DESIGNING INTERGENERATIONAL COMMUNITIES

LESSONS FROM THE LAF-FUNDED "ENGAGEMENT BY DESIGN" RESEARCH PROJECT

1.0 LA CES CEU (HSW)

- Link to quiz in the chat + follow-up email
- 1.0 PDH (HSW) issued upon completion of 10-question quiz with a score of at least 75%
- Retakes allowed
- Certificate will be emailed **within 2 weeks**

LANDSCAPE ARCHITECTURE FOUNDATION

INCREASE the **INFLUENCE** and **IMPACT** of landscape architects

- 501(c)(3) nonprofit based in Washington, DC
- Invested over $3 million in research since 1986
- Awarded over $2 million in scholarships to over 650 students since 1986
- Awarded $905,000 to 49 professionals to support innovation and leadership since 2017
- Cultivating the next generation of leaders by investing in landscape architects

LAF DEB MITCHELL RESEARCH GRANT

- 1 award of $25,000
- Research projects that are relevant and impactful for the professional practice of landscape architecture
- Principal Investigator must be trained as a landscape architect
- Grant period: 12 to 18 months
- Pre-proposals due December 1; full proposals from shortlisted applicants due March 1

APPLICATIONS NOW OPEN!

PRESENTERS

Chanam Lee, PhD
Professor
Landscape Architecture and Planning
Texas A&M University

Sinan Zhong, PhD
Assistant Professor
Landscape Architecture and Planning
Texas A&M University

ENGAGEMENT BY DESIGN:

Intergenerational communities to promote social equity and healthy aging in place

LAF Webinar

Thomas McConnell Photography

Sinan Zhong & Chanam Lee

Texas A&M University

icat
Intergenerational Community Assessment Tool

Webinar Schedule

- **Project Presentation** - Chanam Lee and Sinan Zhong (25 minutes)
- **Expert Panel Discussion** - Galen Newman, Erja Portegijs, Yixiao Liu, Mark Maldonado, and Rodney Harrell (20 minutes)
- **Q&A** (12 minutes)

Panel Discussion

Galen Newman
Professor, College of Architecture,
Texas A&M University

Erja Portegijs
Associate Professor, Department of Human Movement Sciences, University of Groningen

Yixiao Liu
Founder and Principal of Tracing Paper LLC

Mark Maldonado
Senior Principal of Stantec

Rodney Harrell
Vice President, Family, Home and Community, AARP Public Policy Institute

Texas A&M University University of Groningen Tracing Paper LLC Stantec AARP

Thomas McConnell Photography

Team

Principal Investigators: Sinan Zhong and Chanam Lee

Project Partners:

- ***Expert/Professional Advisory Board:*** 12 members including practicing professionals in landscape architecture and content experts from landscape architecture, urban planning, land development, gerontology, public health, psychology, and park and recreation
- ***Participating Research Centers at Texas A&M University:*** Center for Population Health and Aging + Center for Health Systems and Design
- ***Community Partners:*** 10+ local senior-serving centers/associations/organizations

Advisory Board Members

Marcia Ory
Regents & Distinguished Professor, School of Public Health

Galen Newman
Professor, College of Architecture

Kenneth Hurst
Assistant Professor of the Practice, College of Architecture

Sherry Ahrentzen
Professor Emeritus, College of Design, Construction and Planning

Erja Portegijs
Associate Professor

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Senior Principal of Stantec

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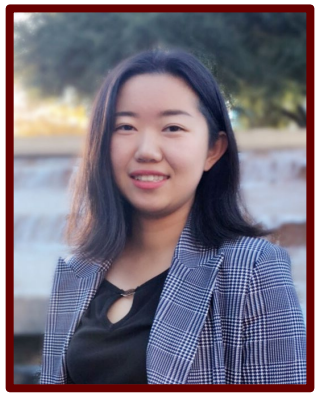
Ray Pentecost
Professor of the Practice, College of Architecture

Yixiao Liu
Founder and Principal of Tracing Paper LLC

Texas A&M University University of Florida University of Utah University of Groningen Stantec Tracing Paper LLC

Graduate Students

Yeankyoung Hahm
PhD student, School of Architecture



Haoyue Yang
PhD candidate, School of Architecture

Na Wang
MLA student, School of Architecture

Laurel Curran
PhD candidate, School of Public Health

Recent Graduate

Xi Chen
PhD, School of Architecture

iCAT
Intergenerational Community Assessment Tool

Please complete this 1-min survey if interested in continuing this conversation!

iCAT.HealthyAgingTexas.org

Contents

1. Background
2. Objectives
3. Data + Results
   - Literature Review
   - Expert Survey + Interview
   - Parent Survey
4. Design Guide and Concept
5. Intergenerational Community Assessment Tool (iCAT)
6. Discussion and Conclusions

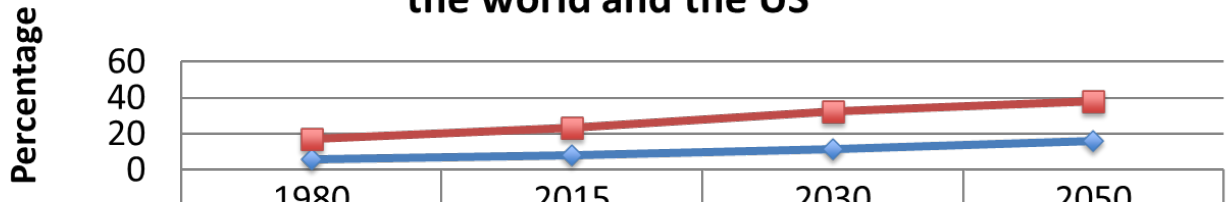
Thomas McConnell Photography

1. Background

The US has **a higher percentage** of the population aged 65 and over compared to the world average.

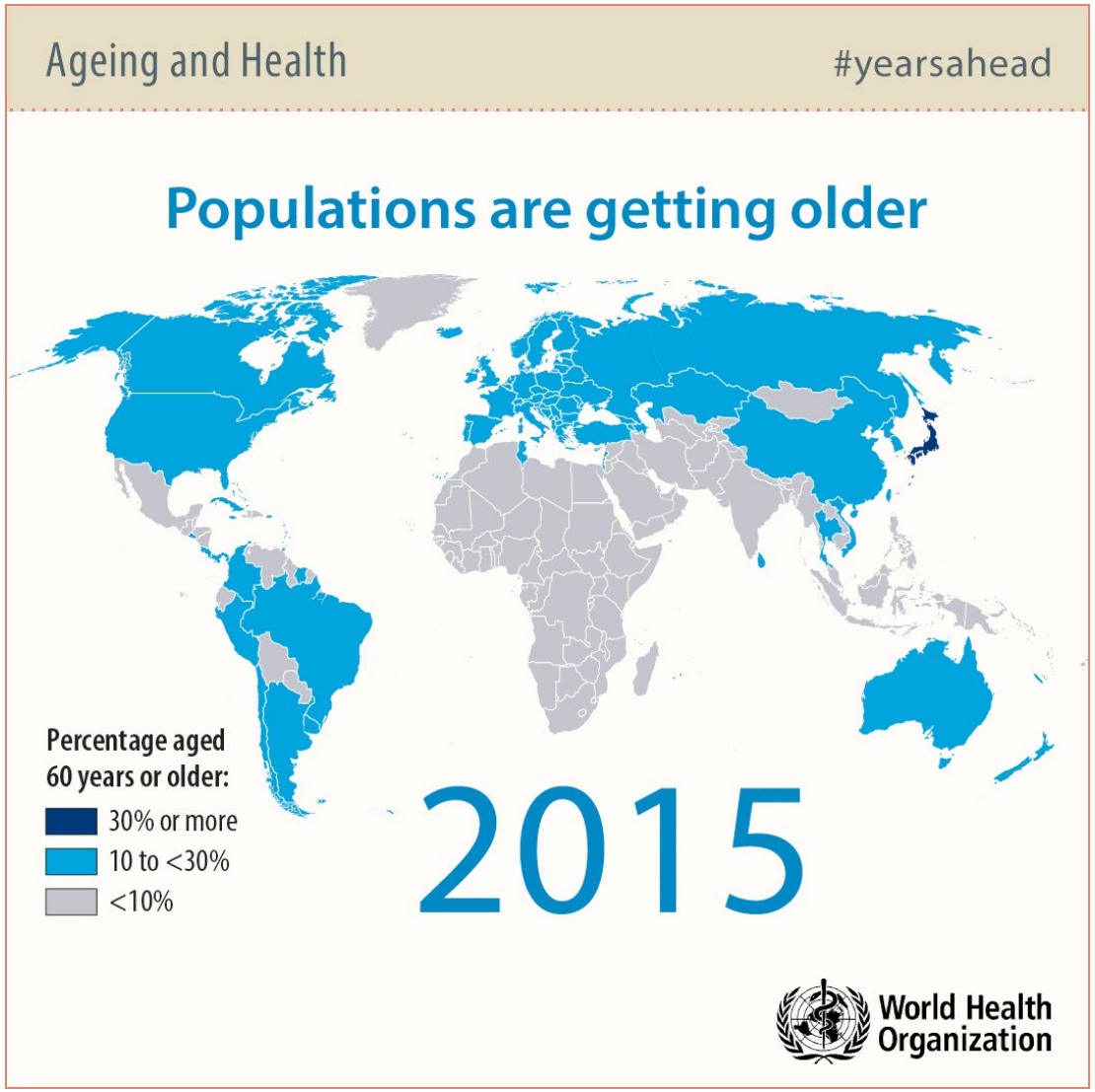
The estimated population aged 65 and over in the US will **almost double** from 47.6 million in 2015 to 86.5 million in 2050, corresponding to an increase in this age group from 14.8% to 22.2% of the US population.

