996, 84). In the previously mentioned paper by Klinenberg, he argues that these two categories overlap to a greater extent than most research demonstrates, since the truly isolated are unlikely to participate in studies at all (Klinenberg 2001, 502). Klinenberg argues that the 1995 Chicago heat wave exposed a crisis of loneliness among older urban populations as many of the older adults who died were also alone (Klinenberg 2001, 502). He identifies four main social conditions of modern U.S. cities that produce isolation in older adults: (1) aging populations, (2) fear of crime, (3) lack of safe and functional public spaces in poor areas and specific residential facilities, and (4) changes in state social welfare systems (Klinenberg 2001, 508). These conditions create a population of what Buffel et al. refers to as

"'hard-to-reach'" older people who lack strong social networks due to factors such as "social exclusion, isolation, poverty, restricted mobility, or health problems" (Buffel et al. 2015, 12-13).

In times of environmental crisis, socially-isolated older adults are at an increased vulnerability because they are less likely to receive critical safety information (Klinenberg 1999, 504). Additionally, the likelihood that they access life-saving resources like public cooling centers is largely diminished, as is the likelihood that they have social connections with people who will check on them (Klinenberg 1999, 504). These impacts are only intensified for older people who are experiencing loss of income and/or transitioning to a fixed income, such as social security (Haq 2008, 3). The result of these factors is a growing population of people that are uniquely vulnerable to extreme weather events.

B. Global Aging Initiatives: the Age-Friendly Cities Movement

As a consequence of population aging, there has been a growth of scholarly interest in global aging initiatives like the World Health Organization's Age-Friendly Cities (AFC) framework. Since the creation of the AFC framework in 2007, it has been subject to a range of scholarly criticism regarding its focus, content, and effectiveness.

The AFC framework was a divergence from earlier international discussions on the wellbeing of older populations. In the report that was published following the United Nations' Assembly on Ageing in 1982, the wellbeing of older people is discussed largely within the context of health (UN 1982). As a result, the policy recommendations coming out of the assembly pertain to access to medical care and aim to reduce the "disabilities and diseases of the aging"; there is little regard for social and emotional wellbeing (UN 1982, 61). The report has subsequently been criticized by scholars such as Dr. Alexandre Kalache, the president of the International Longevity Centre in Brazil, for promoting a representation of older populations

defined by “disease, decline, and disability” rather than creating policies that address the aspects of modern social, political, and economic environments that create dangerous living conditions for older people (Kalache 2016, 67).

When the UN reconvened to evaluate the impacts of the 1982 report, they developed a new initiative called the Vienna International Plan of Action on Aging. This new report, published in 2002, demonstrated a broader focus that included “ensuring supportive and enabling environments” for older adults by addressing the socioeconomic factors that contribute to vulnerability in older populations (Buffel et al. 2015). There was also a shift away from relying largely on quantitative data like dependency ratios, which refers to “the number of old people depending their material on younger, economically active and wage-earning people,” and a shift towards more qualitative data that centers the lived experiences of older adults (UN 1982, 57). This transition is evident in the rollout of World Health Organization’s (WHO) Global Age-Friendly Cities project in 2006, which gathered focus groups of older people, caregivers, and local health providers from 33 cities around the world to identify the core aspects of an ‘age-friendly city’ (WHO 2007). From there, the WHO developed an Age-Friendly City framework that identifies eight interconnected domains that are essential to the well-being of older people in urban areas: housing, social participation, respect and social inclusion, civic participation and employment, communication and information, community support and health services, outdoor spaces and buildings, and transportation (WHO 2007).

Given the framework’s attempt at organizing complex urban life into eight domains, scholars across different disciplines have developed arguments for the inclusion of additional domains that they believe are critical to the establishment of age-friendly communities. For example, Hannah Marston and Joost van Hoof argue that technology is necessary to all urban

aging initiatives and have proposed a new version of the AFC framework that incorporates smart city concepts, such as the use of sensors to collect public data, in order to provide public resources to residents in a more efficient manner (Marston and van Hoof 2018, 8). They have developed a "smart age-friendly ecosystem framework" (SAfE) that includes the original eight domains of urban life. However, instead of the original center circle that represents the age-friendly city, it features three concentric circles of increasing size: "the age-friendly living environment," "the age-friendly physical space," and "technology & associated ICTs" (Marston and van Hoof 2018, 26).

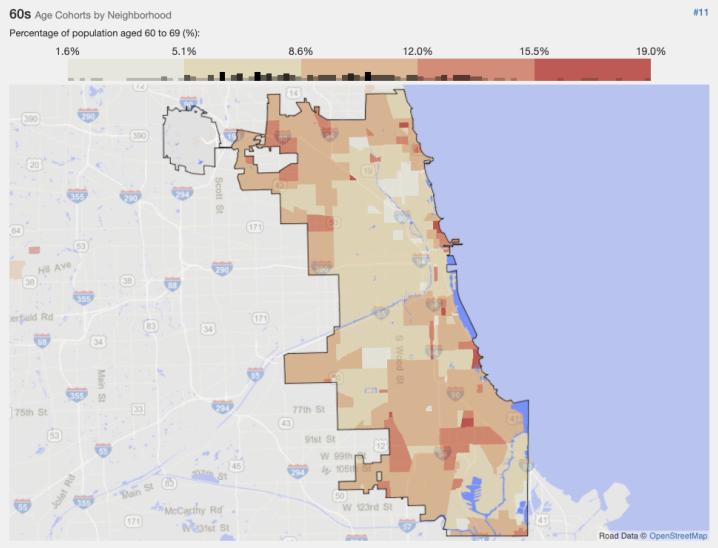

Figure 3. Map of the percentage of people in each neighborhood age 60 through 69. Prepared by Statistical Atlas using U.S. Census Data from 2010 and American Community Survey Data from 2012-2016 ("The Demographic of Statistical Atlas of the United States").

