Assessing Progress in U.S. Age-Friendly Communities: Are Initiatives Making a Difference?

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Abstract

Background and Objectives: Population aging has led to the growth of Age-Friendly Community Initiatives (AFCIs), which focus on shaping community environments to support healthy aging and aging in place. AARP leads the national effort in the U.S. This study is the first to evaluate whether communities joining the AARP Network of Age-Friendly States and Communities (NAFSC) are more age-friendly than others, and whether NAFSC members made progress over time.

Research Design and Methods: This study used the national AARP Livability Index™ data in 2015 and 2024, and identified 736 NAFSC community members and 12 NAFSC state members as of 2024. Livability includes the total livability score and seven categories: housing, neighborhood, transportation, environment, health, engagement, and opportunity. Multilevel mixed-effects linear regression models with state-level random effect were estimated, controlling for community racial/ethnic composition, age structure, income, population density, and metropolitan status.

Results: NAFSC members had significantly higher total livability, neighborhood, transportation, and health scores than non-members in both years. NAFSC communities maintained their levels of engagement and opportunity, despite the national-level decrease in these two domains. Health lagged in communities with a higher share of older adults. Rural communities also lagged behind.

Discussion and Implications: Supporting an aging population requires institutional action, indicated by joining the NAFSC. Encouraging social and civic engagement are also key to improving community livability and supporting aging in place. Greater attention is needed on health, and on rural communities. The age-friendly movement has the potential to benefit both older adults and people of all ages.

Keywords: livability, AARP, social engagement, age-friendly network, age in place

Background and objectives

Population aging creates an imperative for communities to rethink their approaches to planning, economy and social policy (Warner et al., 2025). The rapid growth of Age-Friendly Community Initiatives (AFCIs) reflects this shift, moving beyond an individual-focused approach and emphasizing community physical and social environments that support healthy aging and aging in place (Greenfield et al., 2015; Greenfield et al., 2022a). The community planning approach of AFCIs focuses on the domains of age-friendly communities, such as transportation, housing, civic participation, and uses an explicit framework to assess community strengths (Greenfield et al., 2015; Lehning et al., 2012). Globally, the World Health Organization (WHO) leads this approach, which now includes cities from 57 countries that have joined the WHO Global Network for Age-friendly cities (WHO, n.d.). In the U.S., AARP (formerly named the American Association of Retired Persons) has built and stewarded the national age-friendly community network. Currently, it provides guidance and technical assistance to over 1,000 communities in the age-friendly network (Armbruster & Hwang, 2025).

Although the age-friendly communities movement is increasing, empirical studies evaluating the outcomes of AFCIs are rare (Forsyth & Lyu, 2023). Existing research has primarily used qualitative approaches to examine the impacts of AFCIs on age-friendly domains, such as outdoor space, civic participation, social inclusion or transportation (Black & Oh, 2022; Forsyth & Lyu, 2023; Remillard-Boilard et al., 2020; Zhang & Warner, 2024). Although these qualitative studies provide valuable insights into local processes, they offer limited evidence on whether AFCIs are associated with measurable changes in community livability over time and at broader geographic scales. This study is the first to conduct a national quantitative analysis of community

level action across the U.S., examining whether joining the AARP Network of Age-friendly States and Communities (NAFSC) is associated with quantifiable progress in building more age-friendly environments.

Age-Friendly Community Initiatives

Age-friendly community initiatives (AFCIs) are multi-sector and multi-stakeholder efforts within a local area to shape physical and social environments that support older adults' heath, wellbeing, and aging in place (Greenfield et al., 2015; Black & Oh, 2023). The WHO Global Network for Age-friendly cities network was established in 2010, connecting communities to share knowledge and support the development of innovative, evidence-based solutions (WHO, n.d.). In 2023, WHO (2023) released "National Programs for age-friendly cities and counties: A guideline", emphasizing the importance of national government engagement and highlighting that age-friendly environments benefit people of all ages. AARP has led the Age-Friendly Community movement in the U.S. since 2012. As an affiliate of the WHO global network, AARP provides assistance, resources, and a national network to help local governments plan and implement strategies that make communities more livable for people of all ages (Armbruster & Hwang, 2025; WHO, 2023).

AARP articulated seven livability categories: housing, neighborhood, transportation, environment, health, engagement, and opportunity (Armbruster & Hwang, 2025). AARP developed its livability metrics based on surveys of adults' attitudes on livability and a rigorous expert-led process involving researchers, consultants, and a multidisciplinary advisory committee (AARP, n.d.). The categories align with the WHO age-friendly domains (Harrell et

al., 2014). Housing and transportation are exact matches; AARP neighborhood and environment correspond to WHO outdoor spaces; AARP engagement captures WHO respect/social inclusion and social participation; AARP health and part of engagement relate to WHO communication and community support; and AARP opportunity aligns with WHO civic participation and employment. To quantify livability, AARP launched the first national Livability Index™ for every community in the U.S. in 2015 with periodic updates to 2024. This evidence-based approach provides a comprehensive tool that identifies core elements of livable communities, including affordability, accessibility, mobility, safety, housing, and community engagement (Greenfield et al., 2015; Keyes & Benavides, 2020; Zhang & Warner, 2025).)

Age-Friendly Community Initiatives Evaluation

Although the number of Age-Friendly Community Initiatives (AFCIs) has grown rapidly, comprehensive evaluations of their outcomes remain limited. The complexity of AFCI goals, the diversity of program approaches, and the lack of standardized evaluation criteria contribute to these challenges (Forsyth & Lyu, 2023; Greenfield et al., 2015). Review papers specifically highlight that few studies have assessed the outcomes of AFCIs in terms of community change, health and well-being improvements (Lehning & Greenfield, 2017), or long-term impacts on the development of age-friendly neighborhoods (Forsyth & Lyu, 2023). This gap is expected, as AFCIs in the U.S. just entered their second decade. Research on AFCIs has gradually shifted from conceptualization, to studies of implementation and development, with a recent increase in empirical assessments (Torku et al., 2021).

Although there is limited evidence on the long-term effect of AFCIs (Forsyth & Lyu, 2023; Greenfield et al., 2015), qualitative and survey studies have documented the role of AFCIs in improving age-friendliness. Case studies have illustrated how AFCIs collaborate with community agencies to improve social participation and service delivery for older adults (Remillard-Boilard et al., 2020; Zhang & Warner, 2024), especially during crises such as COVID-19 (Greenfield et al., 2022a; Zhang & Warner, 2024). AARP has tracked the progress of communities joining NAFSC with annual surveys. A content analysis of 30 AFCI progress reports found that, although community priorities varied based on local needs assessments, all communities reported improvement in health equity with a focus on physical accessibility and social inclusion, while there was moderate evidence of older adult engagement in AFCI activities (Black & Oh, 2022). The 2024 AARP Age-Friendly Community Leadership Survey shows that a majority of NAFSC members reported improvements in transportation, communication and information, outdoor spaces, and social participation, while improvement in civic participation and employment remained lower but substantially increased from the 2021 survey (AARP, 2022, 2025). Overall, the percentage of AFCIs reporting improvements across livability categories increased between 2021 and 2024 (AARP, 2022, 2025).

Theoretical Framework: A Multilevel, Ecological Perspective on Aging

Theoretically, AFCI is grounded in two ecological models that link individuals to their environments across multiple levels. The person-environment fit model of aging argues that optimal aging occurs when individuals' capabilities align with the support of their physical and social environments (Lawton & Nahemow, 1973). Expanding beyond the individual level, ecological systems theory puts the individual in a broader community and societal context and

explores the interactions between micro, meso and macro systems (Bronfenbrenner, 1977). Built on these frameworks, a set of environmental domains have been embedded in practical guidance for community planning to support healthy aging (Harrell et al., 2014; WHO, 2023).