Percentage of the population aged 65 and over in the world and the US



	1980	2015	2030	2050
US	11.4	14.8	20.7	22.2
WORLD	5.8	8.3	11.7	16

Source: United Nations (2015)



1. Background

Eight Domains of Age-friendliness

(1) Outdoor spaces and buildings

(2) Transportation

(3) Housing

(4) Social participation

(5) Respect and social inclusion

(6) Civic participation and employment

(7) Communication and information

(8) Community and health services

World Health Organization

https://www.cityofsanrafael.org/creating-an-age-friendly-and-livable-community/

NEGATIVE: SICK, FRAGILE, POOR, INACTIVE…

https://blog.uvahealth.com/2022/03/01/hospital-delirium/

http://4.bp.blogspot.com/-Tx4PrcGTTG4/UaUJL3CZVdI/AAAAAAAACMI/meE8zYZ-XIY/s1600/wordle_old-adjectives.png

POSITIVE: WISE, HEALTHY, HAPPY, ACTIVE…

http://www.ascseniorcare.com/wp-content/uploads/2014/08/bigstock-Senior-Couple-On-Country-Bike-23468784.jpg

https://careteamwf.com/uncategorized/call-today-free-home-consultation/

Those with more positive self-perceptions of aging live an average of **7.5 years longer** than those with less positive self-perceptions of aging.

(Levy, Slade, Kunkel & Kasl; 2002)

https://www.legacyproject.org/guides/ageism.html

1. Background

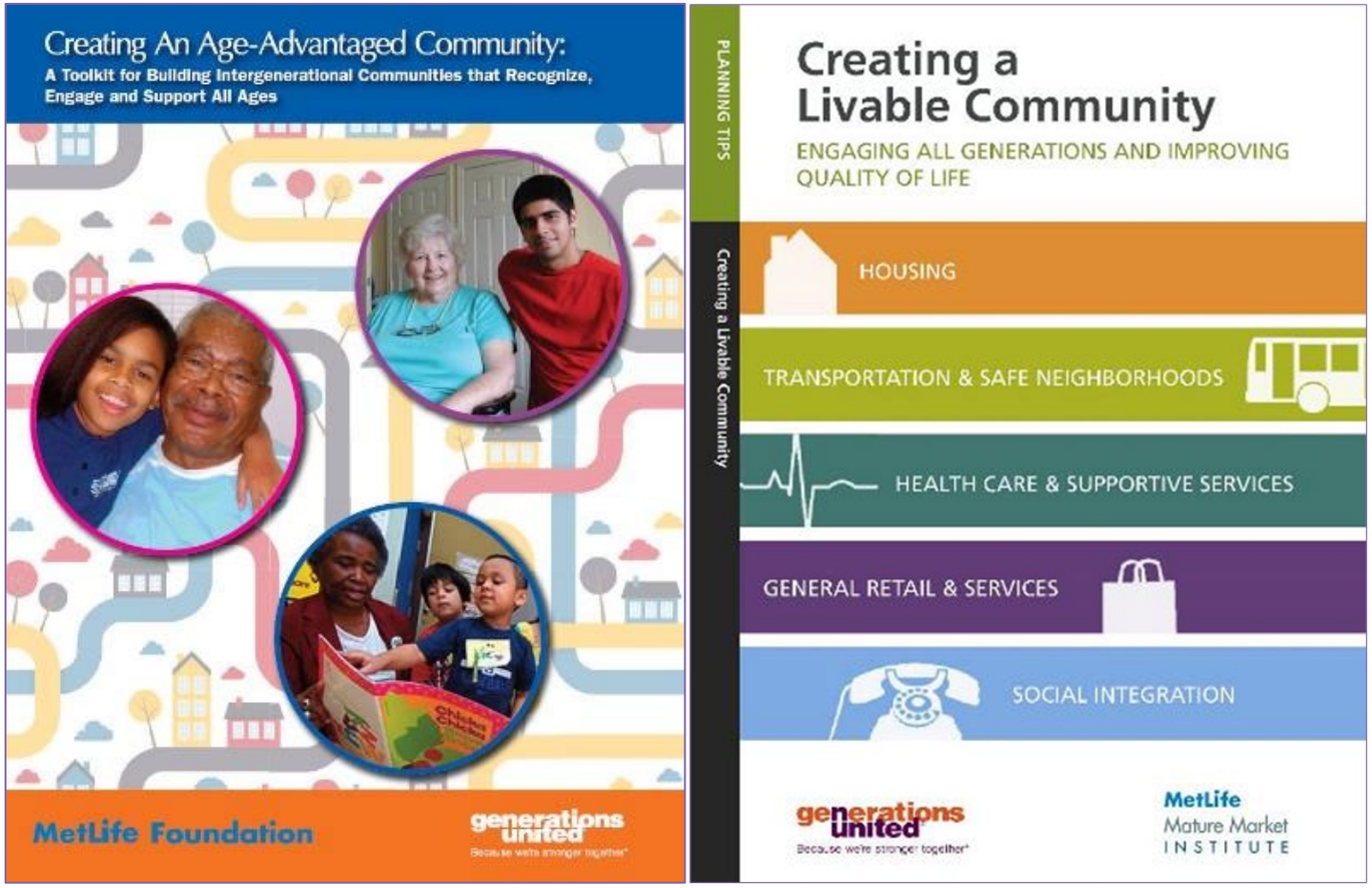
Intergenerational Community

A place with policies, programs, practices, and settings that can

(1) **support the basic necessities/needs** (e.g. health, education) of all residents,

(2) **promote interaction, exchange, and cooperation** among different generations, and

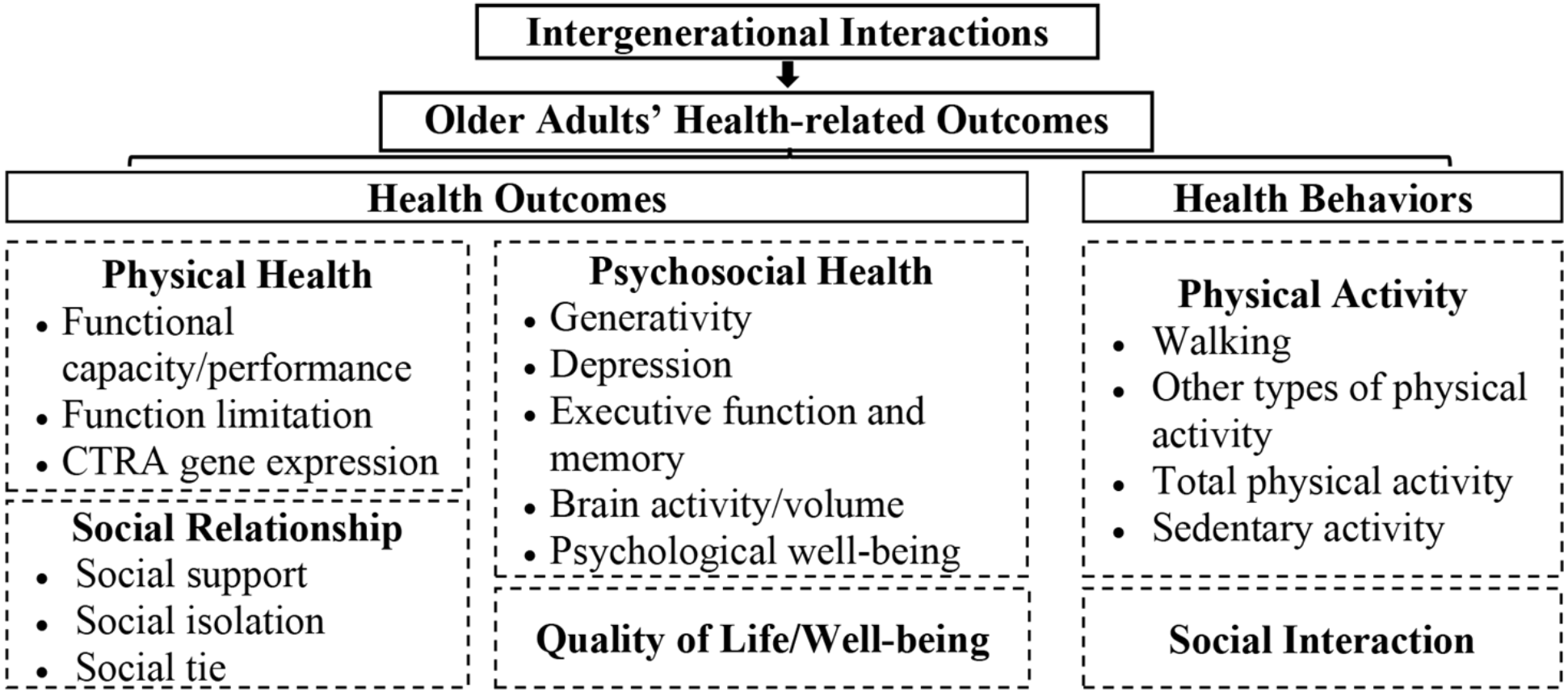
(3) provide opportunities for all generations to **share their talents and support each other.**



1. Background

Importance of Intergenerational Interactions

- 24 peer reviewed journal articles published 2000-19
- Empirical and quantitative studies in the US



Zhong, S., Lee, C., Foster, M. J., & Bian, J. (2020). Intergenerational communities: A systematic literature review of intergenerational interactions and older adults' health-related outcomes. *Soc Sci Med, 264*, 113374. doi:10.1016/j.socscimed.2020.113374

2. Objectives

To identify key elements of intergenerational communities and their social and health benefits. Specific objectives are as follows.

