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Intergenerational and Age-friendly Living Ecosystems (AFLE)

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INTERGENERATIONAL AND AGE-FRIENDLY LIVING ECOSYSTEMS

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What is this project about?

The global population of persons aged 60+ was ~962 million (United Nations, 2017), with Scotland expected to experience an 85% increase of persons aged 75+ (the fastest growing group) by 2039 (Douglas et al., 2017). By 2041, persons of pensionable age are due to increase from 1.05 million (2016) to 1.32 million (Douglas et al., 2017). Older people, in the context of this work, are broadly referred to as people over the age of 65 (NHS, n.d.). However, it is important to note that we are not applying a strict definition because individuals can age, in a biological sense, at different rates (NHS, n.d.).

The growth in the number of older people, alongside a reduction in Scottish younger/working age adults, encroaching technological developments in everyday life, and rapid urbanisation are creating a set of conditions whereby some segments of society perceive older people through a negative lens by which older individuals are increasingly perceived as: costly to society in regard to expenditures for their health care, social well-being, and welfare; age-segregated; at risk of economic, social, and digital exclusion; devalued in their contributory potential within family, society, community, and employment spheres. They are also perceived, by some, as being lonely and socially isolated with concomitant poor mental and physical health outcomes.

Society needs to provide better, more coherent ways of ensuring that older people are able to take advantage of the opportunities afforded to them in the form of good housing (McCall et al., 2020); local geographical and digital communities (Fang et al., 2019; Sixsmith et al., 2021); and national and international ageing initiatives for living a healthy, active later life (Woolrych et al., 2021).

The proposed project, in collaboration with the Scottish Intergenerational National Network (INN), co-created research, policy, and practice solutions toward developing an intergenerational, age-friendly community ecosystem. This builds on Kaplan et al.'s (2017) suggestion that strong intergenerational relationships are not only at the root of healthy and productive ageing — they are also an important component of sustainable and liveable societies. By bringing together different generations in purposeful, equitable, and participatory activities we can generate space for positive intergenerational connectedness where identities are reformed, and mindsets changed.

Our project aimed to bring together Scottish researchers, industry professionals, policymakers, health and housing practitioners, and multigenerational members of the community along with nongovernment organisations, universities and collaborators from the **United Kingdom (UK)**, **China**, **India**, **Canada**, **Denmark**, **Lithuania**, **Singapore**, **Australia**, and **Slovakia**. Our goal was to generate research ideas, and policy and practice solutions regarding how we can pool our knowledge and resources to make the best use of community and industry spaces to develop a living age-friendly international ecosystem of places that facilitate intergenerational working across communities and sectors.

The project's aim aligns well with the overall goal of the call to progress, by the United Nations (UN) Sustainable Development Goals (SDGs), that are focussing on "mobiliz[ing] efforts to end all forms of poverty, fight inequalities and tackle climate change, while ensuring that no one is left behind" (United Nations, 2019). Driven by Scottish universities and communities, the anticipated

research, policy, and outputs of our project will specifically aim to tackle SDG 3 ("ensure healthy lives and promote well-being for all at all ages" (United Nations, n.d.) and SDG 11 (making "cities inclusive and human settlements, inclusive, safe, resilient and sustainable") (United Nations, n.d.). Last, aligned with the Scottish University Insight Institute's (SUII) funding programme mission, we will be using a community-based participatory research (CBPR) approach (grounded on principles of equity, inclusivity, empowerment, partnership working, and co-creation), and carefully selected CBPR knowledge co-creation methods to stimulate in-depth knowledge exchange and transdisciplinary working across an international platform (Boger et al., 2017; Jagosh et al., 2015).