AFCIs, as a community planning approach, operate on the meso (community) level of the ecological model (Greenfield et al., 2015; Lehning et al., 2012). Meso-level theories based on assets, strategic planning and collective impact have been applied to AFCIs (Greenfield et al., 2022b). Supportive community environments, such as mixed-use neighborhood, services, walkability, social inclusion and civic participation, enable older adults to remain independent and socially engaged despite age-related functional declines (Choi, 2022; Warner & Zhang, 2022; WHO, 2023). At a macro level, population aging requires societal adjustment that shapes economy, social policy and planning to promote well-being for everyone (Warner et al., 2025). AFCIs can drive meso level community change as well as broader macro (societal) change in how aging is understood and addressed (Black & Oh, 2023; Coyle et al., 2022; Greenfield & Pope, 2024). These initiatives can, in turn, have an impact on micro (individual) health and social participation (Cao et al., 2024; Choi, 2022; Kim et al., 2022).

This study conceptualizes the role of AFCIs using social capital theory (Agnitsch et al., 2006), and assess AFCI's impacts based on various community capitals, especially the physical and social capital (Flora et al, 2016). Social capital is comprised of both bonding ties, which connect people within a community, and bridging ties, which connect people and groups across communities and institutions (Agnitsch et al., 2006). AFCIs can be understood primarily as a form of bridging social capital that supports bonding capital. Societal change on aging needs

intersectional collaboration among public, private, and civil society sectors working toward shared age-friendly goals (Black & Oh, 2023; Warner et al., 2025). By building partnerships across sectors, such as planning, housing, public health and transportation, AFCIs support bridging capital to integrate age-friendly goals into local policy and practice (Forsyth & Lyu, 2023; Menec & Brown, 2022). These efforts can shape other community capitals such as the built environment, zoning codes, and services to better support the needs of aging populations (Warner & Zhang, 2021, 2022), and build an ecosystem for system change (Greenfield & Pope, 2024).

Guided by community capitals theory, this study examines how AFCIs contribute to improvements in community livability across multiple domains. Community capitals theory emphasizes that different forms of capital are interconnected, and that social capital can support the development of other types of community capital (Flora, 2018). In the age-friendly framework, these broader impacts are reflected in improvements across key livability domains (Harrell et al., 2014; WHO, 2023). This study conducts the first national analysis of community-level age-friendly initiatives in the U.S., focusing on the community planning approach of AFCIs. Specifically, this study examines communities that have joined NAFSC, and asks two research questions: (1) are NAFSC member communities more age-friendly than non-member communities? and (2) do NAFSC member communities experience greater improvements in livability from 2015 to 2024 across multiple domains?

Research design and method

Design

This study is the first to comprehensively evaluate the relationship between AFCIs and multiple livability categories and compare them with other communities. The unit of analysis is community, consistent with the focus of age-friendly initiatives and AARP's framing of livable communities (Harrell et al., 2014). Communities are operationalized using geographic units, including counties and places (e.g., cities, towns, villages, and boroughs). This study uses AARP's community-level Livability Index™, an objective, nationally representative data set aligned with WHO age-friendly domains (Harrell et al., 2014).

This study employed a dual design that combines between-community and within-community comparison, using the AARP community level scores from 2015 (the first year of collection) and 2024 (the most recent data). Specifically, this study compares (1) livability levels between NAFSC member and non-NAFSC member communities (between-community design) and examine (2) changes in livability over time within communities by NAFSC membership status (within-community design). AARP NAFSC is the network of AFCIs in the U.S.; thus, the goal of this study is to examine whether NAFSC member communities perform better than others, and whether they have achieved measurable improvements over time.

Data

Data were drawn from the 2015 and 2024 AARP Livability Index™. The AARP Livability Index™ is created with more than 50 unique data sources from local, state, federal, and private organizations (AARP, n.d.). It includes 40 metrics aggregated into seven categories to capture

complex, interconnected factors shaping community livability for all ages: housing (affordability and access), neighborhood (proximity and security), transportation (safety and convenience), environment (clean air and water), health (prevention, access and quality), engagement (civic and social involvement), and opportunity (inclusion and possibilities). See Appendix 1 for detailed metrics and AARP's process in developing the livability categories.

AARP leads the Age-Friendly Community movement in the U.S. As of 2024, 969 communities had joined the AARP NAFSC, and 736 were matched with the livability data. Most of the unmatched places are towns and townships without livability data in 2015. Figure 1 shows the number of NAFSC members from 2012 to 2024. There has been a dramatic increase in NAFSC communities over time. At the state level, New York was the first state to join NAFSC in 2017, followed by Colorado and Massachusetts in 2018. Pennsylvania joined the network in 2024 and Ohio joined in 2025. A total of 12 out of 50 states had joined the network by 2024 (California, Colorado, Florida, Maine, Massachusetts, Michigan, Minnesota, New Jersey, New York, North Carolina, Pennsylvania, Washington).

Figure 1 about here

Measures

AARP livability categories

This study assessed all seven AARP livability categories, including housing, neighborhood, transportation, environment, health, engagement, and opportunity, as well as the overall average livability score (the average of these categories). To compare NAFSC and non-NAFSC

communities across years and assess changes over time, all scores were standardized using AARP's method, with a mean of 50 and a standard deviation of 15.

NAFSC members

NAFSC members are communities that have formally committed to the goals of AFCIs as of 2024. Communities were coded as NAFSC members if they joined the AARP NAFSC at any time between 2012 to 2024 (1=member, 0=non-member). The primary measure is a binary indicator of NAFSC membership to facilitate clearer interpretation. To assess whether the timing of participation affects the results, this study also measured the number of years since joining the network (through 2024) as a sensitivity analysis.

The association between NAFSC members and livability over time was measured using an interaction term between NAFSC and year (2015 vs. 2024). The year variable (2015 as the reference) is a time trend that captures changes in livability between 2015 and 2024 among non-NAFSC communities, because the model accounts for NAFSC membership. NAFSC membership status represents the association between livability and NAFSC membership in 2015, indicating the initial livability for NAFSC members. The interaction term indicates whether changes in livability from 2015 to 2024 differ by whether a community is part of the NAFSC. A positive interaction coefficient would suggest that communities with NAFSC membership experienced greater improvements in livability categories. This study also examined whether state participation in the NAFSC is associated with differences in community livability. A supportive political environment at the state level may encourage local jurisdictions to adopt age-friendly policies and improve livability (Gleason et al., 2024; Wickersham and Coyle, 2026).

Community characteristics

Key socioeconomic characteristics were controlled to account for community differences that may influence livability (Forsyth & Lyu, 2023; WHO, 2023). The covariates include racial and ethnic composition (percent of non-Hispanic White population), age structure (percent of adults aged 65 and older), income (per capita income adjusted for inflation to 2014 dollars), population density, and metropolitan status (metro counties and principal cities). These data are from American Community Survey (ACS) 2011-2015 (5-year estimates) and ACS 2019-2023 (5-year estimates). Population density and per capita income were log-transformed to reduce right skew. Continuous covariates were standardized prior to regression analyses to facilitate effect size comparisons.

Analyses

Analytical sample

The sample includes 67,445 observations of community livability for 2015 and 2024 from AARP. To assess changes between 2015 and 2024, the analysis was restricted to communities with the same Federal Information Processing Standards (FIPS) codes in both years, creating a balanced panel. FIPS codes were also used to link livability data with community characteristics. After excluding observations with missing values, particularly per capita income (2.7%), the final analytic sample included 31,276 communities (3,131 counties and 28,145 places) in two years (N=62,552), representing 93% of the full sample. Communities with missing values tended to be smaller places and had lower livability scores than those in the analytical sample.