1. ***Engagement by Design:*** Identify design/planning strategies to create intergenerational communities
2. ***Social Benefits:*** Examine how intergenerational communities promote intergenerational interactions and social/age equity
3. ***Health Benefits:*** Examine perceived physical, mental, and emotional health benefits of intergenerational communities/interactions for older adults and children
4. ***Design Guide:*** Develop an evidence-based design guide, the Intergenerational Community Assessment Tool (iCAT), to promote the development of intergenerational communities and places

Data + Results

3. Literature Review

Environmental Predictors of Social Outcomes

- 64 peer reviewed journal articles
- Significant environmental predictors
  - **Neighborhood safety**
  - **General neighborhood characteristics**
  - **Housing**
  - **Transportation**
  - **Land uses or destinations**
  - **Natural or green spaces**
  - **Development permits**
- The design and social programming of the built environment need to facilitate both **active and passive interactions**, where older adults can choose to be active participants or passive viewers of their neighborhood happenings.

3. Expert Survey

377 US experts

Nov. 2022 - Jan. 2024

- Architecture (37%)
- Landscape architecture (33%)
- Urban planning (27%)
- Others (3%)

Category	Description	Frequency	%
Age (n = 351)	Younger adults	262	74.6
	Older adults (65+)	89	25.4
Sex (n = 357)	Male	198	55.5
	Female	159	44.5
Education (n = 369)	Bachelor's degree	48	13.0
	Master's degree	136	36.9
	Professional degree	61	16.5
	Doctorate degree	124	33.6
Race and ethnicity (n = 360)	Non-Hispanic White	267	74.2
	Others	93	25.8
Employer classification (n = 369)	Academic/university	251	68.0
	Professional	118	32.0
For-profit vs nonprofit (n = 367)	For-profit	151	41.1
	Nonprofit	216	58.9
US Regions (n = 374)	West	90	24.1
	South	146	39.0
	Midwest	76	20.3
	Northeast	62	16.6

Data + Results

3. Expert Survey

Intergenerational Communities in the Future

59% reported an increasing future demand within the next five years.

Ancillary Dwelling Units

73% reported a significant current demand.

67% reported an increasing future demand within the next five years.

Compared to Age Restricted Communities

80% indicated that intergenerational communities support more diverse **social activities**.

74% indicated that intergenerational communities support more diverse **physical activities**.

69% indicated that intergenerational communities support **mental health** better.

Data + Results

3. Expert Survey

COMMUNITY CHARACTERISTICS that promote intergenerational activities

Percentage of experts who scored each feature or destination as "very important" for promoting older adults' in-person social interactions with children.

- Walkability: **87%**
- Benches or other places to rest: **81%**
- Shared outdoor open spaces within small residential clusters: **77%**
- Lighting along streets and in public places: **69%**
- Diverse and mixed housing options: **63%**
- Outdoor thermal comfort: **59%**
- Diverse and mixed land uses: **59%**
- Bikeability: **25%**

3. Expert Survey

DESTINATIONS that promote intergenerational activities

Percentage of experts who scored each feature or destination as "very important" for promoting older adults' in-person social interactions with children.

Recreational

- Intergenerational parks with facilities for people of all ages: **92%**
- Parks or open spaces: **88%**
- Playgrounds with facilities for people of all ages: **77%**
- Outdoor fitness or sports facilities: **32%**
- Entertainment facilities (e.g. movie theatre, concert hall): **28%**
- Outdoor water features: **27%**
- Indoor fitness or sports facilities: **21%**

Data + Results

3. Expert Survey

DESTINATIONS that promote intergenerational activities

Percentage of experts who scored each feature or destination as "very important" for promoting older adults' in-person social interactions with children.

Institutional

- Child and senior friendly clusters: **76%**
- Community centers: **73%**
- Libraries: **67%**
- Religious destinations: **55%**
- Elementary schools: **54%**

Data + Results

3. Expert Survey

DESTINATIONS that promote intergenerational activities

Percentage of experts who scored each feature or destination as "very important" for promoting older adults' in-person social interactions with children.

Commercial and Daily Services

- Daily shopping and service destinations: **51%**
- Restaurants or cafes with outdoor seating: **39%**
- Bookstores: **30%**
- Pharmacies or drug stores: **24%**
- Outdoor malls or shopping centers: **16%**
- Indoor malls or shopping centers: **14%**

Data + Results

3. Expert Survey

DESTINATIONS that promote intergenerational activities

Percentage of experts who scored each feature or destination as "very important" for promoting older adults' in-person social interactions with children.

Transportation and Other Amenities

- Restrooms open to the public: **67%**
- Public transportation: **62%**

Data + Results

3. Expert Survey

STREETS AND SIDEWALKS important for intergenerational activities

Percentage of experts who scored each feature or destination as "very important" for promoting older adults' in-person social interactions with children.

- Safe crossing: **83%**
- Sidewalks with benches: **80%**
- Sidewalks with street trees: **80%**
- Lively streets with high-quality streetscape: **69%**
- Multi-purpose trails/paths (off road) safe from traffic: **59%**
- Bike lanes safe from traffic: **42%**
- Streets with landscaped buffer: **40%**
- Streets with green median island: **24%**

Data + Results

3. Expert Survey

AESTHETICS AND THERMAL COMFORT important for intergenerational activities

Percentage of experts who scored each feature or destination as "very important" for promoting older adults' in-person social interactions with children.

- *Shade from buildings or trees**: **80%**
- Litter free: **50%**
- Attractive natural sights: **49%**
- Attractive buildings/homes: **33%**

Data + Results

3. Expert Survey

SOCIAL FACTORS that promote intergenerational activities

Percentage of experts who scored each feature or destination as "very important" for promoting older adults' in-person social interactions with children.

- Sense of community: **84%**
- Parent's attitudes toward older adults: **70%**
- Intergenerational programs: **68%**
- Social support: **67%**
- Safety from crime: **67%**
- Safety from traffic: **67%**
- Diversity of age groups: **65%**
- Social cohesion: **63%**
- Children's attitudes toward older adults: **58%**

3. Expert Interview

41 US experts

January - July 2023

Employed the **4Ps framework of social marketing** (Singh, 2012) to guide a deductive analysis of the interview data.

- **Product**
- **Price**
- **Place**
- **Promotion**

Singh, M. (2012). Marketing mix of 4P's for competitive advantage. IOSR Journal of Business and Management, 3(6), 40-45.

Category	Description	Frequency	%
Age (n = 38)	Younger adults	23	60.5
	Older adults (65+)	15	39.5
Sex (n = 41)	Male	27	65.9
	Female	14	34.1
Education (n = 41)	Bachelor's degree	7	17.1
	Master's degree	14	34.1
	Professional degree	7	17.1
	Doctorate degree	13	31.7
Race and ethnicity (n = 41)	Non-Hispanic White	29	70.7
	Others	12	29.3
Employer classification (n = 41)	Academic/university	26	63.4
	Professional	15	36.6
Area of expertise (n = 40)	Built Environments	36	90.0
	Others	4	10.0
US Regions (n = 41)	West	8	19.5
	South	14	34.1
	Midwest	7	17.1
	Northeast	12	29.3

3. Expert Interview

WHAT is an intergenerational community?

Most expert interviewees said something along the lines of…

"An intergenerational community is a place where **people of all ages** have opportunities to **live**, **work**, **play**, **learn**, and **rest <u>together</u>**."

WHY is an intergenerational community important?

Experts said that **intergenerational communities can improve mental, physical, and social health and wellbeing.**

3. Expert Interview

Product: **Benefits and positive outcomes**

icat Intergenerational Community Assessment Tool

Benefits for older adults (# of experts)

Social

• Improved connectivity/cohesion	17	• Transmission of knowledge and legacy	4
• Learning from youth	11	• Variety of activity options	2
• Awareness of cultural trends	5	• Diverse expression and thinking	1

Mental Health

• Reduced loneliness	13	• Increased energy	8
• Societal engagement	12	• Lovingkindness (reciprocal)	2
• Enjoyment	12	• Distraction from health ailments	2
• Prevention of cognitive decline	9	• Reduced depression	2
• Sense of value	9	• Redirected attention	1

Physical Health

• Maintenance of physical activity	5		

Receiving Assistance

• Personal care	4	• Learning technology	2
• Grocery shopping	2		

Providing Assistance

• Educating children	3	• Childcare	2

3. Expert Interview

Product: **Benefits and positive outcomes**

Benefits for children (# of experts)

Skills

• Learning from adults (wisdom, knowledge, experience, history, etc.)	36	• Boost in self-esteem/confidence	3
• Development of emotional and social skills	10	• Guidance on life decisions	1

Exposure

• Exposure to different life stages	16	• Sense of community	5
• Understanding of different life perspectives	6	• Fulfillment of curiosity	2

Caring

• Receiving care/support	10	• Receiving a sense of security	2
• Receiving patient interest and affection	9		

3. Expert Interview

Price: Risks or concerns

Risks for older adults (# of experts)

Health

• Exposure to loud noise	19
• Injury (from falling)	12
• Exhaustion	6
• Disease transmission	4

Safety

• Threat from youth	9
• Target of crime	5

Risks for children (# of experts)

Mental Development

• Sadness and upset influenced by older adults	4
• Reduced independence in decision-making	2
• Not respected by older adults	2

Physical Development

• Criminal danger from older adults (strangers)	9

Behavioral Development

• Enforcing older adults' culture or philosophy	2
• Development of spoiled behavior	2
• Modeling of bad behavior	1

3. Expert Interview

Place: Environmental design

Place for Interaction

•	Public place/shared open space	24	•	Semi-private space	10
•	Resting places (with shade, benches, tables, etc.)	26	•	Inviting environment	3
•	Proximity between spaces used by older adults and children	10	•	Sufficient space to avoid conflict	1

Walkable & Accessible Environment

•	Accessibility to open/shared space	22	•	Walkable distance between generation specific developments	9
•	Proximity/walkable distance	19			
•	Barrier free	14	•	Access to quality education	3
•	Connected amenities/neighborhood	13	•	Predictable and navigable street grid	2
•	Ample sidewalks and pedestrian pathways	11	•	Access by health service (ambulance)	1