Project aims and objectives

The aim of this project was to develop the concept of an intergenerational and age-friendly living ecosystem (AFLE) to support and provide opportunities for people as they age to reap the socio-economic benefits of their local and virtual communities and to help them become fully integrated, valued, and contributing members of society. To achieve this goal, our objectives were to:

i. Understand Scotland's particular context; and learn from other countries, the current status of community and social hubs for older people, how they work, for whom and in what context, as well as what they fail to deliver.
ii. Bring together a multi-generational group of people from the disciplines of psychology, sociology, health sciences, urban studies, gerontology and technology, education, together with cross-sectoral partners in health and social care, architecture and design, city planning, welfare, housing, voluntary and community sector and public sector organisations, industry, and business to engage in knowledge co-creation.
iii. Promote an international, translatable community of practice to sustain the living ecosystem idea beyond the remit of the project.
iv. Develop an intergenerational AFLE model by connecting across generations and geographies using creative, accessible methods for enabling participation from people of different ages, skills, and abilities as well as from different nations.

Who is involved

To co-create opportunities for developing mutually beneficial spaces is a substantial undertaking. It requires working disciplines and sectors as well as prioritising community and lay perspectives in the development and decision-making process. This is particularly the case in complex projects. This is the case in the present proposal, which is characterised by participatory, people-centred research that requires input and participation from diverse disciplines and stakeholder groups in the shape of transdisciplinary working (Grigorovich et al., 2018).

Transdisciplinary working, according to Boger et al. (2017, p. 2), is an attempt to access "the collective mind" of a team composed of different viewpoints to solve a difficult real-

world problem, known for the purpose of generating transformative change as a *wicked problem* (Rittel & Webber, 1973, p. 161). Consequently, the project was conducted by an extensive group of academic, service sector, community-based groups, policymakers, and older and younger experiential stakeholders.

Together, we identified a need to develop intergenerational models using co-production frameworks to inform the creation of inclusive and integrative age-friendly environments. This is a recommendation found in the final reports of previously funded SUII initiatives, i.e., the Housing and Ageing (2018) and the Healthy Universities for Healthy Communities (2019) projects.

Academic disciplines covered within the project were gerontology, health sciences, environmental and community psychology, sociology, technology, education, geography, urban studies, and architecture. Service oriented and community sectors were represented by core members of the Intergenerational National Network (INN) — a Scottish organisation established by members of the local Scottish community. Their mission is to bring together individuals across generations as well as across disciplines and sectors to work towards a shared goal of co-creating spaces and places that promote social connectivity, inclusivity, diversity, transdisciplinarity, and multigenerational working.

To adequately and holistically address this recognised need, our programme of work will harness the knowledge, expertise, and resources of our project partners that extend across several non-academic sectors, including:

Third Sector

Citadel Youth Centre (local Scottish community-based voluntary youth organisation with strong links to the local community and a model example of an intergenerational community hub); **ScotSectorLink** (local Scottish community-based initiative working together to support policies that benefit youth employment and the UK economy); **Learning Link Scotland** (local Scottish organisation working towards improving access and equal opportunity for adult education).

Health

Queen's Nursing Institute of Scotland (charitable organisation that promotes excellence in community nursing to improve the health and well-being of the Scottish People).

Architecture

Architecture and Design Scotland (organisation that promotes good architecture and sustainable design to create resilient communities by implementing policies of the Scottish Government).

Community, Social, and Urban Planning

Pilmeny Development Project (Scottish community planning initiative working to provide self-help solutions for local residents); **Living Streets Scotland** (policy and practice initiative to develop policy and practice solutions for more walkable and accessible streets in Scotland); **Planning Aid for Scotland (PAS)** (Scottish government funded organisation that seeks to provide advice to facilitate sustainable and resilient community planning); and the **Crichton Trust** (a combined company and a charitable trust providing custodianship of The Crichton Estate to support commerce, culture, the arts, and education within a community of like-minded individuals).

Housing

Housing Studies programme at the **University of Stirling** is the leading provider of housing education for housing and health practitioners and findings, and it would be tasked with directly informing learning and teaching initiatives.