Analytical approach

To assess the associations between NAFSC membership and livability outcomes over time, this study first used the Scheffé test to examine the raw differences in livability scores across years (2015 vs. 2024) and NAFSC membership status. The Scheffé test provides a conservative approach to multiple comparisons and has the lowest likelihood of Type I error compared with other post-hoc tests (Midway et al., 2020). Next, multilevel mixed-effects linear regression models were estimated, adjusting for community characteristics related to livability categories. The models also included a random intercept at the state level (identified by state FIPS code) to account for the hierarchical structure of the data, with communities nested within states. This approach controls unobserved state-level factors, such as policy context and funding priorities, that may influence livability. Then, the marginal effects were calculated to estimate adjusted differences in livability between NAFSC and non-NAFSC communities within each year and changes over time by NAFSC membership status, and tested whether these differences and trends were statistically significant.

Sensitivity analyses were conducted. NAFSC participation was modeled using the number of years since joining the network rather than a binary indicator. Results are consistent with the primary findings (Appendix 2). A binary NAFSC membership variable was used in the main analysis to facilitate clearer interpretation. Propensity score matching was also used to improve comparability between NAFSC and non-NAFSC communities. Results are largely consistent with the main findings (Appendix 3). In addition, this study complemented statistical tests with assessments of practical significance for key variables of interest. Effect sizes were calculated to

evaluate the magnitude of observed effects as an indicator of practical significance (Cohen, 1992; Sen et al., 2021). Results are shown in Appendix 4 and discussed below.

Results

Compared with non-NAFSC members, NAFSC communities ranked significantly higher in overall livability, neighborhood, transportation, and health categories (Table1), with a moderate to large effect size (Appendix 4). This shows meaningful advantages for NAFSC communities across these livability categories. NAFSC communities had lower scores in housing and opportunity than non-NAFSC in both years (Table 1), with small effect sizes (Appendix 4). The two groups showed similar scores in the environment category. The score on the engagement category changed dramatically: NAFSC communities ranked lower than non-members in 2015, but significantly higher by 2024 (Table1), with a moderate effect size (Appendix 4).

Table 1 about here

Among NAFSC members, Table 1 shows significant improvements in overall livability, transportation, and housing from 2015 to 2024, while other categories remained stable. Among non-NAFSC communities, scores in transportation, housing, health and environment improved, while overall livability, neighborhood, engagement, and opportunity declined over the same period. Housing showed the most notable improvement in both groups, whereas non-NAFSC communities experienced a substantial decline in engagement (Appendix 4). Compared to non-NAFSC members, a higher percentage of NAFSC members are located in states that joined the NAFSC.

NAFSC communities are larger, denser, wealthier and more urban. As shown in Table 1, a dramatically higher percentage of NAFSC members are metropolitan counties or principal cities (48% compared to 7% of non-NAFSC members). NAFSC members also have a lower percentage of non-Hispanic White population, a lower percentage of older adults, and higher per capita income and population density than non-NAFSC members. Both NAFSC and non-NAFSC members experienced a significant decrease in the non-Hispanic White population, and a significant increase in the percent of older adults and per capita income, consistent with broader demographic trends.

After adjusting for community sociodemographic characteristics, the results for NAFSC membership were largely consistent with the Scheffé tests. In 2015, NAFSC communities had higher scores in neighborhood, transportation, health, and overall livability, but lower scores in engagement and opportunity compared with non-NAFSC communities (Table 2). However, the housing category showed a different pattern between descriptive statistics (NAFSC member was lower, Table 1) and model results (NAFSC member was higher, Table 2). One plausible explanation is that the unadjusted housing score (Table 1), measuring affordability and accessibility, largely reflects community wealth (e.g. per capita income). As shown in Table 1, NAFSC members have a higher per capita income, resulting in a lower unadjusted housing score. After controlling covariates (e.g. per capital income), NAFSC membership was related to higher housing scores, a core domain of the age-friendly community framework. From 2015 to 2024, NAFSC communities showed significant improvements in neighborhood, engagement, opportunity, and overall livability, but not in health (Table 2). From a practical perspective,

NAFSC membership alone had very small effects on most livability categories (Appendix 4). However, over time, the combined effects of NAFSC membership and time were more pronounced, particularly for improvements in housing and engagement (Appendix 4).

Table 2 about here

State membership in the NAFSC is significantly associated with some physical environment categories. Communities located in NAFSC states had higher neighborhood scores, but faced challenges in housing (Table 2). The remaining livability categories showed no association with state membership. Other state-level factors, as indicated by the significant state-level random effects, may play an important role across all livability categories. The random effects were especially large for health, engagement, and opportunity scores, indicating greater between-state variation in these domains.

Wealthier, denser, and urban communities had higher scores in total livability, neighborhood, transportation, health, and engagement, but lower in environment (Table 2). Housing scores were higher in metro core communities (which have more multifamily housing and subsidized housing), and in communities with lower per capita income (which are more likely to be rural and have lower housing costs). Communities with a higher percentage of non-Hispanic White residents had higher scores in environment, engagement, and opportunity, but lower in other livability categories. Although communities with a larger share of older adults had higher scores in transportation, housing, and engagement, those communities ranked lower in neighborhood, health, and opportunity, resulting in lower overall livability scores.

Are NAFSC members making progress in livability?

This study estimated the predicted differences in livability between NAFSC and non-NAFSC communities within each year, holding other factors constant (Figure 2; cross sectional marginal effect), and then tested whether the differences are statistically significant over time (asterisks in Figure 2). Next, this study estimated the predicted changes in livability over time for NAFSC and non-NAFSC communities separately, holding other factors constant (Figure 3; longitudinal marginal effect), and then tested whether these changes differed significantly by NAFSC membership (asterisks in Figure 3). Together, these figures illustrate both the magnitude and pattern of livability differences between the two groups and how livability changed over time. For example, Figure 2 shows that NAFSC members had significantly higher livability scores than non-NAFSC communities in both 2015 and 2024, with the gap between the two groups widening in 2024. Figure 3 shows that this widening gap is driven by significant improvement among NAFSC members from 2015 to 2024, whereas non-NAFSC communities experienced a slight decline in overall livability.

Figure 2 about here

Figure 2 shows NAFSC member communities had significantly higher physical environment scores, including neighborhood, transportation, and housing, than non-NAFSC communities in both 2015 and 2024. Although the differences between the two groups slightly increased in 2024, the changes were not statistically significant. Figure 3 further shows these patterns: while NAFSC members maintained a stable lead in physical environment, the underlying trends varied

across livability categories. In the neighborhood category, both NAFSC and non-NAFSC communities experienced declines from 2015 to 2024, with the decrease being statistically significant only among non-NAFSC communities. For transportation, scores increased in both groups, with NAFSC members showing a larger but not statistically significant improvement. In terms of housing, both groups made substantial and comparable improvements from 2015 to 2024.

Figure 3 about here

Health is the only category where the gap between NAFSC members and non-NAFSC members significantly narrowed (Figure 2). NAFSC members still led in the health category in both 2015 and 2024 (Figure 2). However, after controlling community characteristics, non-NAFSC members had significant but small improvement from 2015 to 2024, while NAFSC members had a noticeable decline (Figure 3). As a result, the difference between the two groups decreased considerably (Figure 2). For the environment category, there was little difference between the two groups (Figure 2), and both made small progress from 2015 to 2024 (Figure 3).