Other scholars, like Murtaugh et al., claim that in order to effectively address the core issues of urban aging, a far more radical approach is necessary. Murtaugh et al. argue that a major cause of urban aging issues is spatial exclusion generated by the property economy (Murtaugh et al. 2022, 65). In many cities around the world, there has been "a reduction of social and affordable" housing options in downtown city centers (Murtaugh et al. 2022, 65). Murtaugh

et al. argue that as a result, the inner-city is restricted to the most productive, profitable populations, i.e. younger adults, and older adults, who are often no longer members of the workforce and rely on a fixed income, are relegated to the periphery (Murtaugh et al. 2022, 65). This phenomenon is illustrated in Figure 3. The map, which was created by the Statistical Atlas using the U.S. Census and American Community Survey data, depicts the percentage of people in each neighborhood that are aged 60 through 69. The neighborhoods with higher proportions of people in their 60's form a ring around the northern center of the city, demonstrating the spatial exclusion that Murtaugh et al. highlight in their work. As older people are pushed to the periphery by rising costs of living, they are moved further away from central public resources resulting in weakened access to public services and networks of support (Murtaugh et al. 2022, 65). Murtaugh et al. argue that the constant spatial process of centering profit and peripheralizing all else is inherent to the property economy, and thus so is the marginalization of older communities (Murtaugh et al. 2022, 65).

While the AFC framework has received an array of critiques, it continues to be regarded by scholars as one of the leading initiatives on urban aging and has been praised by local leaders for providing communities a simple yet flexible roadmap that can be applied in diverse contexts and that considers the importance of social, emotional, and physical environments in promoting age-friendliness. I believe that its prominence within urban aging conversations as well as the fact that its development was driven by the experiences of older people themselves makes it an ideal framework to ground my project, the goal of which is to integrate age-friendly and environmental justice conversations while uplifting the lived experiences of older adults.

C. Environmental Justice (EJ) and Ageism

Despite the clearly disproportionate impacts that climate change has on older populations, discussions concerning age are largely absent from environmental justice discourse. In fact, many modern understandings of environmental justice are devoid of any mention of age. The U.S. Environmental Protection Agency's definition of environmental justice is as follows:

> Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies (US EPA).

The failure to recognize age as an identity that has powerful social connotations can be traced back to an original understanding of aging as a purely medical phenomenon on the international scale (UN 1982). In response to a hegemonic understanding of aging as an objective scientific process, aging scholars such as Hanne Laceulle and Jan Baars have argued that aging is not a "value-free biological process that unfolds in synchrony with our chronological age, but [rather] a normative cultural construction" (Laceulle and Baars 2014, 36). This approach is based on an understanding of age as a "socio-culturally constituted" identity that impacts people's relationships to "economic, institutional, and political factors" (Laceulle and Baars 2014, 36). They argue that this results in older adults being "deprived of access to meaningful social roles, of the opportunity to exercise free agentic choice regarding fundamental matters in their lives, or even of the basic material resources needed to secure a basic quality of life" (Laceulle and Baars 2014, 35).

Given this conception of age as a social identity and the demonstrated impacts of climate change on older populations, the EPA's failure to mention age in their definition of

environmental justice (EJ) is a dangerous oversight that not only exposes an existing gap within EJ work, but also reinforces it. The fact that age has not been fully integrated into conversations on environmental inequity is emblematic of a larger issue: discrimination against people on the basis of age has only recently been acknowledged as a prominent form of prejudice and, in many ways, is still left widely unaddressed.

According to a group of researchers from the Yale School of Public Health in 2018, ageism is "one of the least acknowledged forms of prejudice" (Levy et al. 2018, 174). Levy et al. highlight the fact that the U.S. resisted a UN resolution proposed in 2012, 2014, and 2017 that would have developed a "legal instrument to promote and protect the rights and dignity of older persons" as evidence of the U.S.'s disregard for aging issues (Levy et al. 2018, 174) In an attempt to provide quantitative data that demonstrates the severity of aging issues, Levy et al. determined the cost of ageism as defined by "discrimination aimed at older persons, negative age stereotypes, and negative self-perceptions of aging" (Levy et al. 2018, 174). The study found that there was an excess cost of $11.1 billion related to age discrimination, $28.5 billion related to negative age stereotypes, and $33.7 billion related to negative self-perceptions of aging (Levy et al. 2018, 178). These excess costs convey the impact of ageism on spending in an attempt to persuade policymakers to address these issues with urgency. .

While the origins of ageism are contested, many scholars, such as Galton et al., highlight a relationship between ageism and death anxiety as a possible cause for prejudice towards older communities (Galton et al. 2020). In an online survey study of 500 undergraduate psychology students, Galton et al. found that participants who reported that they "fear the physical and mental deterioration of a loved one leading to death" also showed

higher agreement (on a 1-5 scale of strongly disagree to strongly agree) with “distancing themselves from older adults,” “supporting prejudicial measures against older adults,” and “antagonism fueled by stereotypes about old age” (Galton et al. 2020). Furthermore, in a study by Bodner et al., researchers found that in addition to death anxiety, anxiety around the aging process itself is a contributor to ageist attitudes (Bodner et al. 2015). These findings support the Terror Management Theory, a psychological perspective which understands ageism as a coping mechanism individuals employ as they come to terms with their mortality (Martens et al. 2005).

The ageism described above is embedded within the EJ movement, causing scholars to overlook the intersection of aging and the environment despite the clear ways that achieving aging equity aligns with the core values of the movement. These connections are evident in the “Principles of Environmental Justice,” which were developed at the First National People of Color Environmental Leadership Summit in 1991, and continue to be viewed as the “defining” principles of the EJ movement. Out of the seventeen principles, four of them have direct, though unstated, connections to the protection of older communities in the face of environmental crisis. This includes Principle 2, which demands policy “based on mutual respect and justice for all peoples, free from any form of discrimination or bias,” as well as Principle 7, which highlights the importance of people’s “right to participate as equal partners at every level of decision-making,” Principle 9, which outlines the right to “quality health care,” and Principle 12, which emphasizes the importance of “honoring the cultural integrity of all communities” and “fair access for all to the full range of resources” in cities and rural areas (Delegates to the First National People of Color Environmental Leadership Summit 1991). Beyond these specific principles, there are also indirect connections that can

be drawn between social, political, and economic issues and the protection of older communities.