What we did

The AFLE project undertook a community-based participatory, people-centred multi-method approach that emphasised the importance of: 1) communal learning and collective knowledge co-creation; 2) development of collective efficacy through mutual affirmation; 3) the need to foster intergenerational leadership; and 4) working jointly across disciplines and sectors — transcending ideational boundaries (Evans, 2014). The principles of CBPR were promoted through the reciprocal transfer of knowledge and expertise; inclusive participation; power sharing and equity; and data ownership across all partners (see Jagosh et al., 2015).

This work programme encouraged knowledge exchange by first adopting a democratisation of knowledge and effective knowledge transfer (KT) strategy, recognising that KT significantly impacts research and policy (Ward et al., 2010). Our work programme prioritised seldom heard voices and enhanced participation from all stakeholders throughout the entirety of the research process: in setting the aims and objectives; conceptual development; rules of engagement during sessions; shaping the research design, policy, and practice recommendations; and also enacting responsibilisation (see McLeod, 2017) to the project by way of following through with project commitments and pledging to complete actions established at co-creation events.

The goals of this co-creation initiative were to develop planned outputs of the programme that included a:

- Strategy for the development of a culturally appropriate age-friendly, living ecosystem of intergenerational virtual spaces and built places.
- Conceptual ecosystem map of community hub ideas.
- Emergence of a community of practice in each country to spearhead their own development.
- Policy and practice roadmap to inform the development of an intergenerational and age-friendly living ecosystem.
- Proposal for an upscaled longitudinal research proposal for submission to the Economic Social Research Council.
- Virtual time capsule in the form of a website to track progress and impact: **www.afle.co.uk**.

Six face-to-face interlinked Co-creation Camps (CCs) were designed, each with an intended aim, outcome, and output held monthly across six months. CCs stem from the *camp model* of creative-working where participants are moved to temporary *camps* and tasked to work intensely within multidisciplinary groups to generate ideas and/or propose innovative concepts and solutions.
(Bager, 2011)

However, just as the CCs were about to commence the COVID-19 pandemic disrupted plans due to societal lockdown and subsequent social distancing regulations. Consequently, the CCs were re-designed as Virtual Co-creation Camps (VCCs) that were held online.

Each VCC was 2.5 hours in duration. Each included a range of listening, dialogue, and other intergenerational co-creation activities. With the exception of VCC 3, which consisted of only the key project team members to conduct a mid-project team analysis of progress and findings, VCCs followed the same pattern, as follows:

- Welcome and introductions.
- A project presentation focussed on introducing new ideas, outlining progress, and discussing key themes that emerged from the VCCs.
- Group discussion to enable feedback from partners and participants.
- Spotlight session and/or case study:
  - The case of the healthy universities for a healthy communities project (VCC 1).
  - Spotlight of children's perspectives on intergenerational places (VCC 1).
  - The case of intergenerational place-making in Dumfries, Scotland (VCC 2).
  - Spotlight on older people's perspective on intergenerational places (VCC 2).
  - The case of building intergenerational spaces and places in Canada (VCC 4).
  - The case of progressing intergenerational planning policies in Scotland (VCC 5).
  - Spotlight of youth perspectives on intergenerational communication for shaping intergenerational spaces (VCC 6).
- Participants group deliberative dialogue in breakout rooms to discuss key questions relevant to each VCC.
- Feedback from the breakout rooms.
- Final whole group discussion.

Prior to the VCCs, participants were given the opportunity to pre-prepare materials representing their thoughts and feelings concerning intergenerational, age-friendly living ecosystems. This produced the submission of a range of mood board productions, photographs, and drawings that were discussed within the VCCs. All discussion during workshops was recorded, transcribed verbatim and subsequently thematically analysed.

To extend our understanding of intergenerational, age-friendly community spaces and places, an open-ended survey was designed covering everyday multi- and intergenerational interactions; age-friendly place features; place attractions; place safety; and necessary stakeholders required for creating intergenerational and age-friendly places.