NAFSC members made substantial progress in the social environment, including engagement and opportunity. In 2015, NAFSC communities had significantly lower scores in both categories compared to non-NAFSC communities, but by 2024, NAFSC scores were significantly higher (Figure 2). However, there are important differences between the two categories. For engagement, non-NAFSC communities had a dramatic decline in engagement scores, while NAFSC members remained stable (Figure 3). In contrast, for the opportunity category, NAFSC

members showed a significant small improvement from 2015 to 2024, whereas non-NAFSC communities experienced a slight decline (Figure 3). The increase among NAFSC members exceeded the decrease among non-NAFSC communities, resulting in NAFSC members leading in opportunity scores by 2024, despite lagging behind in 2015.

Discussion and implications

This study is the first to use community-level data across the entire U.S. to examine whether communities with AFCIs are more livable and whether they have made progress from 2015 to 2024. The answers to both questions are partially yes. For the overall livability score, which includes both physical and social environments, communities that joined the AARP-NAFSC had higher scores in both 2015 and 2024. NAFSC members also increased their lead in 2024, showing greater improvement. Non-NAFSC members had a slight decline in livability. This study shows that differences by NAFSC membership are noticeable in age-friendly practice. Although the effect size of NAFSC membership became small after controlling for covariates and multilevel effects (Appendix 4), it remains practically meaningful. As a community planning approach, joining NAFSC can improve the livability of the entire communities. These findings suggest that AFCIs have the potential to foster system-level changes in policy, practice, and resource allocation that make communities more age-friendly in general (Black & Oh, 2022; Greenfield & Pope, 2024).

The results for the physical and social environments reflect different effects of AFCIs. NAFSC member communities have a more age-friendly physical environment, leading in the areas of neighborhood, transportation, and housing. This may be because NAFSC communities are more

urban, wealthier, and have higher population density (Table 1). Implementing and sustaining AFCIs requires substantial resources, including financial, political, social, and human capital (Forsyth & Lyu, 2023; Greenfield et al., 2015). For example, the sub-analysis of NAFSC membership shows that per capita income in 2015, had the strongest association with the likelihood of a community joining the NAFSC (Appendix 3). However, some livability metrics are beyond the reach of AFCIs. For example, the results on housing suggest that this livability category may be more closely tied to community socioeconomic conditions, such as community wealth and cost of living. Housing cost and housing cost burden are important elements in the housing category (see Appendix 1), but less actionable at the community level than other metrics such as subsidized housing and universal design guidelines. Housing is a priority area for local governments to make communities more age-friendly (Chattopadhyay, 2024; Mahmood et al., 2022), and this study finds both NAFSC and non-NAFSC members had similar improvements in housing from 2015 to 2024.

Changes in the social environment, including engagement and opportunity, tell an interesting story. NAFSC members maintained similar levels of engagement over time, while non-NAFSC members experienced a substantial decline. Social engagement has been declining in the U.S., along with rising social isolation even before the COVID-19 pandemic (Kannan & Veazie, 2023). This decline is captured in this analysis, as non-NAFSC members had an average 8-point decrease in engagement scores (Table 1). In contrast, NAFSC members appear to offset this trend. Joining the AARP network itself is an act of institutional engagement, reflecting political and societal level support for age-friendliness. NAFSC members also prioritize social and civic

engagement to build age-friendly communities (AARP, 2025). This suggests that engagement efforts through AFCI activities can strengthen broader community-level social engagement.

Age-friendly initiatives can foster inclusion and opportunities for all residents. As shown in this study, opportunity is another social environment category where NAFSC members showed improvement, while non-members declined. This finding supports previous research showing that AFCI actions promote age equity and diversity (Greenfield et al., 2025). This aligns with the goals of AARP and the WHO Age-Friendly Cities and Communities framework, which emphasize building communities that work for people of all ages (Armbruster & Hwang, 2025; WHO, 2023). The improvement in economic opportunity, a key element of the opportunity category, among NAFSC members also implies that AFCIs have the potential to bridge the age-friendly movement with economic development. Research shows that partnerships between businesses and age-friendly communities can stimulate local economies and support aging in place (Black & Oh, 2023; Coyle et al., 2022). The findings suggest that AFCIs may play an important role in advancing both social and economic opportunities, creating benefits that extend to the broader community.

Communities with greater need for age-friendly initiatives are not necessarily more livable. This is especially the case for low density, rural communities. This study found that communities with a higher percentage of older adults had lower overall livability scores, particularly in the categories of neighborhood, opportunity, and health. Older adults tend to live in lower-density areas (Herbert & Molinsky, 2019), and this rural effect may help explain lower neighborhood scores (Warner & Zhang, 2022; Zhang et al., 2020). Communities with a higher proportion of

older adults also tend to have fewer working-age residents, which may limit economic activity and contribute to lower opportunity scores. The lower scores in the health category are especially concerning, suggesting that communities with more older adults may experience disadvantages across multiple dimensions of health, including health behaviors, access to exercise opportunities, health care access, quality of care, and patient experience. In contrast, communities with more older adults had higher scores in housing, transportation, and engagement - domains that directly support daily living. Prior research emphasizes that livability for older adults is more about daily activity and social participation than presence of physical amenities (Heatwole Shank & Cutchin, 2016). These domains are especially important given decreased mobility among older adults, which increases the risk of social isolation and loneliness, resulting in further disability and higher mortality (Tomida et al., 2024). Supportive housing, reliable transportation services, and opportunities for engagement help mitigate these risks and support aging in place (Herbert & Molinsky, 2019; Zhang & Warner, 2024), even in rural communities (Warner et al., 2017; Zhang et al., 2020).

What can make communities more livable and more age-friendly?

Participation in the AFCI network matters. Communities with AFCIs are more livable than those without, and they have made more progress over the past decade. AFCIs aim to promote social connection and mobility, address ageism, and integrate health and social services (Cao et al., 2024; Forsyth & Lyu, 2023; WHO, 2023). Successful implementation of AFCIs requires external and local resources, community engagement, and strategic efforts to build support (Forsyth & Lyu, 2023). Sustaining AFCIs needs to extend the concept of age-friendly or age-inclusive environment across sectors and organizations through branding, public visibility and building

partnerships (Coyle et al., 2022). In the NAFSC, AARP helps with the planning process so communities can decide on their own priorities (Armbruster & Hwang, 2025). These strategies can help mitigate skepticism among communities hesitant to join the NAFSC network due to concerns over resource constraints and fear of losing autonomy (Gleason et al., 2024).

More effort needs to be made to reach rural communities. Rural areas are aging faster than urban areas. However, this study found that urban communities are leading the way in most of the livability categories, confirming earlier analyses of the AARP livability showing significant rural disparities (Zhang et al., 2020). It is possible that the livability indicators themselves reflect an urban bias. Existing AARP livability indicators and the WHO age-friendly domains prioritize neighborhood density and mixed-use development, health care services and walkability. These are community capitals more likely to be found in cities than in rural communities (Nivestam et al., 2026; Zhang et al., 2020). Because the AFCI framework often guides planning and policy decisions, the urban bias in some of the AARP livability indicators may underestimate community capitals that are more important for rural areas. It is essential to identify age-friendly practices that work for rural and small communities. These may be more concentrated in the social than physical realm, such as digital connectivity, affordable and accessible transportation, social participation and service delivery (Nivestam et al., 2026; Zhang & Warner, 2024).