Diverse & Inclusive Community Design

•	Universal design accommodating all generations and abilities	15	•	Integrated eatery and activity area	6
•	Diverse transportation options	12	•	Community plan concept (e.g., complete neighborhood)	3
•	Mixed land use	12	•	High density	2
•	Inclusive spaces	9			

3. Expert Interview

Place: Environmental design

Housing	• Diverse housing options	13	• Interactive housing layout (e.g., front porch, intergenerational cohousing)	2
	• Affordable living cost	3		
Ambient Environment	• Plan for weather condition	11	• Thermal comfort	2
	• Good acoustic environment	5		
Aesthetically Pleasing Place	• Aesthetic qualities	9	• Well-maintained	2
Safety and Security	• Good visibility for navigation and safety	8	• Sense of security	5
	• Safe public space	8	• Privacy	1
	• Well-lit area	7	• Secure building	1
	• Safety from vehicles	6		

3. Expert Interview

Promotion: Personal, social, programmatic, and political strategies

icat Intergenerational Community Assessment Tool

Interpersonal factors (# of experts)

Sociocultural Feature

•	Stigma/cultural norms	20	•	Ageism	6
•	Volunteering/work opportunities	11	•	Local culture	2

Community Program

•	Diverse programming options	16	•	Exclusive programming	4
•	Institutional connections to the community	15	•	Unwelcoming institution	3
•	Organized/facilitated interaction	14	•	Comprehensive/diverse program	3
•	Organizational support	8			
•	Community engagement in programming	8	•	Systems/policies	2

Social Connection

•	Family/friend network	5

3. Expert Interview

Promotion: Personal, social, programmatic, and political strategies

Intrapersonal factors (# of experts)

Sociocultural Difference

• Difference in culture/interest	12

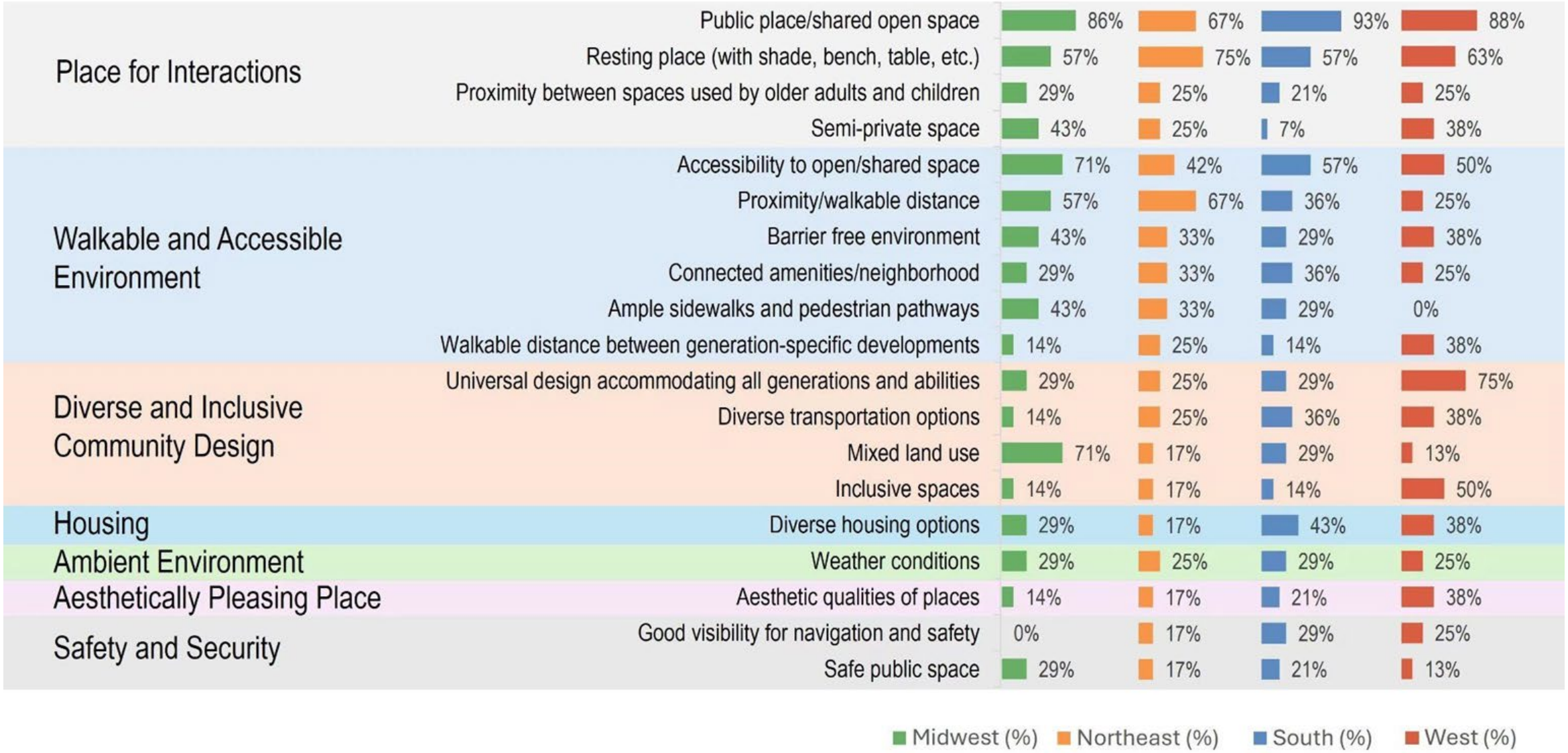
Personal Attitude

• Specific interaction preference	8	• Shyness/stiffness	4
• Social trust	5	• Inability to prevent harm from children	3
• Fear/anxiety towards interactions	4		

Personal Ability

• Economic constraints	6	• Personality differences in privacy preferences	4
• Physical limitations	5	• Imbalance in activities	2

3. Expert Interview



3. Parent Survey

1,149 valid responses from parents

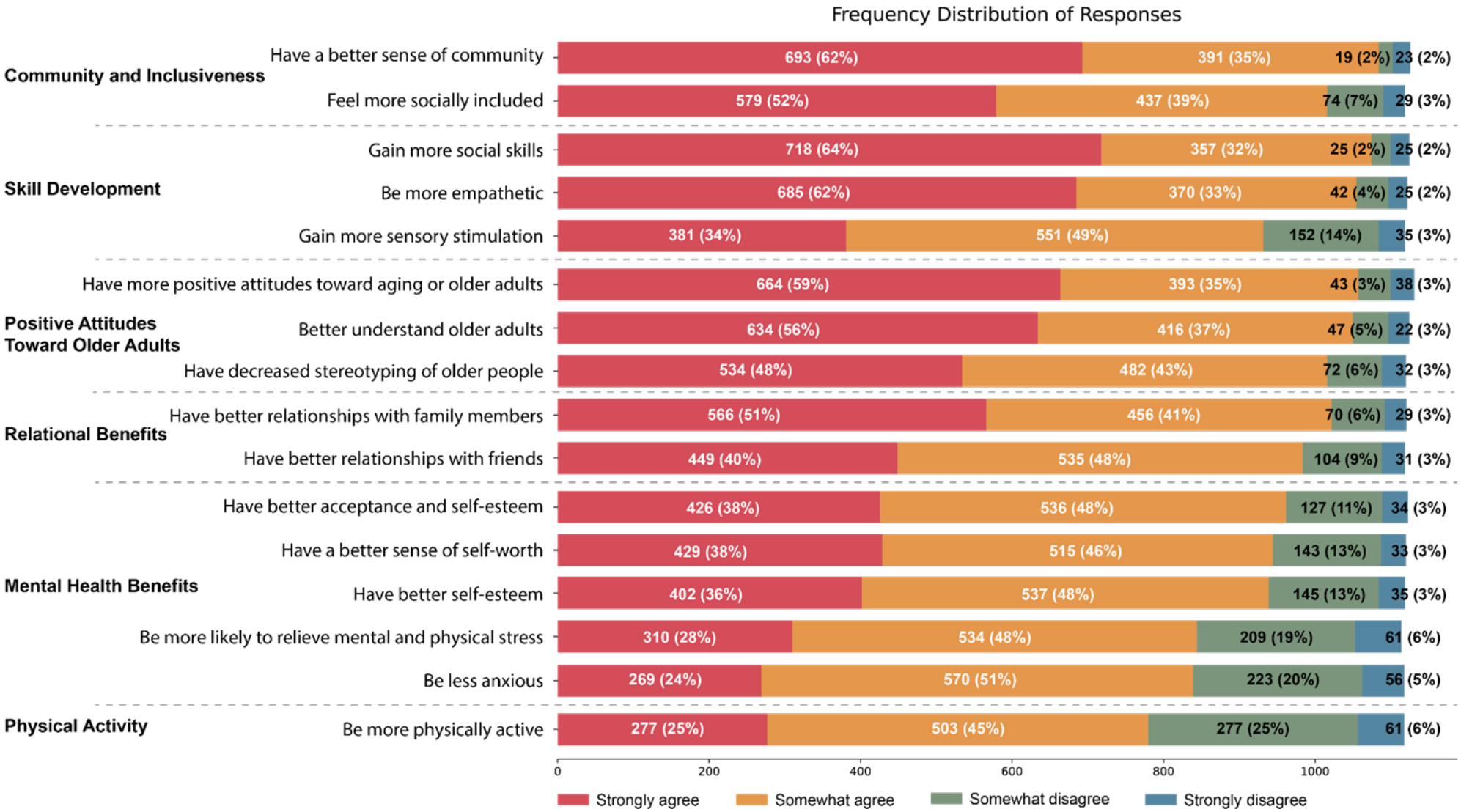
November 14, 2023 - January 4, 2024
36 ISDs (12 metropolitans and 24 micropolitans)