Though age has not been widely incorporated into EJ frameworks to any degree, sociologist Deborah Lowry is one scholar that argues that age is a social identity deeply related to environmental justice. Lowry claims that age's status as a fundamental "social identity and *relation*" that "intersects with race, class, and gender to produce particular power relations and experiences" necessitates its inclusion in environmental justice conservations (Lowry 2009, 109). Furthermore, she argues that a person's age often directly affects things such as "work force participation, time spent at home, and day-to-day interactions with her/his environment" which are all directly related to a person's environmental health (Lowry 2009, 109). For the EJ movement to continue on without a genuine commitment to prioritizing equity for older populations goes against its central principles. This paper will outline possible paths forward for achieving a vision of EJ that includes older communities.

After reviewing three of the main bodies of literature relating to the impact of extreme weather events on older populations, it becomes evident that despite the clear overlaps between age-related weather vulnerabilities, the AFC framework, and environmental justice principles, these topic areas have yet to be integrated in a cohesive way. I will build on this literature by designing climate resilience policy recommendations that simultaneously address the underlying conditions that create extreme weather vulnerability in older adults and call attention to the ways that age as a social identity affects the extent to which populations experience environmental injustice. The final product will be a revised version of the Age-Friendly City framework that addresses the relationship between older populations and climate change.

IV. Data and Methods

Research on aging has broadened from its initial form as a mainly quantitative field to also include social scientific approaches that are centered around qualitative accounts of aging. In an effort to continue to inject a largely quantitative body of research with qualitative perspectives, I collected data by conducting 10 approximately 45-minute, semi-structured interviews with aging advocates, city planners, policymakers, and researchers working on the intersection between aging and climate. The goal of these interviews was to (a) gain insight into why there is limited municipal support for older people experiencing the impacts of climate change, (b) develop an understanding of which policies would address the most urgent climate issues for older populations, and (c) understand the challenges that may arise in designing and implementing these policies. Using this data and the analysis of relevant local, state, and international policy documents, I developed a 'Climate Resilience' domain of the AFC framework that lays out guidelines for creating cities that acknowledge and reckon with the disproportionate impact of climate change on older communities.

Chicago as an Area of Focus

While my research engages deeply with the AFC framework, which is an international framework, much of my data is focused on aging and climate within the context of Chicago. It is commonplace within the study of age-friendly cities for researchers to begin at the city-level and then scale their findings so that they are applicable in larger settings, as was done in order to create the original AFC framework (WHO 2007). In order to build sufficiently nuanced and relevant climate policy guidelines, my project would need to be replicated across a diverse range of cities in a manner similar to the initial AFC research. While this is beyond the scope of this project, I have aimed to achieve a similar level of nuance by interviewing people working in

aging at local, state, national, and international levels so that the new framework is as widely applicable as possible.

Interview and Primary Source Analysis

While I was searching for interview participants, I encountered the SHARE (Supporting Healthy Aging Resources & Education) Network at UChicago Medicine, an initiative that, through financial support from the U.S. Department of Health and Human Services, facilitates knowledge and resource sharing across people within the older community and people working to support it. The SHARE Network was useful in identifying organizations actively engaging with older people in Chicago. I also contacted organizations that were listed as supporters of Illinois Aging Together, a statewide campaign for aging equity. I found the email contact information for organizations listed on the SHARE Network and Illinois Aging Together using their individual websites. I also used the snowball method to get connected with more possible interview participants. All interview participants were contacted via email.

At the beginning of every interview, I received verbal consent from the participant to record the meeting. I used otter.ai to create transcripts from the audio files and conducted a manual review of each transcript to ensure accuracy. In terms of data analysis, I read each transcript to identify main themes/arguments and then compared themes across the interviews to develop a list of areas of agreement between the participants and areas of tension. After completing the interviews, I reviewed the transcripts and completed content analysis in order to pull out main themes and suggest policy programs informed by the perspectives of the interviewees.

Table I: Organizations	
Organizations	**Scale**
H.O.M.E. (Housing Opportunities and Maintenance for the Elderly)	Local
Age-Friendly Greater Pittsburgh	
AgeOptions, Inc.	
Age-Friendly Innovation Center	
Connecticut Age Well Collaborative (2 interviewees)	State
Aging Together Illinois - Health & Medicine Policy Research Group (2 interviewees)	
National Housing Trust	National
AARP (American Association of Retired Persons)	
Multisolving Institute	International

I interviewed ten individuals with professional experience related to the ability of older populations to age in place in the face of the climate crisis. The following table provides key details regarding the background of each of the ten interviewees in order to provide context on their perspectives. Throughout the analysis section, I use the titles listed in Table II to refer to each interviewee.

Table II: Interviewees	
Title	**Expertise/Training/Profession/Role**
Interviewee #1	Gerontologist and director of age-friendly initiative
Interviewee #2	Planning for aging consultant
Interviewee #3	Program director at an aging nonprofit
Interviewee #4	City planner with experience in sustainability planning and planning for aging
Interviewee #5	Policy director with specialization in health equity
Interviewee #6	Health and aging organizer
Interviewee #7	Director of aging initiative
Interviewee #8	Aging researcher and social worker, PhD in Public Policy and Gerontology
Interviewee #9	Policy director at a housing nonprofit
Interviewee #10	Climate scientist and executive director of policy organization

In addition to qualitative interviews, this project also includes analysis of primary source material. I analyzed the the city of Chicago's most recent "Age-Friendly Chicago: Findings from a Community-Wide Baseline Assessment" published in 2015, the Illinois Department on Aging's "State Plan on Aging FY2022-FY2024," and the United Nations' "Decade of Healthy Ageing 2021-2030 in a Climate-changing World." These documents provided me with local, state, and international perspectives on issues relating to aging and climate. I then synthesized the key findings from the interview data with the primary source analysis to identify areas of policy success and opportunities for improvement.