A multilevel engagement approach is key to promoting more age-friendly communities, and this is where the age-friendly network members stand out. At the community level, this study shows that participation in the NAFSC network can promote social inclusion and civic engagement. At the individual level, older adult engagement in AFCIs can enhance social connection, support

active and healthy aging, and aging in place (Cao et al., 2024; Choi, 2022; Kim et al., 2022). Older adults' engagement in age-friendly planning can also improve age-friendly built environment and services (Cao et al., 2024; Remillard-Boilard et al., 2020; Warner & Zhang, 2021; 2022). At a societal level, state participation may encourage the development of local AFCIs (Gleason et al., 2024; Wickersham & Coyle, 2026), and this study indicates state level NAFSC membership contributes to local progress in the neighborhood category. States can provide training and policy support to encourage local planning innovations to support mixed use neighborhoods. Livability categories can also be influenced by broader state-level policies such as Medicaid expansion, unemployment benefits, and policies encouraging voting access.

An aging world requires new ways of thinking, new forms of engagement and new approaches to the economy, society and planning (Warner et al., 2025). Addressing these challenges requires linking individual needs, institutional action and broader societal perspectives on aging to form a wider coalition for policy change. This study shows that AFCIs, as a form of social capital, strengthen the community physical and social capital to support livability for all ages. This confirms that AFCIs have the potential to not only make communities more age-friendly and livable, but also to enhance community resilience and foster system-level change at the societal level that supports healthy aging and aging in place (Greenfield & Pope, 2024; Lehning, 2018). More importantly, this study emphasizes the importance of social capital in an age-friendly framework, including engaging in the age-friendly network and promoting civic and social engagement to create a more vibrant community for everyone.

Limitations and future research

This study has several limitations. First, as an observational analysis, this study reflects associations rather than causal relationships. Although key factors were adjusted, such as income, urbanicity, and population density, the results may still be influenced by unmeasured confounders, including local leadership and financial or political resources (Forsyth & Lyu, 2023; Greenfield et al., 2015), that were not captured in the data. Future research should better account for these factors to strengthen causal inference. Second, this study did not directly measure outcomes of specific AFCI programs. As shown in previous studies, communities have different priorities across livability categories (AARP, 2025; Armbruster & Hwang, 2025), making national-level measurement challenging. Instead, the analytical approach examines whether joining the age-friendly network is associated with broader community livability. Third, although the proportion of missing data was small (5%), the analytic sample may slightly overrepresent larger or communities with higher livability scores, and the findings may be less generalized to smaller communities. Fourth, some metrics within the AARP livability categories may be largely outside community control, such as cost of living, or embedded within the built environment. Future research should better account for those community characteristics to examine the impact of specific AFCI actions on livability categories and explore different metrics within each category to gain a deeper understanding of AFCIs and livability. Future research should also include attention to the impacts of climate change (Dabelko-Schoeny et al. 2024).

Conclusion

Using unique national data from the AARP Livability Index™ in 2015 and 2024, this study finds that participation in the AARP Network of Age-Friendly States and Communities (NAFSC) is associated with higher overall livability and greater improvement over time. NAFSC members consistently outperformed non-members in overall livability, neighborhood, transportation and health. NAFSC members maintained their level of engagement and improved their opportunity scores, while non-NAFSC showed declines in social inclusion and equity. However, important challenges remain. Communities with a higher share of older adults lag in health, and rural communities continue to fall behind. Engagement is a key component of livability and age-friendly development. NAFSC participation can encourage institutional commitment, and older adult involvement enhances social connection, healthy aging, and aging in place. This study moves beyond the physical focus of person-environment fit, and demonstrates how AFCIs reflect the human ecological model that gives attention to a broader range of community capitals. Social capital is critical, not just at the community scale, but also in bridging to broader policy change. Implementing and sustaining AFCIs will require cross-sector investment, civic participation, and strong partnerships to build visibility and long-term, societal-level support for aging.

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Table 1 Livability categories and socioeconomic characteristics by year and NAFSC membership

Variables	Non-NAFSC member [a] (N=30,540)		NAFSC member [a] (N=736)	
	2015	2024	2015	2024
Total score [a]	49.86[3]	49.97[3]	52.85[2]	54.74[1]
Neighborhood [a]	50.25[2]	49.15[3]	61.85[1]	62.88[1]
Transportation [a]	49.25[4]	50.32[3]	57.58[2]	59.96[1]
Housing [a]	47.45[3]	52.71[1]	45.43[4]	49.60[2]
Health [a]	48.90[3]	50.71[2]	57.95[1]	57.99[1]
Environment [a]	48.63[3]	51.42[1]	49.06[2,3]	51.04[1,2]
Engagement [a]	53.72[1]	46.16[3]	51.42[2]	53.54[1]
Opportunity [a]	50.79[1]	49.34[2]	46.67[3]	48.19[2,3]
In NAFSC state[a]	0.32[2]	0.32[2]	0.46[1]	0.46[1]
Metro core [b]	0.07[2]	0.07[2]	0.48[1]	0.48[1]
Percent Non-Hispanic White [c.d]	77.44[1]	73.78[2]	64.54[3]	60.74[4]
Percent older adult [c.d]	17.66[2]	20.73[1]	14.82[3]	17.67[2]
Per capita income (ln) [c.d]	10.05[3]	10.17[2]	10.20[2]	10.37[1]
Population density (ln) [c.d]	6.23[2]	6.21[2]	6.70[1]	6.72[1]

N= 31,276 U.S. communities

Data sources: a. AARP Livability Index™. b. U.S. Census Delineation Files. c. American Community Survey 2011-2015 (5-year estimates). d. American Community Survey 2019-2023 (5-year estimates).

Note: NAFSC: Network of Age-friendly States and Communities. Superscripts (1-4) are based on Scheffé test results comparing four groups: non-NAFSC members in 2015 and 2024, NAFSC members in 2015 and 2024. Groups with different superscripts are significantly different at $p < 0.05$. The superscripts indicate relative levels: 1 = highest, 2 = medium-high, 3 = medium-low, and 4 = lowest.

Table 2 Results of multilevel mixed-effects linear regression: the association between NAFSC membership and livability categories

Variables	Overall score	Neighborhood	Transportation	Housing	Health	Environment	Engagement	Opportunity
NAFSC member [a]	1.11**	3.35**	3.11**	1.88**	3.98**	0.76	-2.91**	-2.38**
Year [a]	-0.14**	-2.27**	0.29**	6.59**	0.29**	3.17**	-8.33**	-0.75**
NAFSC member * year trend [a]	1.51**	1.34*	1.00	-0.17	-2.68**	-0.72	9.26**	2.53**
In NAFSC state [a]	1.74	4.02**	1.33	-2.92	4.75	2.07	2.48	0.49
Metro core [b]	3.43**	7.03**	10.14**	3.48**	1.07**	0.23	3.62**	-1.54**
Percent Non-Hispanic White [c,d]	0.02	-3.05**	-1.48**	-0.06	-0.28**	1.85**	1.15**	2.04**
Percent older adult [c,d]	-0.40**	-1.27**	0.87**	2.25**	-1.03**	0.03	0.28**	-3.96**
Per capita income (ln) [c,d]	1.48**	4.30**	1.33**	-7.06**	6.46**	-0.50**	3.08**	2.73**
Population density (ln) [c,d]	2.23**	6.73**	3.78**	-0.06	2.86**	-0.63**	1.53**	1.39**
Constant	49.59**	49.13**	50.01**	47.24**	49.62**	48.31**	54.19**	48.56**
Random-effect parameters								
State	8.84**	17.02**	28.55**	23.04**	56.91**	24.28**	56.91**	37.09**
Log likelihood	-189966	-233701	-251267	-242612	-232962	-252257	-242097	-246329

N= 31,276 communities, 62,552 observations

Data source: a. AARP Livability Index™. b. U.S. Census Delineation Files. c. American Community Survey 2011-2015 (5-year estimates). d. American Community Survey 2019-2023 (5-year estimates).