The survey was launched in May 2020 and closed in February 2021. It was distributed via email to all participants in the VCCs as well as to individuals interested in or working with older people and/or intergenerational and community issues through the INN. A total of 134 participants responded to the survey. Their responses were organised via the Joint Information Systems Committee (JISC) online survey analysis tools and open-ended questions were subsequently thematically analysed per survey question.

What we found

Virtual Co-Creation Camp 1

VCC 1 focussed on exploring the question of: What is an intergenerational Age-friendly Living Ecosystem (AFLE)?

AIM	**To develop an understanding of what an intergenerational age-friendly living ecosystem might be/look like.**
OBJECTIVES	• Identify existing national and international community hub models. • Develop conceptual map of community hubs for a schematic of AFLE. • Establish potential ideas for researching co-production of: 1) What is an intergenerational age-friendly living ecosystem 2) What does this ecosystem look like?
QUESTIONS	What is an intergenerational age-friendly living ecosystem? What does this ecosystem look like?
PARTICIPANTS	Members of Intergenerational National Network (inclusion of project team); national and international partners; older, middle aged, and young people.
PRE-WORKSHOP ACTIVITIES	• Test run of Microsoft teams (with consideration for time difference across countries). • Background and preparation for participants, e.g., readings, project information, pre-camp 'thinking' exercises.
ACTIVITIES	• Microsoft Team quick tutorial. • Presentation introducing project aims, objectives, goals, and anticipated outcomes - 15 minutes. • Intergenerational Places Case Study 1 - Dundee (Healthy Universities for Healthy Communities Presentation - Dr. Linda McSwiggan) - 15 minutes. • Group dispersal into two smaller virtual camp groups to brainstorm what an intergenerational AFLE looks like followed by a small group discussion of ideas - 30 minutes. • Coffee break - 15 minutes. • Full group discussion and cognitive visualising: participant discussion and co-creation of a conceptual map of community hubs for AFLE - 30 minutes. • Interpretation of outcomes under pre- and post-COVID-19 - 15 minutes. • Full group discussion and next steps - 15 minutes.
FOLLOW-UP ACTIVITIES	• Post VCC 1 at home visioning exercise - taking digital images and/or creating video summaries reflecting on VCC 1 take home messages. • Online survey VCC 1 circulated to capture feedback from broader audience. • Intergenerational National Network follow-up meeting to discuss progress and research plan; discussions were audio recorded, and data was used to assess and analyse implementation process under COVID-19 working conditions.

EXPECTED OUTCOMES / OUTPUTS	• Familiarity accross participants and team building. • Take away messages and reflections for VCC 2. • Conceptual map of community hub ideas for production into a poster for dissemination produced by graphic artist.

Table 1. The aim, objectives, questions, participants, activities, and outcomes of outputs of VCC 1

VCC 1 Findings

Embed through design

Embedding age-friendliness through design that facilitates connections between people of all ages is important to ensure that intergenerational shared experiences are "not one off" (F6), but rather "part and parcel of daily living" (F13). One participant described an intergenerational housing community that enabled people to bump into" (F5) opportunities to enjoy activities together and develop relationships. An age-friendly environment should not rely on "just link a bench and some trees" (F1).

Sharing regular activities, such as learning, exercising, and eating, is an important basis for embedding age-friendliness in an environment. There is a need to establish what comprises effective intergenerational programming. From one participant's experience, incorporating intergenerational programming into daily lessons for children means "it is not an extra effort for families to undertake intergenerational activities together" (F13).

This participant emphasised the limitation of time for making connections, which is further reason to facilitate opportunities for joint daily activities: "We don't make time in a child's day or in a senior's day, for them to meet each other, for them to spend good times together" (F13). Many daily activities could be shared among people of different ages. The potential for space for shared activities could not only increase enjoyment of those activities, but also reduce age-segregation.

Create familiarity and safety

The need for familiarity and safety is experienced by people of all ages. It was deemed not easy for young people to meet older people, and older people to meet younger people. M6 suggested that "things that are facilitated, where support can be given for those that maybe don't have the confidence" could reduce barriers to connections.