Anticipated Challenges

One of the anticipated challenges of interviewing people about this topic area is a lack of direct knowledge about the issue, as one of the main problems I am aiming to address is the disconnect between the body of research that demonstrates the impacts of climate change on

older adults and the age-friendly policies that are implemented on the ground. Multiple times throughout the process, advocacy organizations that I reached out to initially responded that they did not have any anecdotal or empirical knowledge about climate change and older adults. While this response confirms the need for guidelines that translate research into policy, it complicated the questions that I was able to ask interview participants. In these cases, I relied on questions that related to aging policy more generally and focused on strengthening my understanding of the current policy landscape of Chicago as well as the reasons as to why older adults are commonly left out of decision-making processes.

Another possible concern is that many of the interview participants themselves were not 65 years or older and thus were serving as representatives of this population, sharing the concerns and lived experiences that older adults had shared with them. With this in mind, the specific research gap that this project does not grapple with the complex ways that climate change affects the lives of older adults, as there is already substantial quantitative and qualitative data that investigates this issue. Rather, this project aims to uncover the possible ways that these outlined challenges could be addressed through expanding the AFC framework to include a set of policy guidelines that will build climate resilience among older people living in cities. My research therefore involves interviews with advocates, city planners, policymakers, and researchers who work within this realm and can speak to both existing aging policy and knowledge gaps in terms of how aging issues relate to climate change.

V. Data Analysis

In the following two sections, I present a combined analysis of interview data and existing policy documents to investigate the following research questions: how can cities develop policies that safeguard older populations from climate change–induced extreme weather? How

can city policies support the ability of older adults to age in their communities in the face of climate change? Throughout the section, I incorporate quotes from interviews to investigate the lack of action on issues relating to the intersection of climate and aging in order to identify the key barriers to policy change. In the subsequent policy recommendations section, I explore possible paths forward for the City of Chicago that are informed by the perspectives of people actively engaged in aging and/or climate work as well as the successes and failures of current policies.

A. "Never the twain shall meet": the Climate/Aging Gap

The disconnect between climate research and aging research I described in the literature review, which I hereafter refer to as the "climate/aging gap," is also apparent in the interviews I conducted and the policy documents I analyzed. Out of the ten interviewees I spoke with, seven of them spoke directly about the siloing between the aging network, a term used to describe the assortment of organizations serving older adults, and other relevant fields. This disconnect was cited as a key barrier for developing and implementing policies that address the disproportionate impact of climate change on older communities.

The knowledge gap between people working in aging and people working in climate was evident from the outset of my data collection. As I was recruiting interview participants, multiple local aging organizations were hesitant to participate because of their reported lack of knowledge on climate change. One individual told me that though they were interested in participating, they didn't "have any data, anecdotal or otherwise on this issue." It quickly became clear that the gap in the literature was mirrored in a gap in on-the-ground knowledge about the intersection of climate and aging issues. The fact of the matter is that aging organizations are already experiencing the indirect impacts of climate change on older populations. For Interviewee #3,

their work providing roofing repairs to the homes of older adults is made both more frequent and urgent given increasingly severe extreme weather events. Even so, these impacts are not situated in the broader context of climate change, and EJ language is certainly not used often to conceptualize the disproportionate impact of these events on older adults.

While I identified a clear disregard for older populations within environmental justice discourse in the literature review, the creation of the climate/aging gap cannot solely be put on those working on climate issues. From the interview data, it is clear that there is also a willful neglect for climate change issues within aging organizations. According to Interviewee #9, the fact that "older adults were disproportionately dying from climate disasters…and no one seemed to really care" at an aging nonprofit they formerly worked for was part of the reason they left the organization. The interviewee shared that:

> People in the aging world don't see that climate change is their work. They don't see it as impacting their population, they think it's someone else's job…Their job is to provide services and ensure that medical care is provided and advocate on behalf of older adults, but there is not yet a widespread recognition that this actually is your job and it has to be your job because your population…is being impacted more than anyone else by climate change so you need to be at the table helping to be apart of these conversations.

While Interviewee #9 specifically argued that some aging organizations purposefully neglect climate change conversations because they view them as "politically risky and politically contentious," interviewees also identified structural reasons behind the climate/aging gap. Interviewee #7 spoke to the role that "fragmented funding" plays in promoting programs that have a narrow focus, and as a result, tend to overlook the intersections between issues. In other words, the climate/aging gap is partially a result of the fact that programs that provide support for aging issues or climate issues are typically funded by government entities that are separated by issue area. For instance, an environmental agency might fund research on home

weatherization that measures the reduction of carbon emissions that result from the program. Interviewee #7 suggested that this narrow focus leads to missed opportunities for collaboration across disciplines which would allow us to understand the co-benefits of a home weatherization program and work across funding streams to create large-scale, intersectional change through a single policy or investment.

> Maybe an environmental agency is investing in insulation. Is somebody measuring the positive health outcomes resulting from that environmental investment? And is it improving older adult health? You can then go to the health making institute, whether it's the Department of Public Health or the CDC, depending on the level of government, and they then internalize, 'Oh, we can invest in this too.' But that kind of cross sector thinking is hard for a lot of people.

Interviewee #10 spoke to the same structural issues, noting that "without proactively trying to cross those boundaries" between funding streams, intersectional policy solutions are not going to happen "by default." They shared that only "one in five countries look at the health benefits when they're formulating their climate pledges," leading to major oversight in terms of opportunities to create solutions that address multiple overlapping challenges at once. Furthermore, Interviewee #10 argued that this siloing can be traced back to educational institutions that funnel people into highly-specific disciplines. Even if two people at a university are working on the same issue, they may be located under different schools and be unaware of one another's existence. This presents a tremendous barrier to developing and implementing policies that engage with the intersection of climate and aging. The interview data suggests that in order to enact such policies, broader structural changes in funding and education, which siloes people based on individual disciplines, are necessary.