Parents/Guardians		
Demographic Information	**Mean (SD)**	**Min-Max**
Age	40.63 (7.08)	25-72
	Frequency	**(%)**
Sex (Female)	1,016	89.12
Hispanic/Latino/Spanish Origin	324	28.45
Relationship to Child		
Mother	1,009	87.97
Father	118	10.29
Education		
High School or Lower	153	13.41
Some College	225	19.72
Associate Degree	120	10.52
Bachelor's Degree	341	29.89
Master's Degree or Higher	302	26.47

Children		
Category	**Mean (SD)**	**Min-Max**
Age	10.79 (2.10)	4-15
The number of siblings	1.65 (1.34)	0-10
Weight (lbs)	72.83 (27.31)	28-161
Height (in)	53.11 (6.77)	35-71
	Frequency	**(%)**
Sex (Girl)	546	47.69
Grade		
Kindergarten	110	9.58
Grade 1	155	13.50
Grade 2	132	11.50
Grade 3	152	13.24
Grade 4	170	14.81
Grade 5	201	17.51
Grade 6	228	19.86
Hispanic, Latino, or Spanish origin	404	35.25

3. Parent Survey

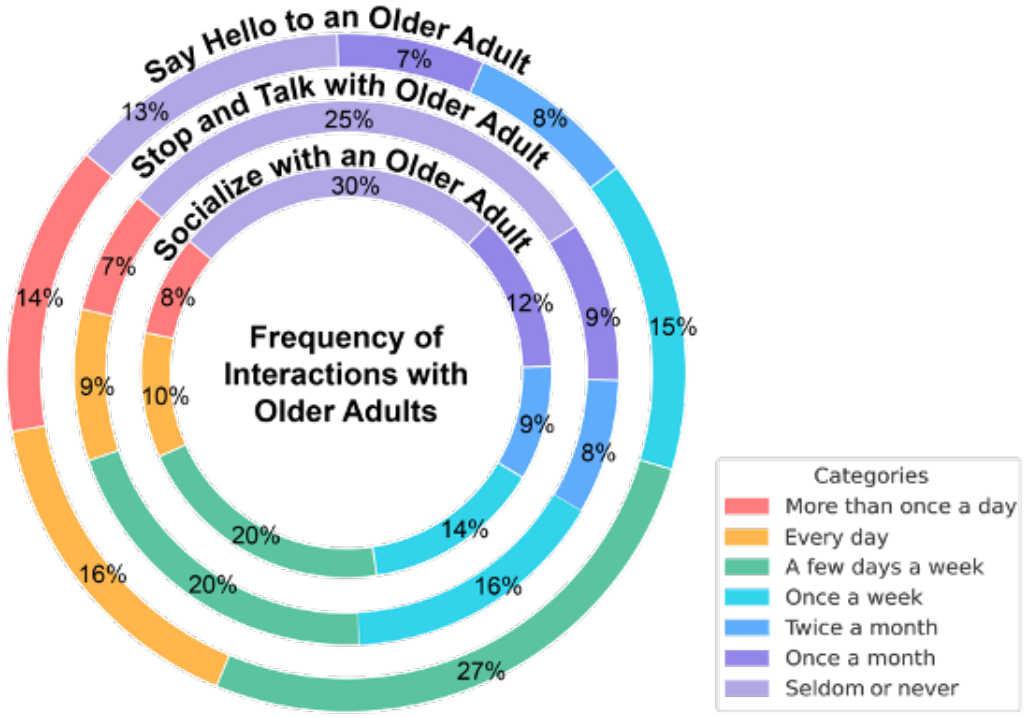
Perceived Benefits of Intergenerational Interactions

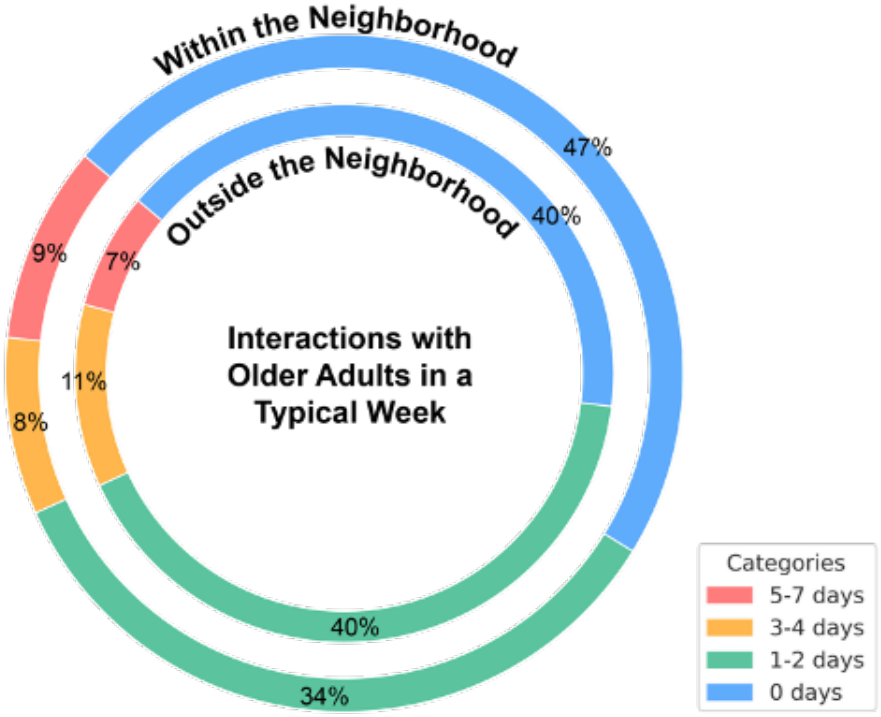


3. Parent Survey

Children's Interactions with Older Adults

- 27% of children **say hello to older adults** a few days a week, while 30% do so daily or multiple times a day.
- 25% of children seldom or never **stop to talk with older adults**.
- 30% of children seldom or never **socialize with older adults at home or in places like restaurants and shopping areas.**
- 53% of children interact with older adults at least once a week **within the neighborhood**. 60% of children interact with older adults **outside the neighborhood** at least weekly.





3. Parent Survey

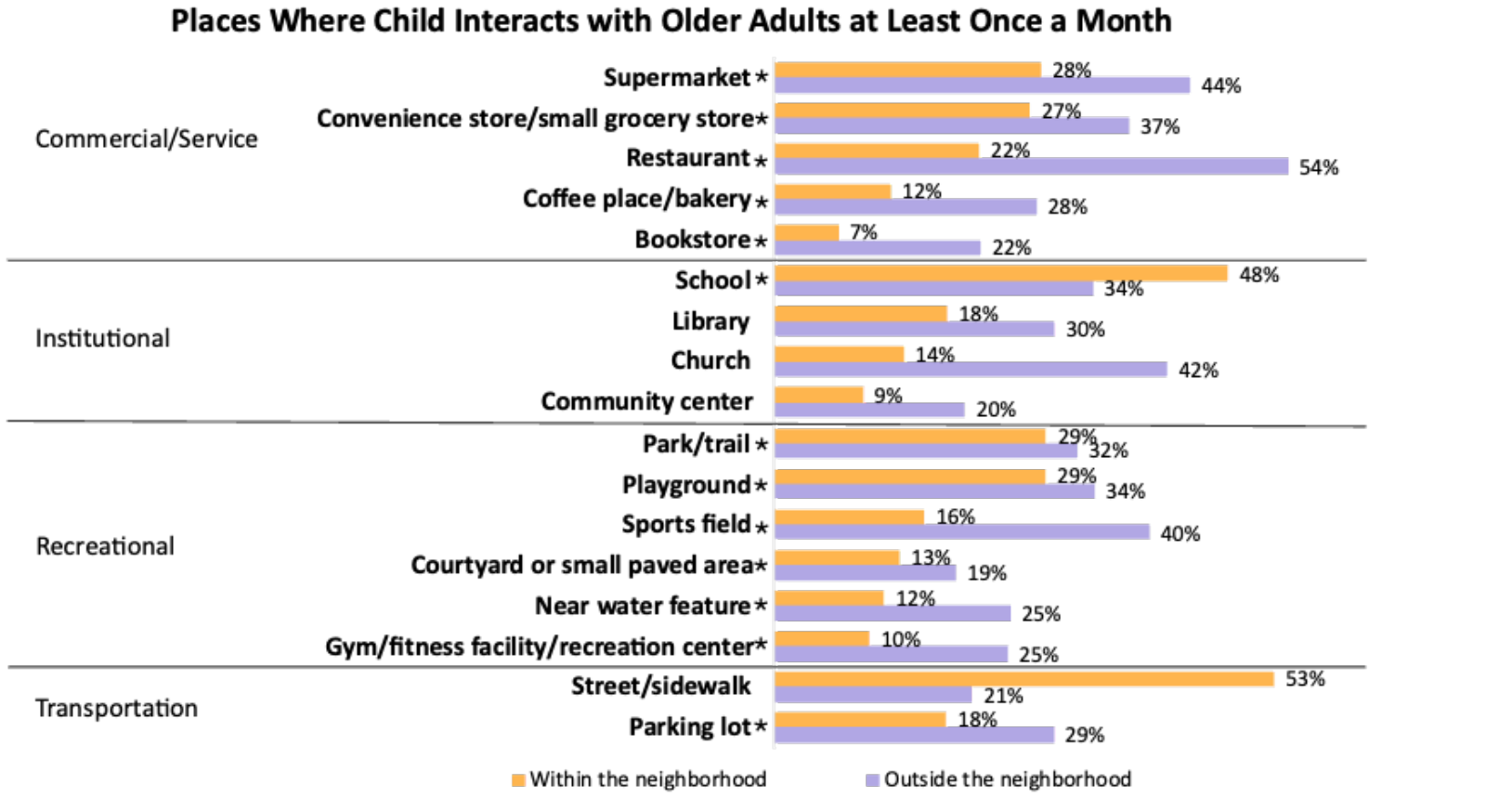
Places Supporting Intergenerational Interactions

(1) Within the neighborhood:

- streets/sidewalks (53%)
- schools (48%)
- parks/trails (29%)
- playgrounds (29%)

(2) Outside the neighborhood:

- restaurants (54%)
- supermarkets (44%)
- churches (42%)



Note: * indicates that differences between indoor and outdoor places where a child interacts with older adults are statistically significant.