Note: NAFSC: Network of Age-friendly States and Communities. * $p<0.05$, ** $p<0.01$

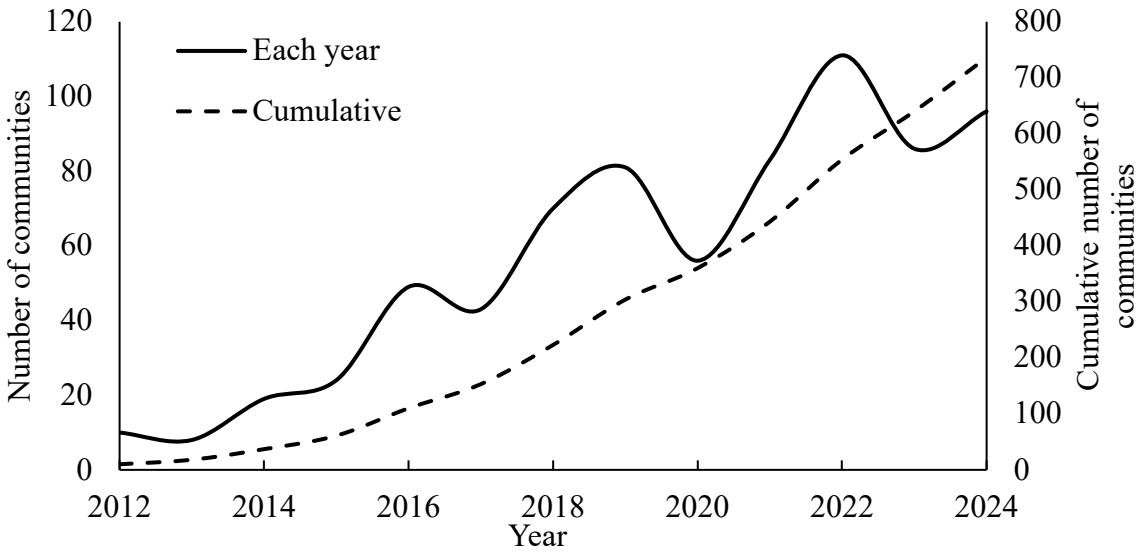


Figure 1 Number of NAFSC members from 2012 to 2024
N=736 communities which joined NAFSC
Source: AARP Livability Index™
Note: NAFSC: Network of Age-friendly States and Communities.

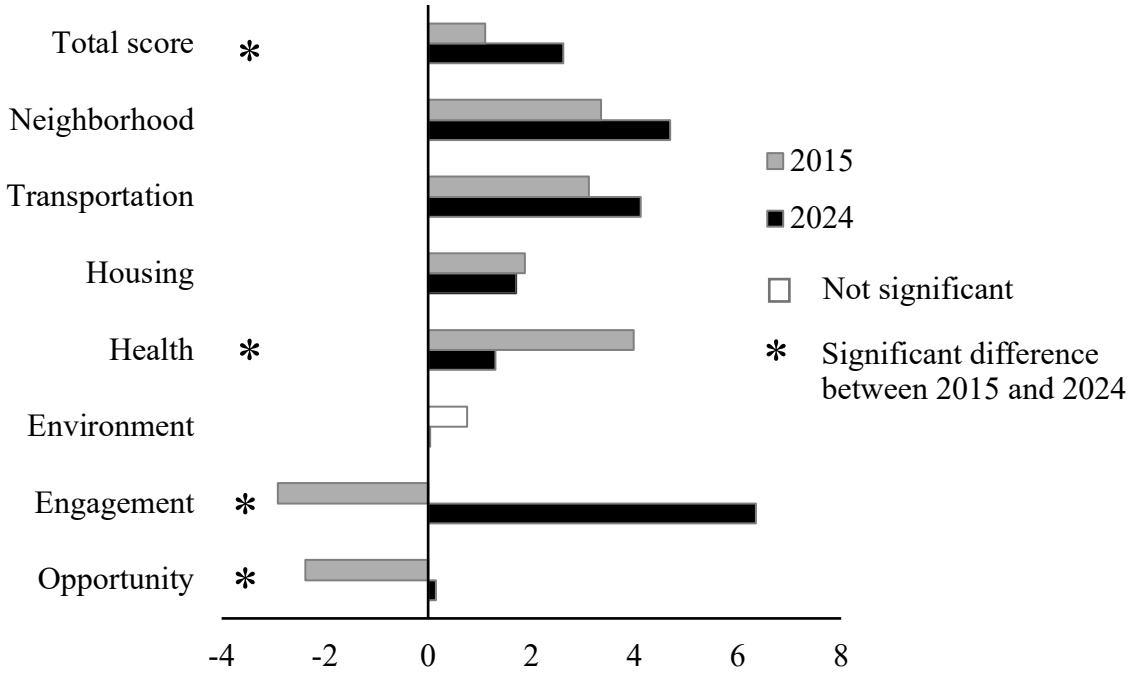


Figure 2 Cross sectional Marginal effect: livability score of NAFSC members compared to non-NAFCS members, 2014 and 2025
Data source: Based on multi-level regression results from Table 2. N= 31,276 U.S. communities.
Note: NAFSC: Network of Age-friendly States and Communities.

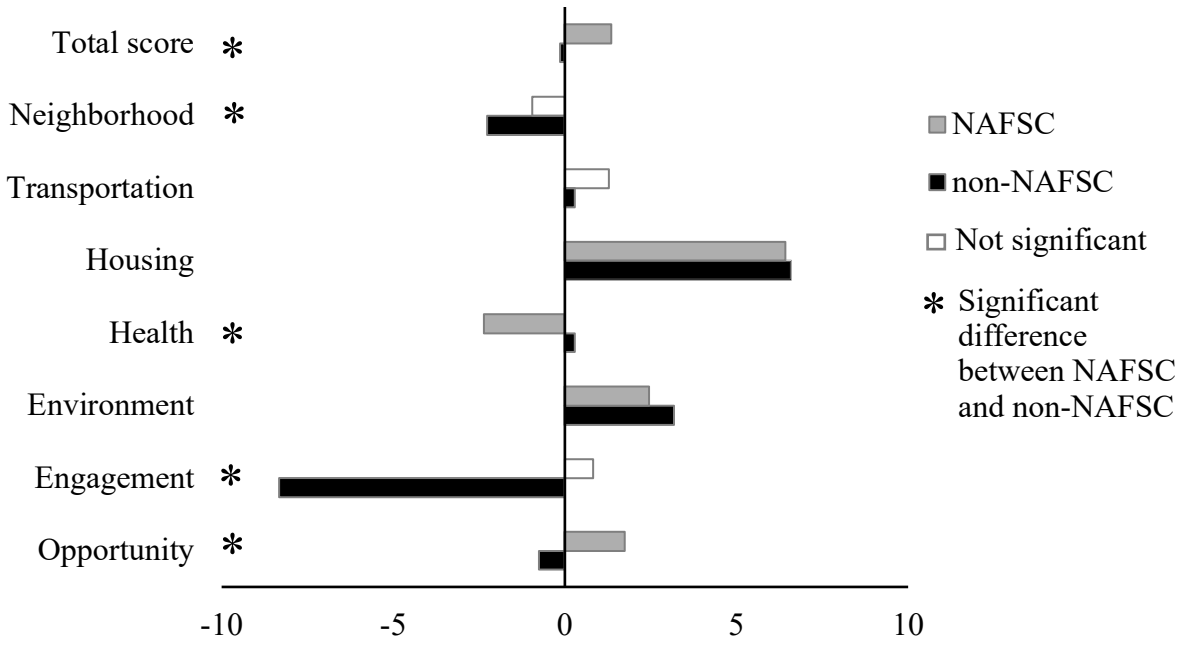


Figure 3 Longitudinal Marginal effect: change in livability score from 2015 to 2024 by NAFSC membership
Data: Based on multi-level regression results from Table 2. N= 31,276 U.S. communities.