The siloing of different issue areas is a particularly relevant challenge for the intersection of climate and aging because of the expansiveness and complexity of each of these topics. The

intensification of climate change and the growth in older populations have affected and will continue to affect every sector of our world from healthcare to education to social security. In terms of population aging, Interviewee #2 captured the widespread effects of these phenomena in their response to a question about which stakeholders need to be involved in planning for aging populations. They claimed that there's "a shorter list in [their] mind of stakeholders that shouldn't be involved in those conversations than should be involved." This "whole of community approach" was echoed by Interviewee #9, who spoke about the challenges that arise from the fact that a broad range of sectors need to be involved in climate change conversations. They emphasized the fact that each group that needs a seat at the climate and aging table, including but not limited to meteorologists, public health experts, climate organizers, and emergency response personnel, has specific workflows, funding streams, and data processes that they are bringing to the conversation. While it's clear that these types of collaboration are crucial to solving these issues, the majority of interviewees highlighted the fact that the collaboration has proven difficult given the complexity of the issues at hand.

B. False Narratives and Self-Fulfilling Prophecies

Another set of challenges that complicate attempts to address the climate and aging intersection are the false narratives surrounding older people's beliefs about climate change. One of the most common assumptions about older communities is that they do not care about climate issues. While this is accepted as fact by many, recent research has brought this statement into question. In 2008, a national survey of 792 people aged 55 and older conducted by Cornell University found that 83% of respondents "would do what is right for the environment no matter the cost" and 96% of respondents "think we should maintain the environment for future generations" (Frumkin et al 2012). Moreover, in a study published by the United Nations

Development Programme in 2021, they reported that 58% of people aged 60 and older believe that "climate change is a global emergency" (UNDP 2021, p.9). These statistics are supported by multiple interviewees who passionately pushed back against the widely held notion that older communities do not care about climate change issues. Interviewee #1 argued that:

> I think climate is seen as…a young person's priority, which is not true…There's so many people across generations who care about it, who understand why it's important…in the present and for the future. I think a real misconception when it comes to older adults is that they're so present focused and not future thinking…

Interviewee #9 attributed this false narrative to the assumption that because older generations have caused climate change, they must not care about solving it. However, in accordance with the results of recent surveys, every interviewee who referenced this assumption insisted that it was not a true representation of older adults. Furthermore, Interviewee #8 suggested that many older adults not only care about climate change, but were and continue to be "at the forefront" of environmental movements because they "grew up as [an] environmental consciousness was…awakening in our country." Interviewee #8 noted the fact that the book *Silent Spring* by Rachel Carson, which is often used as a reference point for the beginning of the environmentalist movement in the U.S., was published in 1962. The older adults of today were anywhere from age 3 to 40 when this book was published and Interviewee #8 argued that many of them adopted the environmental consciousness and the idea that "we have a responsibility not just to one another, but to our planet." From Interviewee #8's perspective, older people are uniquely situated to care about climate change and have important insights to offer. From an analysis of the interview data and surveys that have been conducted in recent years, it is clear that this narrative is a gross generalization of a large and diverse group of people. It also has the potential to act as a dangerous self-fulfilling prophecy. In other words, writing off older people as

enemies to the environmental justice movement may result in older adults feeling alienated and unwelcome in these spaces, causing their participation in the movement to become far less likely.

Unfortunately, the belief that older people do not care about climate change is just one of many aging stereotypes that affect the development and implementation of climate action pertaining to older communities. For many people, Interviewee #7 argued, their idea of aging and older adults is wrapped up in a monolith.

> So even now, if I go say 'aging' to someone, they'll think senior center, they'll think Meals on Wheels, they'll think respite care. There's this pretty narrow band of community and social services that tends to be people's first associations with age and aging.

A similar sentiment was echoed by Interviewee #9, who claimed that climate advocates only think of older people as living in nursing homes. This overlooks people who might live in intergenerational households, people who live independently, people who are unhoused, or people who experience a variety of other living situations. Interviewee #9 argued that once climate policymakers have considered the impact of climate change on people living in nursing homes, "they think they've checked the box" for its impact on older people at large. However, as of 2010, only 4.5% of adults aged 65 and over lived in a nursing home (Forum 2010). Furthermore, 75% of nursing home populations identified as white in 2017 (Gonzalez 2020). Policy that is based on this aging monolith centers the experience of white older adults and marginalizes the experiences of people of color; to conceive of all older people as living in nursing homes erases the diversity within this population and prevents policies from achieving true aging equity.

C. Aging and Climate Change Denial

Another challenge to developing climate/aging policy solutions is the role that aging denial and climate change denial play in sidelining policy action related to these issues. Both of these forms of denial are rooted in a fear of death, as highlighted by Interviewee #7:

> I feel like there are not a lot of people that are inherently drawn to older adults as a population and I've often thought about why is that. It's a much easier sell for people to want to study children or really anything else. It's not the go-to for most people in terms of academic enterprise or interest and I have all kinds of theories about that including the fact that we're all afraid of death and dying and don't really want to engage with a population that reminds us…that we're mortal.

Similarly, Interviewee #9 attributed a lack of policy action on aging issues to the fact that in the United States, people "don't really like to talk about aging" or "to talk about old people." They argued that issues that are framed as specifically relating to older adults are not able to gain "political traction." Using Terror Management Theory, this reluctance to discuss aging issues can be understood as an attempt to avoid discussions that force people to confront their own mortality.

In a paper written by Andy Martens, Jamie L. Goldenburg, and Jeff Greenberg, the authors use Terror Management Theory (TMT), which posits that "the human desire for survival, coupled with the uniquely human knowledge that death is inevitable creates an ever-present potential for anxiety that must be kept under control," as a method for explaining prejudice against older people (Martens et al. 2005). The authors argue that older people serve as reminders of death, and because "people are motivated to avoid consciously thinking about their own death," they consequently harbor "negative attitudes and behaviors" towards older communities (Martens et al. 2005). This argument can be extended to understand death anxiety as a main cause of the willful neglect of aging issues in the United States. This willful neglect is

especially problematic for issues that relate to both aging and climate change, as the threat of climate change elicits similarly avoidant responses due to its affiliation with widespread death.