4. Design Guide and Concept

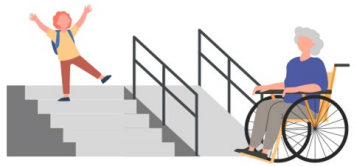
Guiding Principles for Designing Intergenerational Communities

1

Provide diverse housing options and locate major destinations within easy walking distance

- Retail and services
- Schools
- Community centers
- Religious destinations (e.g. churches)
- Parks or open spaces
- Fitness or sports facilities
- Entertainment facilities

2



Ensure universal access to buildings, facilities, and outdoor spaces

- ADA accessibility
- Nonslip walking surface

3

Build active and playful places for people of all ages

- Parks and open spaces
- Multipurpose trails/paths
- Playgrounds for people of all ages

4

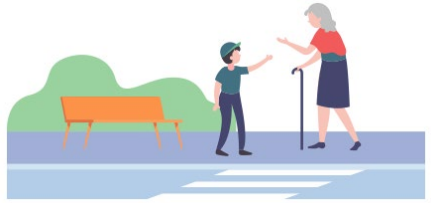
Make public transportation accessible for all

- Transit stops with benches and shelters
- Sidewalks and crosswalks

4. Design Guide and Concept

Guiding Principles for Designing Intergenerational Communities

5



Ensure streets and sidewalks are safe, walkable, and sociable

- Lively streets with high-quality streetscapes
- Sidewalks with benches, street trees, and pedestrian signage and lighting
- Safe crossings (e.g., clear markings, signals)
- Bike lanes safe from traffic
- Streets with green median island
- Streets with landscaped buffers

6

Enhance a sense of place and aesthetics

- Unique, attractive green infrastructure and facilities
- Attractive buildings/homes

7

Promote outdoor thermal comfort

- Shade from trees and buildings
- Urban form to ensure proper air and wind circulation
- Materials and colors to reduce surface and air temperature

8

Build safe environments through design

- Clear wayfinding and visual surveillance
- Traffic-calming devices
- Well-maintained pedestrian facilities

Intergenerational Community Concept Plan

Mixed-use center with pedestrian-friendly courtyards with age-friendly amenities

Pocket neighborhood with shared outdoor spaces to support intergenerational interactions

Linear nature park with trails, exercise stations, and seating/rest areas in comfortable, microclimatic conditions

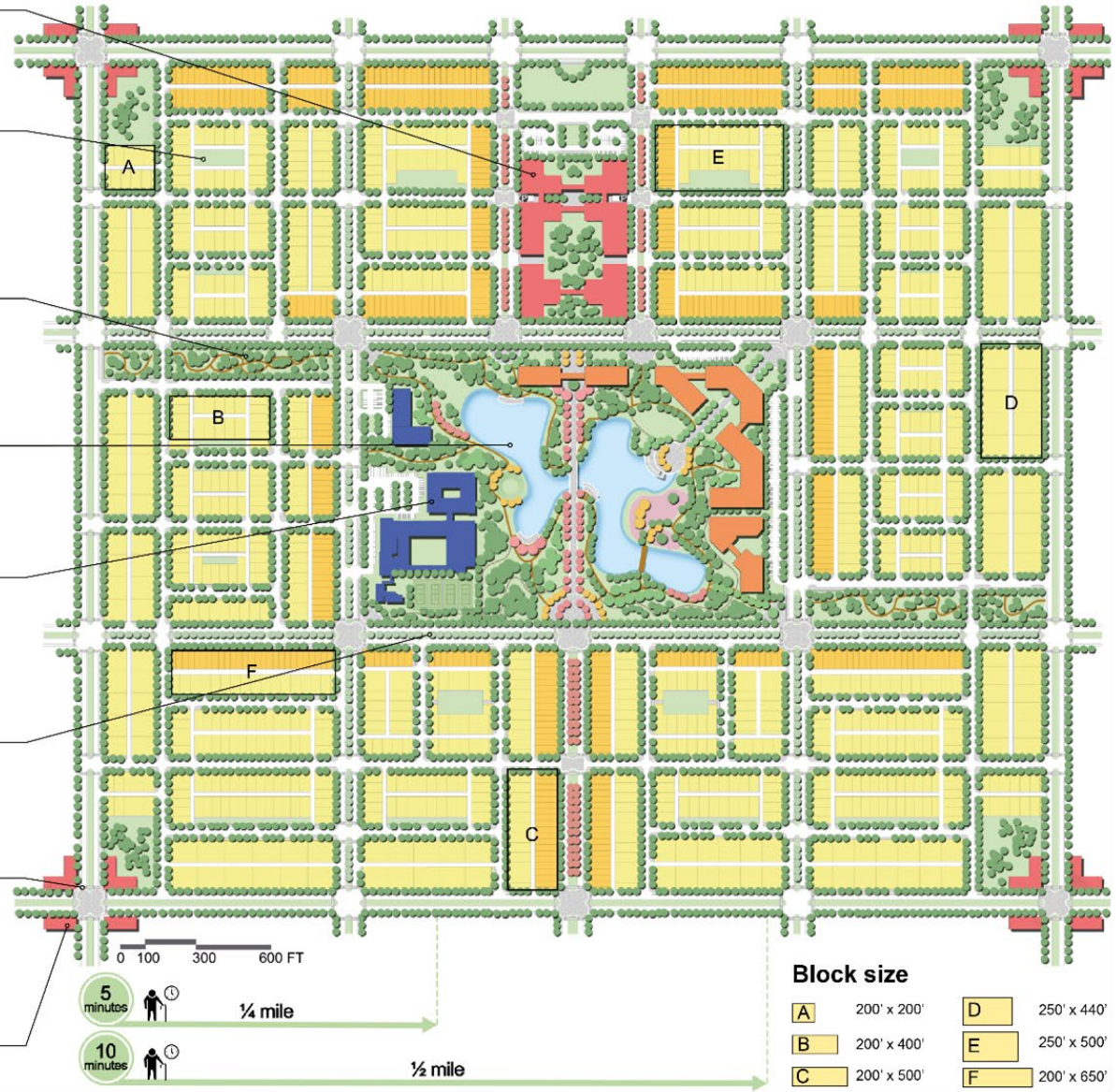
Intergenerational park with facilities for people of all ages and abilities

Child- and senior-friendly clusters including complementary land uses such as school, daycare, and senior center

Green boulevard with visual and sensory attractions to promote physical and social activities

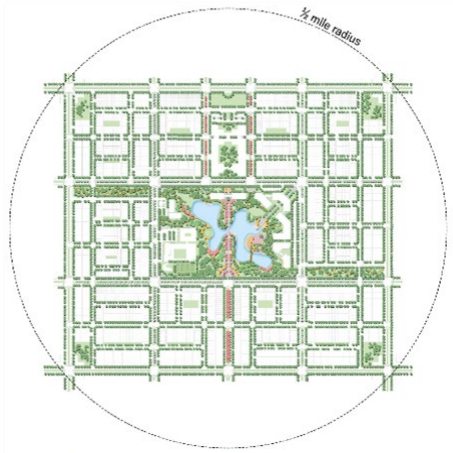
Signalized intersection with curb extensions, marked crossings, and extended pedestrian crossing time

Local stores and daily services with distinctive yet familiar design features



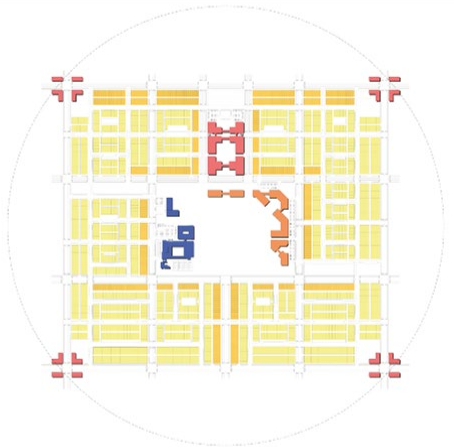
Major daily service and recreational destinations located within a 5- to 10-minute walk from each older adult's home.
Small blocks for human-scaled streets with high street network connectivity to increase walkability.

Green Space Layout



Green Space
Water Feature
Trees
Trails
Ornamental Trees

Building Layout



Yard Homes/Affordable Housing
Mixed Use
Row Houses/Shop Houses/ Affordable Housing
Multifamily Housing
Community Center, School, and Senior Center

5. iCAT

Design a "NEW" community or site:

-checklist

Intergenerational Community Assessment Tool

Evaluate an "EXISTING" community or site:

-community

Intergenerational Community Assessment Tool

-park

Intergenerational Community Assessment Tool

-street

Intergenerational Community Assessment Tool

iCAT-CHECKLIST

icat Intergenerational Community Assessment Tool

icat - checklist

Intergenerational Community Assessment Tool

Please use the iCAT-checklist if you are designing a "NEW" community or site.

Provide Diverse Housing Options and Locate Major Destinations within Easy Walking Distance

- [ ] This community provides diverse housing options (e.g., cohousing, accessory or ancillary dwelling unit, multigenerational home, senior apartment) to support intergenerational living.
- [ ] This community has affordable housing available to older adults and people with disabilities.
- [ ] This community includes small residential clusters, such as pocket neighborhoods, with shared outdoor spaces to support social interactions across different generations.
- [ ] Generation-specific places (e.g., childcare centers and senior housing or nursing home) are located within a walkable distance from each other.
- [ ] Major destinations in this community (e.g., park, shop, and school) are located within a walkable distance from residences.