Appendix 1 AARP Livability Index™

Table A1 AARP livability category and metrics

Livability category	Metrics
Neighborhood - proximity and security	1. access to grocery stores and farmers' markets, 2. access to parks, 3. access to libraries, 4. access to jobs by transit, 5. access to jobs by auto, 6. diversity of destinations, 7. activity density, 8. crime rate, 9. vacancy rate
Transportation - safety and convenience	1. frequency of local transit service, 2. ADA-accessible stations and vehicles, 3. walkability index, 4. Congestion, 5. household transportation costs, 6. speed limits, 7. crash rate
Housing - affordability and access	1. zero-step entrances, 2. availability of multi-family housing, 3. housing costs, 4. housing cost burden, 5. availability of subsidized housing
Health - prevention, access and quality	1. smoking prevalence, 2. obesity prevalence, 3. access to exercise opportunities, 4. health care professional shortage areas, 5. preventable hospitalization rate, 6. patient satisfaction
Environment - clean air and water	1. drinking water quality, 2. regional air quality, 3. near-roadway pollution, 4. local industrial pollution
Engagement - civic and social involvement	1. broadband cost and speed, 2. opportunity for civic involvement, 3. voting rate, 4. social involvement index, 5. cultural, arts, and entertainment institutions
Opportunity - inclusion and possibilities	1. income inequality, 2. jobs per worker, 3. high school graduation rate, 4. age diversity

Data source: AARP Livability Index™. https://livabilityindex.aarp.org/livability-sources

AARP's process in developing the livability categories.

Before building the Livability Index™, AARP conducted surveys on the preferences of adults and older adults to ensure metrics in each category reflect community livability (AARP, n.d.). In addition, the metrics were selected through a rigorous process led by the AARP Public Policy Institute, outside consultants, and a technical advisory committee of 30 experts in planning, health, aging, environment, and economics (AARP, n.d.). The Livability Index™ was designed to be a comprehensive tool that offers insight into what makes communities more livable.

Livability scores are collected at different geographic scales and then aggregated to measure community livability (AARP, n.d.). Twenty-three metrics assess livability at the neighborhood scale (e.g. census block, tract), and others use data at broader geographic levels (e.g. metro area, city, or county) (AARP, n.d.). All category scores are centered at 50, with a standard deviation of 15 at the block group level, and the overall score is the average of the 7 category scores. During the scoring process, the individual metric raw scores are transformed to have a scale that aligns positively with livability, then standardized to a mean of 0 and standard deviation of 1, and finally outliers are capped at 4 standard deviations from the mean (AARP, n.d.).

Appendix 2 Results of multilevel mixed-effects linear regression: the association between years of NAFSC membership and livability categories

	Total score	Neighborhood	Transportation	Housing	Health	Environment	Engagement	Opportunity
Years of NAFSC member [a]	0.18**	0.44**	0.56**	0.49**	0.65**	0.04	-0.43**	-0.52**
Year [a]	-0.13**	-2.27**	0.29**	6.61**	0.28**	3.17**	-8.28**	-0.73**
NAFSC member * year trend [a]	0.21**	0.25**	0.21	-0.21*	-0.45**	-0.10	1.43**	0.35**
In states with membership [a]	1.58	4.07**	1.27	-3.50*	5.03	1.76	2.42	-0.02
Metro core [b]	3.46**	7.11**	10.11**	3.43**	1.10**	0.28	3.62**	-1.43**
Percent Non-Hispanic White [c,d]	0.02	-3.05**	-1.47**	-0.05	-0.28**	1.85**	1.15**	2.03**
Percent older adult [c,d]	-0.41**	-1.27**	0.86**	2.25**	-1.03**	0.03	0.28**	-3.96**
Per capita income (ln) [c,d]	1.48**	4.31**	1.33**	-7.06**	6.46**	-0.50**	3.08**	2.74**
Population density (per sq. mile, ln) [c,d]	2.22**	6.72**	3.76**	-0.07	2.85**	-0.63**	1.52**	1.41**
Constant	49.68**	49.28**	50.05**	47.21**	49.75**	48.46**	54.27**	48.71**
Random-effect parameters								
State	8.94**	17.30**	28.15**	22.30**	57.03**	24.56**	56.80**	36.44**
Log likelihood	-189989	-233730	-251258	-242600	-232967	-252258	-242119	-246320

N= 62,552 (31, 276 communities * 2 years)

Data source: a. AARP Livability Index™. b. U.S. Census Delineation Files. c. American Community Survey 2011-2015 (5-year estimates). d. American Community Survey 2019-2023 (5-year estimates).

Note: NAFSC: Network of Age-friendly States and Communities. 31,276 communities, 62,552 observations. * $p<0.05$, ** $p<0.01$

Appendix 3 Propensity score matching to assess the association between years of NAFSC membership and livability categories

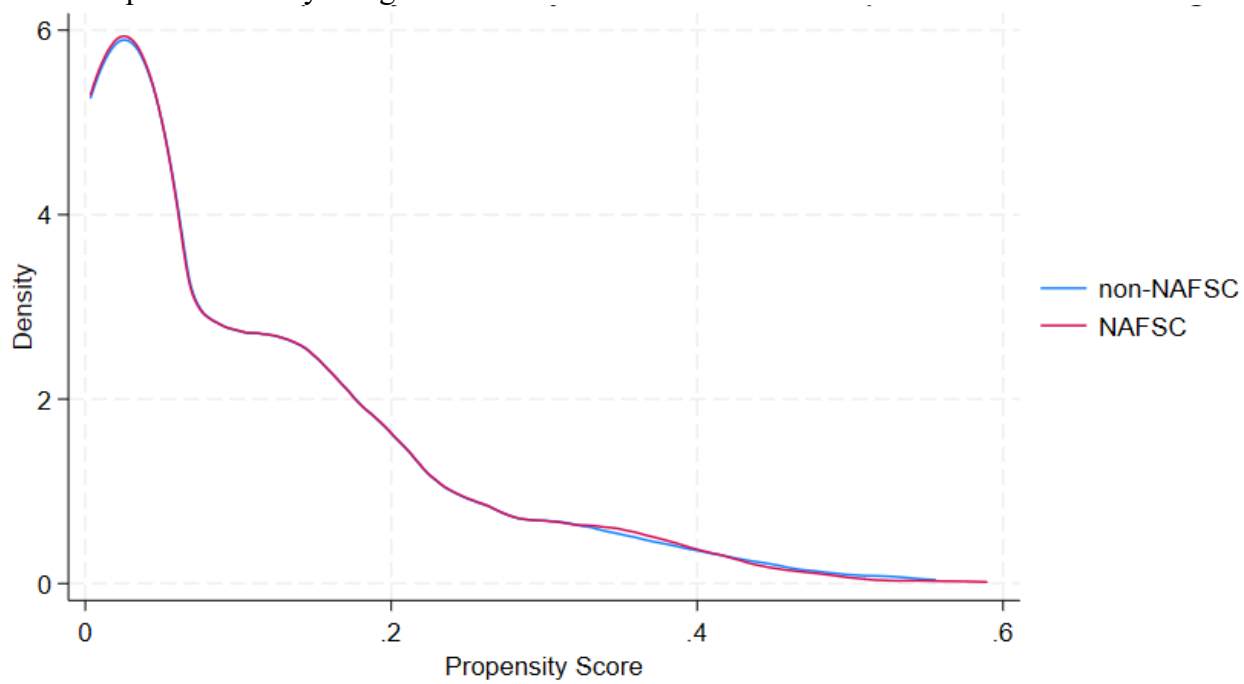


Figure A3-1: Distribution of propensity score by NAFSC membership status after matching
Note: NAFSC: Network of Age-friendly States and Communities.