When asked what is the biggest challenge to implementing environmental policies that safeguard older adults, Interviewee #8 replied that is the fact that "we are still arguing whether or not the climate is an issue." They claimed that "the distrust and the misperceptions and the misbelief" around climate change result in a lack of "political will" for climate action. The climate change denial highlighted by Interviewee #8, like aging denial, can be understood through the lens of Terror Management Theory. Smith et al. argue that TMT is crucial for the "understanding of human responses to environmental mortality reminders" (Smith et al. 2022, 25). Given current framings of climate change as an "existential threat" to humans, the researchers argue that people's treatment of their environment is closely related to how they "manage mortality fears" (Smith et al. 2022, 25). This has the potential to "result in negative environmental outcomes, increase polarization toward outgroups, and even…identity-based violence" (Smith et al. 2022, 25). In the same way that death anxiety leads to widespread neglect of aging issues, it also plays a role in sidelining climate issues. As a result, policies that address the intersection of these issues, which are both inextricably linked to death, do not receive adequate attention at the policy level.

D. Overview of the Findings

There are a variety of factors that have resulted in a disregard for the impact of climate change on older populations. Firstly, the perceived political risk, fragmented funding structures, and complexity of the issues has resulted in a glaring climate/aging gap both in the literature and on the ground between people working in aging and people working climate. Moreover, the popular narrative that older generations do not care about climate change has created a

self-fulfilling prophecy in which older adults are written off by EJ movements and therefore become less likely to engage with the work. This false narrative, in addition to the narrow understandings of older populations, act as barriers to intergenerational climate action. Finally, the combination of aging denial and climate change denial has created a lack of political traction that must be overcome through initiatives that foster meaningful intergenerational relationships related to climate issues.

VI. Policy Evaluation and Recommendations

In order to develop policy recommendations that address the intersection of climate and aging issues, I present an analysis of one local Chicago policy document, one Illinois state policy document, and one UJN international policy document. Together, these documents capture the current policy landscape as it relates to the disproportionate impact of climate change on older adults. The purpose of this analysis is to identify existing policy successes and failures that, in addition to the findings from the qualitative interviews, inform the guidelines for a ninth domain of the AFC framework titled 'Climate Resilience.' While this domain is necessarily specific to Chicago due to the scope of the research, it models possible paths towards achieving intergenerational environmental justice that may be replicated in a similar fashion in cities around the world.

A. "Age-Friendly Chicago: Findings from a Community-Wide Baseline Assessment"

The city of Chicago joined the WHO Age-Friendly Network under Mayor Rahm Emanuel in July of 2012. The City of Chicago's Department of Family and Support Services was designated as the lead for age-friendly initiatives and in 2015, they published "Age-Friendly Chicago: Findings from a Community-Wide Baseline Assessment" in partnership with The Chicago Community Trust and Northwestern University's Feinberg School of Medicine.

At best, the report indirectly references climate change. For example, one section of the report uses data from community surveys to evaluate the city's age-friendliness based on the eight AFC domains. The report never mentions climate change by name, but discusses "environmental emergencies" in the survey section that evaluates the Communication and Information domain of the AFC framework ("Age-Friendly Chicago" 2015, 31). In one question in this section, participants were asked to respond on a scale of 1 (strongly disagree) to 5 (strongly agree) to the statement, "I know what to do in case of an environmental emergency (including a flood, an electrical outage, extreme heat or cold, a fire)" ("Age-Friendly Chicago" 2015, 31). The document reports that 56% of older people agreed or strongly agreed that they knew what to do in both environmental and health emergencies, meaning that 44% of the older adults that participated in the survey responded with a combination of neither, somewhat disagree, or strongly disagree to this statement ("Age Friendly-Chicago" 2015, 85). This metric is incredibly concerning given the array of risks that environmental emergencies pose to older communities and the predictions that environmental emergencies will become increasingly frequent and severe in the future (Calvin et al. 2023, 37). Another notable finding from the report is that "limited English speakers appear to be less likely to know what to do in case of an environmental or health emergency compared with those who completed the English language version of the survey" as a key finding of the report ("Age-Friendly Chicago" 2015, 84). This suggests that not only does there need to be increased awareness around emergency preparedness, but this information also needs to be made accessible in a wide range of languages.

As evident above, the only aspects of the community survey data that are relevant to climate change are within the narrow context of emergency response. This is also true of the policy initiatives that the authors put forth at the end of the report. Out of fourteen total

initiatives that the authors claim the city should prioritize, only two of them, “Vertical villages” and “Senior Ambassadors in the Police Departments (cross department initiative with Community Police),” are related to decreasing extreme weather vulnerability and it is only focused on enhancing emergency preparedness (“Age-Friendly Chicago” 2015, 88). It’s important to note that this is the most recent document listed on the Age-Friendly Chicago website, so it is difficult to measure whether any of the initiatives have been acted on, and furthermore, whether they have had a tangible positive impact on older populations in Chicago. My attempts to get in contact with the Chicago Department of Family and Support Services were not successful and I was therefore unable to access any updated information.

While the “Age-Friendly Chicago: Findings from a Community-Wide Baseline Assessment” does acknowledge the threat that extreme weather poses to older adults, it fails to contextualize these events within the broader context of climate change. Not only does this limit their focus to emergency response, which results in an overlooking of the social, economic, and physical factors that contribute to extreme weather vulnerability, but it also misses the opportunity to bridge the climate/aging gap by clearly acknowledging the overlap between these two sets of issues.

B. “Illinois State Plan on Aging FY 2022-2024”

Every three years, each state is required by the Older Americans Act and the Administration for Community Living to submit a State Plan on Aging. According to the authors of the “Illinois State Plan on Aging FY 2022-2024,” this document was written with the goal of “[advancing] health equity, [ensuring] equitable distribution to address the social determinants of health, and [focusing] on helping support people’s unmet social needs,” all of which relate to a

myriad of issues that are located at the intersection of climate and aging (IL Department on Aging 2022, 24).