Ensure Universal Access to Buildings, Facilities, and Outdoor Spaces

Buildings, facilities, and outdoor spaces are:

- [ ] Accessible (e.g., walkable distance from residences, meeting ADA guidelines, following universal design principles).
- [ ] Easy to navigate (e.g., clear roadway hierarchy, visual cue, landmark, clear and well-placed signage).

Build Active and Playful Places for People of All Ages

This community has an adequate number of the following places available to support social interactions:

- [ ] Indoor public places (e.g., church, restaurant, coffee shop, ice cream store, grocery store, library, book store, community center).
- [ ] Outdoor public places (e.g., park, trail, community garden, plaza, playground, school campus, alley, cul-de-sac, bus stop/shelter).
- [ ] Outdoor semi-private spaces (e.g., common space within an apartment complex, shared courtyard, community garden, community swimming pool).
- [ ] Outdoor resting places (with shade, bench with armrest and backrest, table, etc.).
- [ ] This community has places (e.g., park, community center, library, senior center, school, church) that can support program-based intergenerational interactions (e.g., intergenerational gardening, intergenerational learning, intergenerational exercise).

icat - checklist

Make Public Transportation Accessible for All

- [ ] This community has adequate transit services (e.g., bus, light rail, bus rapid transit) available for people of all ages and abilities.
- [ ] Major destinations are accessible by public transit, with good connections and well-marked routes.
- [ ] Transit stations/stops are conveniently located and accessible.
- [ ] Transit stations/stops are designed to be safe, clean, well-lit, and well-maintained, with adequate seating and shelter.

Ensure Streets and Sidewalks Are Safe, Walkable, and Sociable

- [ ] This community has small street blocks.
- [ ] This community has stop signs, marked crosswalks, and pedestrian signals to help safe crossing by people of all ages and abilities.
- [ ] Street signs are well-placed and accessible for people of all ages and abilities (e.g., large font, visual cue, braille, placement, and height).
- [ ] There are benches available for resting on most streets.

Streets in this community have the following elements to promote safe use and mobility for people of all ages and abilities:

- [ ] Traffic calming devices (e.g., median island, narrow street, curb extension, speed table/hump).
- [ ] Sidewalks or pedestrian pathways.
- [ ] Smooth and level sidewalk surfaces.
- [ ] Sufficient street trees providing shade.
- [ ] Off-road pedestrian trails or paths that are safe from traffic.
- [ ] Landscaped buffers.

icat - checklist

Enhance a Sense of Place and Aesthetics

This community has:

- [ ] A lot of mature trees.
- [ ] Many attractive natural sights (e.g., landscape, view).
- [ ] Many other interesting sights (e.g., historic building, landmark, public art).
- [ ] Many pleasant sensory attractions (e.g., sound of nature, fragrant tree/flower).

Promote Outdoor Thermal Comfort

- [ ] The community design (e.g. building, amenity, and space layout) contributes to improving thermal comfort of pedestrians, especially children and older adults.
- [ ] The vegetation and materials (e.g., shade tree, cool material, green roof, porous paver) used for infrastructure or amenities help mitigate potential negative impacts of local weather conditions (e.g., heat, cold, rain).

Build Safe Environments through Design

- [ ] There is good visibility enhancing both navigation and safety in this community.
- [ ] Streets and public places are well lit at night.

Pedestrians and cyclists can be easily seen by people from:

- [ ] Front porches or yards of residential properties.
- [ ] Inside the building via windows or doors.
- [ ] Other public places nearby.

iCAT-COMMUNITY

icat Intergenerational Community Assessment Tool

icat-community

Please use the iCAT-community if you are evaluating a larger community environment.

OVERALL RATING

On a scale of 1-10, how would you rate the **overall community characteristics?**

		Low									► High
1	Environmental support for intergenerational interactions	1	2	3	4	5	6	7	8	9	10
2	Walkability	1	2	3	4	5	6	7	8	9	10
3	Safety	1	2	3	4	5	6	7	8	9	10
4	Thermal comfort	1	2	3	4	5	6	7	8	9	10
5	Maintenance & Cleanliness	1	2	3	4	5	6	7	8	9	10
6	Aesthetics	1	2	3	4	5	6	7	8	9	10

A. THIRD PLACES

		Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree	Not sure or N/A
1	This community has an adequate number of the following places available to support social interactions:					
a	Indoor public places (e.g., church, restaurant, coffee shop, ice cream store, grocery store, library, book store, community center).	☐	☐	☐	☐	☐
b	Outdoor public places (e.g., park, trail, community garden, plaza, playground, school campus, alley, cul-de-sac, bus stop/shelter).	☐	☐	☐	☐	☐
c	Outdoor semi-private spaces (e.g., common space within an apartment complex, shared courtyard, community garden, community swimming pool).	☐	☐	☐	☐	☐
d	Outdoor resting places (with shade, bench with armrest and backrest, table, etc.).	☐	☐	☐	☐	☐
2	Outdoor third places in this community are:					
a	Safe (e.g., well-lit, easily visible, free from stray dog, hostile stranger, and fall hazard).	☐	☐	☐	☐	☐
b	Accessible (e.g., walkable distance from residence, meeting ADA guidelines, following universal design principles).	☐	☐	☐	☐	☐
c	Easy to navigate (e.g., clear roadway hierarchy, visual cue, landmark, clear and well-placed signage).	☐	☐	☐	☐	☐
3	Generation-specific places (e.g., childcare center and senior housing or nursing home) are located within a walkable distance from each other.	☐	☐	☐	☐	☐
4	This community has places (e.g., park, community center, library, senior center, school, church) that support program-based intergenerational interactions (e.g., gardening, learning, exercise).	☐	☐	☐	☐	☐

icat-community

B. HOUSING

		Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree	Not sure or N/A
1	This community provides diverse housing options (e.g., cohousing, accessory or ancillary dwelling unit, multigenerational home, senior apartment) to support intergenerational living.	☐	☐	☐	☐	☐
2	This community has affordable housing available to older adults and people with disabilities.	☐	☐	☐	☐	☐
3	Housing is well-constructed and well-maintained.	☐	☐	☐	☐	☐
4	This community includes small residential clusters, such as pocket neighborhoods, with shared outdoor spaces to support social interactions across different generations.	☐	☐	☐	☐	☐

C. WALKABILITY

		Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree	Not sure or N/A
1	This community has small street blocks.	☐	☐	☐	☐	☐
2	This community has stop signs, marked crosswalks, and/or pedestrian signals to ensure safe crossing by people of all ages and abilities.	☐	☐	☐	☐	☐
3	Street and other signs are well-placed and accessible for people of all ages and abilities (e.g., large font, visual cue, braille, placement, and height).	☐	☐	☐	☐	☐
4	Most streets have sidewalks.	☐	☐	☐	☐	☐
5	There are benches available for resting most streets.	☐	☐	☐	☐	☐
6	Sidewalks have enough street trees providing shade.	☐	☐	☐	☐	☐
7	This community has off-road pedestrian trails or paths that are safe from traffic.	☐	☐	☐	☐	☐
8	This community has adequate transit services (e.g., bus, light rail, bus rapid transit) available for people of all ages and abilities.	☐	☐	☐	☐	☐

icat-community

D. AESTHETICS

		Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree	Not sure or N/A
1	There are a lot of mature trees.	☐	☐	☐	☐	☐
2	There are many attractive natural sights (e.g., landscape, view).	☐	☐	☐	☐	☐
3	There are many other interesting sights (e.g., historic building, landmark, public art).	☐	☐	☐	☐	☐
4	There are many pleasant sensory attractions (e.g., sound of nature, fragrant tree/flower).	☐	☐	☐	☐	☐
5	This community is generally free from litter.	☐	☐	☐	☐	☐
6	This community is well-maintained.	☐	☐	☐	☐	☐

E. AMBIENT ENVIRONMENT

		Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree	Not sure or N/A
1	The community design (e.g., building, amenity, and space layout) contributes to improving thermal comfort of pedestrians, especially children and older adults.	☐	☐	☐	☐	☐
2	The vegetation and materials (e.g., shade tree, cool material, green roof, porous paver) used for infrastructure or amenities help mitigate potential negative impacts of local weather conditions (e.g., heat, cold, rain).	☐	☐	☐	☐	☐
3	This community is generally free from excessive noise.	☐	☐	☐	☐	☐
4	Pedestrians are NOT exposed to excessive exhaust fumes (from car, bus, industrial land use, etc.).	☐	☐	☐	☐	☐

iCAT-PARK

icat Intergenerational Community Assessment Tool

icat - park

Please use the iCAT-park if you are evaluating a park.