Table A3-1 Propensity score matching: factors associated with NAFSC membership, year 2015

	NAFSC member
In states with membership [a]	1.58**
Metro core [b]	1.58**
Percent Non-Hispanic White [c,d]	10.45**
Percent older adult [c,d]	0.63**
Per capita income (ln) [c,d]	0.75**
Population density (per sq. mile, ln) [c,d]	1.67**
Constant	1.07
N	31276

Data source: a. AARP Livability Index™. b. U.S. Census Delineation Files. c. American Community Survey 2011-2015 (5-year estimates). d. American Community Survey 2019-2023 (5-year estimates).
Note: NAFSC: Network of Age-friendly States and Communities. * p<0.05, ** p<0.01

Table A3-2 Result of multilevel mixed-effects linear regression: the association between years of NAFSC membership and livability categories after matching

	Total score	Neighborhood	Transportation	Housing	Health	Environment	Engagement	Opportunity
Years of NAFSC member [a]	1.69**	3.69**	3.96**	1.69**	2.89**	1.28	-0.11	-1.46*
Year [a]	0.66**	-0.89*	1.75**	6.07**	-1.47**	2.95**	-4.50**	0.86
NAFSC member * year trend [a]	0.6	0.1	-0.2	0.52	-1.74**	-0.42	4.63**	1.33
In states with membership [a]	0.79	3.47**	-0.17	-2.9	3.38	2.1	-0.2	-0.08
Metro core [b]	2.74**	3.99**	8.21**	3.23**	1.55**	0.31	3.45**	-1.51**
Percent Non-Hispanic White [c,d]	0.34**	-2.65**	-1.02**	-0.27	-0.68**	2.17**	1.32**	3.95**
Percent older adult [c,d]	-0.16	-1.05**	0.83*	3.57**	-2.46**	0.14	2.24**	-4.45**
Per capita income (ln) [c,d]	1.67**	3.96**	0.86**	-8.46**	9.29**	-0.63*	3.81**	2.78**
Population density (per sq. mile, ln) [c,d]	2.52**	7.49**	5.49**	0.49*	3.07**	-1.12**	1.90**	0.41
Constant	50.06**	50.97**	50.68**	48.53**	49.65**	47.98**	53.50**	48.95**
Random-effect parameters								
State	11.52**	14.64**	32.21**	28.16**	50.65**	23.32**	52.88**	37.08**
Log likelihood	-8551	-9982	-11306	-11196	-10636	-11770	-11057	-11333

N= 2,944 (1,472communities * 2 years)

Data source: a. AARP Livability Index™. b. U.S. Census Delineation Files. c. American Community Survey 2011-2015 (5-year estimates). d. American Community Survey 2019-2023 (5-year estimates).

Note: NAFSC: Network of Age-friendly States and Communities. * $p<0.05$, ** $p<0.01$

Appendix 4 Practical significance and effect size

We calculated standardized effect sizes, including Cohen's d in descriptive statistics and Cohen's f in inferential statistics, to evaluate the magnitude of observed effects (Cohen, 1992). However, because practical significance is inherently context-dependent and varies across research fields (Sen et al., 2021), we did not rely solely on conventional benchmarks (e.g., Cohen's f = 0.02 [small], 0.15 [medium], 0.35 [large] (Cohen, 1992; Sen et al., 2021). In this study, even small effect sizes in livability may be meaningful, as they can affect the whole community and a large proportion of the population. Therefore, we interpret practical significance in relation to trends in the outcome, policy relevance, and marginal effects, which facilitate translation of results into changes in livability scores.

Cohen'd is calculated using the code "esize twosample" in STATA. Cohen'f is calculated based on the instruction from STATA "https://stats.oarc.ucla.edu/stata/faq/how-can-i-estimate-effect-size-for-mixed/."

Table A4-1 Livability categories by year and NAFSC membership, with effect size estimates

	Livability score of NAFSC members compared to non-NAFCS members (column 1)				Changes in livability scores from 2015 to 2024 (column 2)				Changes in livability scores from 2015 to 2024 by NAFSC membership (column 3)	
	2015		2024		non-NAFSC		NAFSC			
	Diff. (mean)	Cohen's d	Diff. (mean)	Cohen's d	Diff. (mean)	Cohen's d	Diff. (mean)	Cohen's d	Diff. (mean)	Cohen's d
Total score	2.99*	0.46	4.77*	0.68	0.12*	0.02	1.89*	0.26	1.78*	0.36
Neighborhood	11.60*	0.82	13.73*	0.88	-1.10*	0.07	1.02	0.07	2.12*	0.41
Transportation	8.33*	0.56	9.63*	0.64	1.08*	0.07	2.38*	0.16	1.31*	0.10
Housing	-2.03*	0.14	-3.10*	0.20	5.26*	0.36	4.18*	0.29	-1.07*	0.08
Health	9.05*	0.59	7.28*	0.50	1.81*	0.12	0.04	0.00	-1.78*	0.19
Environment	0.43	0.03	-0.38	0.03	2.79*	0.19	1.98*	0.14	-0.81	0.05
Engagement	-2.31*	0.17	7.38*	0.48	-7.56*	0.52	2.13*	0.16	9.69*	0.62
Opportunity	-4.12*	0.27	-1.15*	0.08	-1.45*	0.10	1.53*	0.11	2.97*	0.23

N= 62,552 (31, 276 communities * 2 years)

Data sources: AARP Livability Index™.

Note: NAFSC: Network of Age-friendly States and Communities. Effect size thresholds for Cohen's d: small = 0.2, moderate = 0.5, and large = 0.8. * indicates t-test results with $p < 0.05$. In Column 1, Diff. = non-NAFSC members - NAFSC members. In Column 2, Diff. = 2024 - 2015. In Column 3, Diff. = (Column 2 difference) - (Column 1 difference). "-" indicates no estimate.

Table A4-2 Effect size of NAFCS member, year and the interaction between NAFSC member and year, using Cohen's f

		Total score	Neighborhood	Transportation	Housing	Health	Environment	Engagement	Opportunity
NAFSC member (association between livability and NAFSC membership in 2015)	Coef.	1.11**	3.35**	3.11**	1.88**	3.98**	0.76	-2.91**	-2.38**
	Cohen's f	0.0005	0.0012	0.0006	0.0003	0.0017	0	0.0007	0.0004
Year (changes in livability between 2015 and 2024 among non-NAFSC communities)	Coef.	-0.14**	-2.27**	0.29**	6.59**	0.29**	3.17**	-8.33**	-0.75**
	Cohen's f	0.0002	0.0115	0.0001	0.0726	0.0002	0.0124	0.1182	0.0008
NAFSC member * year trend (livability from 2015 to 2024 differ by whether a community is part of the NAFSC)	Coef.	1.51**	1.34*	1.00	-0.17	-2.68**	-0.72	9.26**	2.53**
	Cohen's f	0.0005	0.0001	0	0	0.0004	0	0.0037	0.0002
Cohen's f (year and NAFSC membership)		0.003	0.015	0.002	0.074	0.002	0.013	0.119	0.001

Data source: Based on multi-level regression results for all US communities from Table 2.

Note: NAFSC: Network of Age-friendly States and Communities. * $p<0.05$, ** $p<0.01$, the cut offs for effect size using Cohen's f: small: 0.02, moderate: 0.15, and large: 0.35