Similar to the Age-Friendly Chicago report, the document does not directly mention climate change, nor does it refer to extreme weather generally or specifically refer to a type of extreme weather event such as heat waves. Instead, it broadly speaks about emergency response and preparedness, often using the term "disaster" in these sections (IL Department on Aging 2022, 30). In one instance, the authors use the term "man-made disasters" (IL Department on Aging 2022, 83). This language gets closer to contextualizing these extreme weather events within a broader pattern of climate change than the language in Age-Friendly Chicago report, but it still fails to make this connection clear.

Beyond the more explicit references to the impact of climate change on older adults mentioned above, two of the six outlined focus areas relate to climate/aging issues: "Participant-Directed/Person-Centered Planning Practices" and "Elder Justice" (IL Department on Aging 2022, 24). The first of the two creates possibilities for participatory justice in which older people are directly involved in planning for their futures. In practice, this may look like an aging commission in each city neighborhood that consults new businesses, organizations, and policymakers on how they can better address the needs of the older community. Moreover, while the document does not speak directly to climate justice for older populations, the authors do highlight elder justice as a key issue area. This relates to their seventh goal which aims to "protect older adults and persons with disabilities by strengthening interagency collaboration to prevent abuse, neglect and exploitation, and increase public awareness" (IL Department on Aging 2022). This indirectly acknowledges age as a social identity which affects the ways people are treated, a key step towards understanding and ultimately eradicating ageism. While

these two focus areas do not directly engage with the concept of climate change within the policy document, there are opportunities for applying these concepts to the intersection of climate change and aging issues in future policy.

C. "UN Decade of Healthy Ageing 2021-2030 in a Climate-changing World"

The "UN Decade of Healthy Ageing" project provides communities with resources on how to promote longer, healthier lives for their residents and how governments can best support the needs of their older populations. Within the " Decade of Healthy Ageing" plan, there is a 23-page policy brief that speaks directly to the intersection of population aging and climate change and the resulting dangerous conditions. This is a groundbreaking step towards closing the climate/aging gap and the fact that the impact of climate change on older populations is now being discussed on an international scale supports the argument that these issues are both urgent and relevant across diverse global contexts.

In terms of developing a ninth domain for Climate Resilience for the AFC framework, this document provides a high-level perspective on what the authors consider to be the four main "Action Areas." The "Action Areas" include: (1) "changing how we think, feel and act towards age and aging," (2) "developing communities in ways that foster the abilities of older people," (3) "delivering person-centered integrated care and primary health services responsive to older people," and (4) "providing older people access to long-term care if they need it" (UN 2020, 2). While the brief does not offer specific policy solutions to address these concerns, identifying main goals is a valuable contribution to the climate/aging conversation. The "Action Areas" provide suggestions for the key concepts relating to the intersection of climate and aging that echo concepts that came up in the interviews, including combating ageism and developing "participatory intergenerational approaches" (UN 2020, 16). The document notes that in order to

meet climate goals, “people in all countries, of all ages, including older people, will have to take urgent action” (UN 2020, 16). This call for intergenerational climate action emphasizes the importance of breaking down barriers to climate change activism that were made explicitly clear in the interviews. This speaks to the importance of creating space for older people within environmental justice conversations rather than imposing self-fulfilling prophecies on them, ultimately dissuading older adults from engaging in climate action due to negative assumptions about their concerns about climate change.

While neither enforceable nor specific, the “UN Decade on Healthy Ageing 2021-2030 in a Climate-Changeing World” importantly addresses the intersection of climate change and aging populations issues head on, something that is not true of the Chicago or Illinois policy documents. The brief also contextualizes extreme weather events within the broader context of climate change which opens the door for talking about these challenges within EJ spaces.

D. Climate Resilience in Chicago

Based on the wide relevance of the AFC framework in the aging field and feedback from the majority of the interviewees that the AFC framework has had positive impacts, there is demonstrated value in developing climate resilience policy principles within the specific context of this framework. Given the scope of my data, the findings from this research make up a ninth domain that is specific to the city of Chicago. While it is not wholly generalizable, it delineates space for climate conversations within an aging-centered context and draws clear connections between climate and aging issues, which is evidently missing in current local and state policy contexts. The Climate Resilience domain will focus on closing the climate/aging gap, debunking false narratives around older adults and climate change, and promoting conversations about

aging within local government to increase awareness and understanding around the lived experiences of older adults.

To close the climate/aging gap, I recommend the establishment of a 'Chicago Age-Friendly Scholars Network' modeled after the Age-Friendly Greater Pittsburgh initiative ("Age-Friendly Greater Pittsburgh" 2022). Given Chicago's access to multiple research universities, it is imperative that the Department of Family and Support Services promote collaboration between researchers across diverse disciplines and provide opportunities for scholars to learn about the ways that aging populations are impacted by their work. The Age-Friendly Scholars Network will also allow disciplines that are not typically associated with aging to learn about the diverse experiences of older adults, which is critical to eliminating ageism from educational institutions. At least 25% of the Age-Friendly Scholars Network should be made up of scholars aged 65 and older to ensure intergenerational collaboration. While this network should focus on convening climate researchers and aging researchers at the start, the expansiveness of these issues means that every discipline must be aware of the role of older communities in their work. Creating structures designed to investigate the intersections between aging, climate, and other urgent issues will be critical in preventing siloing and promoting multisolving, a term Interviewee #9 used to describe addressing multiple issues through one investment or policy. This program will also advance conversations around dissolving barriers between funding streams and creating educational structures that encourage collaboration across disciplines rather than hinder it.

To debunk false narratives about older populations, the city of Chicago needs to increase opportunities for intergenerational relationship-building with a focus on creating space for conversations between younger and older individuals about climate change. The Department of

Family and Support Services should leverage the social networks that nonprofit organizations have cultivated to facilitate intergenerational social gatherings that combat aging denial and climate change denial. For example, Little Brothers: Friends of the Elderly is a local nonprofit organization that hosts intergenerational social clubs and builds connections between older residents and community organizations. The city can collaborate with organizations like Little Brothers: Friends of the Elderly to host monthly Climate Chats with participants of all ages. In an article published in the American Journal of Public Health, professor of psychology Dr. Todd Nelson argues that "intergenerational contact" is one of the best methods for reducing ageism (Nelson 2019). By designating a space for talking about two issues that are often avoided due to death anxiety, aging and climate change, community members can begin to deconstruct negative aging stereotypes, including those that result in the exclusion of older adults from environmental justice conversations. These opportunities for intergenerational contact are critical in overcoming aging denial and climate change denial.