OVERALL RATING

On a scale of 1-10, how would you rate the **overall park characteristics?**

	Low ► High									
1 Environmental support for intergenerational interactions	1	2	3	4	5	6	7	8	9	10
2 Walkability	1	2	3	4	5	6	7	8	9	10
3 Safety	1	2	3	4	5	6	7	8	9	10
4 Thermal comfort	1	2	3	4	5	6	7	8	9	10
5 Maintenance & Cleanliness	1	2	3	4	5	6	7	8	9	10
6 Aesthetics	1	2	3	4	5	6	7	8	9	10

A. PARK PLACES AND AMENITIES

		Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree	Not sure or N/A
1	This park has an adequate number of the following available to support social interactions:					
a	Social places (e.g., picnic area, playground, community garden, amphitheater, open field).	☐	☐	☐	☐	☐
b	Resting places (with shade, bench with armrest and backrest, table, etc.).	☐	☐	☐	☐	☐
c	Other amenities (e.g., walking path, multipurpose trail, exercise station, public toilet).	☐	☐	☐	☐	☐
2	This park is:					
a	Safe (e.g., well-lit, easily visible, free from stray dog, hostile stranger, and fall hazard).	☐	☐	☐	☐	☐
b	Accessible (e.g., walkable distance from residence, meeting ADA guidelines, following universal design principles).	☐	☐	☐	☐	☐
c	Easy to navigate (e.g., clear roadway hierarchy, visual cue, landmark, clear and well-placed signage).	☐	☐	☐	☐	☐
3	Generation-specific places/amenities (e.g., playground, covered seating area, senior-friendly exercise space) are located within a walkable distance from each other.	☐	☐	☐	☐	☐
4	This park has places (e.g., playground, community garden) that support program-based intergenerational interactions (e.g., gardening, learning, exercise).	☐	☐	☐	☐	☐

icat - park

B. ACCESSIBILITY

		Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree	Not sure or N/A
1	This park is well-connected with nearby destinations such as shops and schools.	☐	☐	☐	☐	☐
2	Nearby streets have pedestrian and bicycle facilities (e.g., sidewalk, bike lane, marked crosswalk) providing easy access to this park by people of all ages and abilities.	☐	☐	☐	☐	☐

C. AESTHETICS

		Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree	Not sure or N/A
1	There are a lot of mature trees.	☐	☐	☐	☐	☐
2	There are many attractive natural sights (e.g., landscape, view, flower, wildlife).	☐	☐	☐	☐	☐
3	There are many other interesting sights (e.g., pavilion, landmark, public art).	☐	☐	☐	☐	☐
4	There are many pleasant sensory attractions (e.g., sounds of nature, fragrant trees/flowers).	☐	☐	☐	☐	☐
5	This park is generally free from litter.	☐	☐	☐	☐	☐
6	This park is well-maintained.	☐	☐	☐	☐	☐

D. AMBIENT ENVIRONMENT

		Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree	Not sure or N/A
1	The park design (e.g., building, amenity, and space layout) contributes to improving thermal comfort of park users, especially children and older adults.	☐	☐	☐	☐	☐
2	The vegetation and materials (e.g., shade tree, cool material, porous paver, covered shelter) used for park amenities help mitigate potential negative impacts of local weather conditions (e.g., heat, cold, rain).	☐	☐	☐	☐	☐
3	This park is generally free from excessive noise.	☐	☐	☐	☐	☐
4	Park users are NOT exposed to excessive exhaust fumes (from car, bus, etc.).	☐	☐	☐	☐	☐

iCAT-STREET

icat Intergenerational Community Assessment Tool

icat - street

Please use the iCAT-street if you are evaluating a street segment.

OVERALL RATING

On a scale of 1-10, how would you rate the **overall street characteristics?**

		Low									► High
1	Environmental support for intergenerational interactions	1	2	3	4	5	6	7	8	9	10
2	Walkability	1	2	3	4	5	6	7	8	9	10
3	Safety	1	2	3	4	5	6	7	8	9	10
4	Thermal comfort	1	2	3	4	5	6	7	8	9	10
5	Maintenance & Cleanliness	1	2	3	4	5	6	7	8	9	10
6	Aesthetics	1	2	3	4	5	6	7	8	9	10

A. SIDEWALKS AND AMENITIES

		Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree	Not sure or N/A
1	This street has an adequate number of the following available to support social interactions:					
a	Social places (e.g., plaza, street cafe, street vendor).	☐	☐	☐	☐	☐
b	Resting places (with shade, bench with armrest and backrest, table, etc.).	☐	☐	☐	☐	☐
c	Other facilities and amenities (e.g., sidewalk, walking trail, bike lane, bike rack, transit station).	☐	☐	☐	☐	☐
2	This street is:					
a	Safe (e.g., well-lit, easily visible, free from stray dog, hostile stranger, and fall hazard).	☐	☐	☐	☐	☐
b	Accessible (e.g., meeting ADA guidelines, following universal design principles).	☐	☐	☐	☐	☐
c	Easy to navigate (e.g., clear and well-placed signage, visual cue).	☐	☐	☐	☐	☐
3	Places and amenities (e.g., playground, covered seating area, senior-friendly exercise space) accommodating different generations are closely located along this street.	☐	☐	☐	☐	☐

icat - street

B. STREET DESIGN

		Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree	Not sure or N/A
1	This street has the following to promote safe use and mobility for people of all ages and abilities:	☐	☐	☐	☐	☐
a	Traffic calming devices (e.g., median island, narrow street, curb extension, speed table/hump).	☐	☐	☐	☐	☐
b	Marked crosswalks.	☐	☐	☐	☐	☐
c	Sidewalks or pedestrian walkways.	☐	☐	☐	☐	☐
d	Smooth and level sidewalk surface.	☐	☐	☐	☐	☐
e	Sufficient street trees providing shade.	☐	☐	☐	☐	☐
f	Off-road pedestrian trails or paths that are safe from traffic.	☐	☐	☐	☐	☐
g	Landscaped buffers.	☐	☐	☐	☐	☐

C. AESTHETICS

		Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree	Not sure or N/A
1	There are a lot of mature trees on this street.	☐	☐	☐	☐	☐
2	There are many attractive natural sights (e.g., landscape, view) along this street.	☐	☐	☐	☐	☐
3	There are many other interesting sights (e.g., historic building, landmark, public art) along this street.	☐	☐	☐	☐	☐
4	There are many pleasant sensory attractions (e.g., sounds of nature, fragrants trees/flowers) along this street.	☐	☐	☐	☐	☐
5	This street is generally free from litter.	☐	☐	☐	☐	☐
6	This street is well-maintained.	☐	☐	☐	☐	☐
7	Buildings and amenities along this street are well-maintained.	☐	☐	☐	☐	☐

icat - street

D. AMBIENT ENVIRONMENT

		Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree	Not sure or N/A
1	The street design (e.g., layout, orientation, width) contributes to improving thermal comfort of pedestrians, especially children and older adults.	☐	☐	☐	☐	☐
2	The vegetation and materials (e.g., shade tree, cool material, porous paver) used for street amenities help mitigate potential negative impacts of local weather conditions (e.g., heat, cold, rain).	☐	☐	☐	☐	☐
3	Pedestrians on this street are NOT exposed to excessive exhaust fumes (from car, bus, industrial land use, etc.).	☐	☐	☐	☐	☐

E. TRAFFIC SAFETY

		Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree	Not sure or N/A
1	Pedestrians are NOT exposed to excessive vehicular traffic along this street.	☐	☐	☐	☐	☐
2	The speed of traffic on this street is usually slow (20mph).	☐	☐	☐	☐	☐
3	Most drivers do NOT exceed the posted speed limit while driving on this street.	☐	☐	☐	☐	☐

icat Intergenerational Community Assessment Tool

Intergenerational Community Assessment Tool

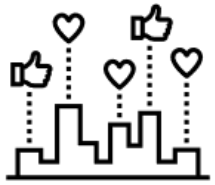
For questions or comments,
please contact Dr. Sinan Zhong at zsn198838@tamu.edu.

6. Discussion and Conclusions

Key Takeaway #1

Intergenerational communities are successful when the ***physical environment*** is designed to ***promote diverse opportunities for people to interact.***

- ❑ Possible types of interactions:
  - ❑ 1-to-1
  - ❑ Group
  - ❑ Passive participation



Key Takeaway #2

Interactions can be structured or unstructured (i.e., programmed or happenstance), but ***some level of programming is key to facilitating lasting connections.***

- ❑ May require human or non-human facilitators (e.g. planned activities, organizational partnerships)

6. Discussion and Conclusions

Key Takeaway #3

Intergenerational communities result from a combination of

1. **Individual thoughts, beliefs, attitudes, and actions**
2. **Interpersonal interactions**
3. **Organizational policies and programming**
4. **Community attitudes and culture**
5. **Environmental design (aesthetics, accessibility, & proximity)**

This is reminiscent of the socioecological model

6. Discussion and Conclusions

Intergenerational communities are ***walkable, accessible, opportunity-rich*** places that promote physical, mental, and social wellbeing for all.

WHY does it matter?

Intergenerational communities improve…

1. Knowledge exchange
2. Cognitive engagement
3. Mutual support
4. Opportunities to share interests
5. Social connection
6. Sense of value to society

6. Discussion and Conclusions

Intergenerational communities are ***walkable, accessible, opportunity-rich*** places that promote physical, mental, and social wellbeing for all.

The **physical environment** might have…

1. Diverse recreational destinations with structured and unstructured activities
2. Clear sight lines, a variety of seating options, autonomy for active or passive engagement
3. Zoning that promotes mixed-use development
4. Developers who plan ahead and prioritize proximity between age-specific destinations
5. Designers who prioritize universal design principles

WHAT does it look like?

The **social environment** might have…

1. Community organizations who collaborate to provide opportunities for people of all ages and abilities to participate in events and activities
2. Volunteer opportunities in care programs

6. Discussion and Conclusions

The best intergenerational communities are created by
diverse teams of passionate experts.

WHAT do they do?

They spend time doing the following:

1. Engage the community
2. Facilitate community interactions
3. Listen to what the community members want and need

WHO is on the team?

Teams likely show expertise in:

1. Design (architecture, landscape architecture, urban planning, etc.)
2. Engineering
3. Human/community health
4. Finance
5. Policy

Panel Discussion

Galen Newman
Professor, College of Architecture,
Texas A&M University

Erja Portegijs
Associate Professor, Department of Human Movement Sciences, University of Groningen

Yixiao Liu
Founder and Principal of Tracing Paper LLC

Mark Maldonado
Senior Principal of Stantec

Rodney Harrell
Vice President, Family, Home and Community, AARP Public Policy Institute

Texas A&M University University of Groningen Tracing Paper LLC Stantec AARP

Thomas McConnell Photography

icat
Intergenerational Community Assessment Tool

Please complete this 1-min survey if interested in continuing this conversation!

iCAT.HealthyAgingTexas.org

Thank You!

For more information, contact

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Chanam Lee: **chanam@tamu.edu**

Thomas McConnell Photography

DESIGNING INTERGENERATIONAL COMMUNITIES

Thank you!