To promote conversation around aging within local government, the Department of Family and Support Services must expand opportunities for older adults to be active participants in decision-making processes in their communities. Every neighborhood should be mandated to create an aging commission made up of residents aged 65 and older who are consulted throughout their community's policymaking processes. The guaranteed presence of older community members will provide an opportunity for intergenerational relationships at the policymaking level. These intergenerational relationships are important not only for older adults who are more likely to have weaker social networks, a factor which increases their vulnerability to extreme weather events, but also for younger community members whose assumptions about older adults are affecting their ability to effectively address critical climate/aging issues.

A core contradiction in this paper is the fact that it identifies an urgent need for the inclusion of older adults in the environmental policymaking process at a moment in which the average age in the U.S. Senate is 64 years old (Manning 2024, 2). The fact of the matter is that the older people who currently have policymaking authority in this country, especially at the federal level, are often the most privileged members of their age cohort. In the current 118th Congress, 71.35% of members are male and 96% of members have a college education (Manning 2024). In addition, 75% of Congress identifies as non-Hispanic White despite the fact that non-Hispanic White people represent 59% of the total U.S. population (Schaeffer 2023). Above all, age is an intersectional social identity. As the 1995 Chicago heat wave made clear, it is not just older people that bear the brunt of climate change in the U.S. It is older, low-income, People of Color who are made to be the most vulnerable during environmental crises. Until there are people in power who represent the needs of these communities, adequate protection for older adults will not be possible.

VII. Conclusion

It is likely that most readers of this paper know and/or love someone who is 65 years or older. If we are lucky, we will live to be 65 ourselves. Despite these truths and the substantial evidence that climate change has a disproportionate impact on older adults, the environmental challenges that older adults face go unaddressed by public policy and their perspectives are largely excluded from EJ discourse. Given the increase in older populations, the intensification of climate change, and the growing number of urban residents, there is an urgent need for policy that establishes age-friendly, climate-resilient cities.

Through interviews with professionals working in the aging network and an analysis of relevant local, state, and international policy documents, this project narrows the climate/aging

gap in Chicago to push for a widespread, multisectoral approach to the intersection of older adults and climate change and a recognition of age as a social identity that heavily influences the way people experience environmental crises. The findings of this project uncover problematic misconceptions about older communities in order to create space for more nuanced, constructive discussions on environmental justice that are enhanced by the participation of older adults.

My research is rooted in the specific context of Chicago; as a result, the conclusions made within this paper will not be relevant to the same extent as the AFC framework, which was developed using data from 33 cities across the Global North and South. Rather than attempting to design universal policies, this paper identifies key issues relating to the intersection of aging and climate, develops strategies for addressing common challenges surrounding safeguarding older adults, and sparks multisectoral conversations about the impact of climate change on aging populations. Future research should investigate policies that safeguard older adults experiencing climate change across the Global North and South in order to generate policy guidelines that are more widely applicable. That being said, an international framework will always require some level of ambiguity in order for it to be relevant to every city no matter the geographical, political, or socioeconomic context.

Future research should also study the specific impacts of a range of extreme weather events on older adults with the goal of designing interventions for various forms of environmental crisis. While my research was born out of Chicago's history with extreme heat, the city experiences a wide range of extreme weather– blizzards, flash flooding, tornadoes– all of which have dangerous implications for older residents. Each type of extreme weather event causes older adults to require a specific form of support, like cooling centers vs. heating centers,

so it is important that policymakers are aware of the necessary interventions for each set of conditions.

Moreover, future research should prioritize engaging with people who are aged 65 or older directly. While multiple of my interview participants happened to be older adults, it is important to intentionally seek out the participation of older adults to infuse environmental conversations with their perspectives. It is also important to consider how climate resilience may look different for older adults living in suburban or rural communities that are less densely populated. Creating age-friendly rural communities is of increasing importance as sea level rise will force older people living in the coastal regions of the U.S. to migrate inwards, towards rural communities in Middle America (Lustgarten 2020).

Aging populations and climate change are two challenges of local, regional, and global importance. At their intersection lies a complex, multisectoral issue that threatens the health and wellbeing of older adults around the world. Climate change creates devastating conditions for older communities in Chicago and the broader U.S. However, there is hope in the fact that the current unlivable conditions present us with the rare opportunity to reimagine our relationships with older adults in our communities, to provide thoughtful and sustained care for the people who came before us, and to engage in stronger, more inclusive, intergenerational movements for environmental justice.

VIII. Appendix

Sample Interview Questions

1. How does extreme heat currently impact older people living in Chicago? How is this different from in the past and how do you think this will change in the future?
2. From your perspective, are there ways that the design of Chicago could be improved to protect older populations from heat-related health issues?
3. How do older people's living situations (independent living, assisted living facilities, etc.) affect their vulnerability to extreme heat events?
4. Which, if any, aspects of Chicago's current emergency heat response plans are successful?
5. Which, if any, aspects of Chicago's current emergency heat response plans are failing?
6. Do you think the 1995 Chicago heat wave had tangible impacts on Chicago's emergency response policies? If yes, what are the impacts?
    a. How is (or isn't) the 1995 Chicago heat wave referenced in public conversations around older communities and climate change?
7. From your conversations with older people, how would you characterize their level of concern regarding climate change?
8. How would you characterize the level of concern for people who are advocating for older communities/city officials involved in aging policy?
9. What do you view as the most pressing issue involving older populations and climate change in Chicago?
10. What are the challenges in advocating for older communities specifically?
11. If you could implement one policy right now to protect older people from extreme heat, what would it be?
12. Do you know any other people affiliated with Chicago's policy that impacts 65 and over populations that I should speak to as a part of this project?
13. Is there anything else you would like to share with me that you haven't had the opportunity to already?

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