Intergenerational programming embedded in childcare and senior care centres in the context of F13 has resulted in familiarity and a sense of safety for people of different ages. For example, parents "became more confident and less worried about things like touching another senior or maybe spending time with unfamiliar seniors" (F13).

As a further example, a child who used to be afraid to visit her grandmother, since involved with shared activities with seniors, started to "hold her grandma's hand and start talking and singing to the grandma" (F13). This potential to cause a shift in perspective through increasing familiarity and sense of safety was deemed an important reason for designing activity-based opportunities to connect generations in their environments.

Facilitate community development

The aim and impact of the design of space and shared activities enabled by space are not just about age, but rather "it's actually bringing the community together as well" (F13). For example, F13 continued, "seniors and juniors come together to write a play, they put on a play, and they share this with the families and with the community."

The design of environment and opportunities for shared activities could be considered on a community level, which includes culture and infrastructure such as commerce, government, and education. F12 shared an example from her context in which the location of schoolchildren and people in a care home were connected in addition to commercial shopping areas.

Stakeholder engagement was deemed important not only for making structural design changes on a community level, but also to enable the co-creation of solutions to adapt spaces in contexts where "custom built" (M6) environments are not feasible. Participants indicated they were inspired by the potential for age-friendly design to make an impact on a community level yet identified challenges to implementation.

Feeling and emotion as starting points for physical design

Sensory and emotional needs should be considered as starting points for design. These focusses can connect people and contribute to well-being for all ages.

We started our discussion talking about the design of spaces with the senses in mind and how we all share smell, and taste, and touch, and things like the feel of the wind and different things. (F15)

Design guided by sensory experience needs to be inclusive of peoples' varying ability to use their senses, particularly due to age and disability. One participant (M6) raised the importance of considering acoustics in a place to ensure connection is possible through speaking and listening. Design that facilitates relationship-building was deemed particularly vital for meeting emotional needs.

We talked a little bit about companionship and love and those kinds of more emotional aspects, how do we design those into environments? (F14)

It was acknowledged that it can be difficult to describe emotional experiences of a place, and thus challenging to apply to design. Yet, there was agreement that emotional experiences are important to consider, such as a sense of belonging: "If we think we belong there, we're more likely to use it, we're more likely to enjoy it." (F14)

Meeting sensory and emotional needs through design could also be achieved through opportunities created to connect people of all ages with the outside environment. This was deemed particularly important given the increased use of technology to facilitate connection, especially given the circumstances of COVID-19.

Participants strongly emphasised the importance of the emotional and sensorial experience of a place, particularly to facilitate a sense of shared intergenerational humanity.

Flexibility for intergenerational use and charge in circumstances

Universal design that enables people of varying ages and abilities to use the same space was discussed. F2 shared an example of a swing that was adaptable for use with a wheelchair. The capacity for one place to be enjoyed differently maximises its utility and facilitates shared enjoyment among users.

We also talked about physical exercise, designing flexibility into our environment so that we can all enjoy the same space but differently. So, the example there was we could design playgrounds for older people and younger people together. (F14)

So, a big thing came up in our discussion about spaces being changeable and having multiple uses as well. (M6)

The potential to use the same space is unifying for people of different ages and smart for keeping spaces relevant to people as their circumstances change.

Change narratives about younger and older people

Dispelling negative stereotypes about younger and older people was deemed important for designing an age-friendly environment. Design should consider the multiple determinants of health and embed features for people of all ages and abilities without assuming younger people are well and older people are frail.

We don't want the young people only to know older adults as those who are frail. We also need to find ways to make sure we bring the well older adults who live in your community, and how can we bring them together. (F4)

...that whole shift in a young child's perspective of a senior...that is something that we are very, very, intentional [and worth] pursuing. (M6)

Positivity about young people and ageing helps to create conditions for people of all ages to enjoy their environment.

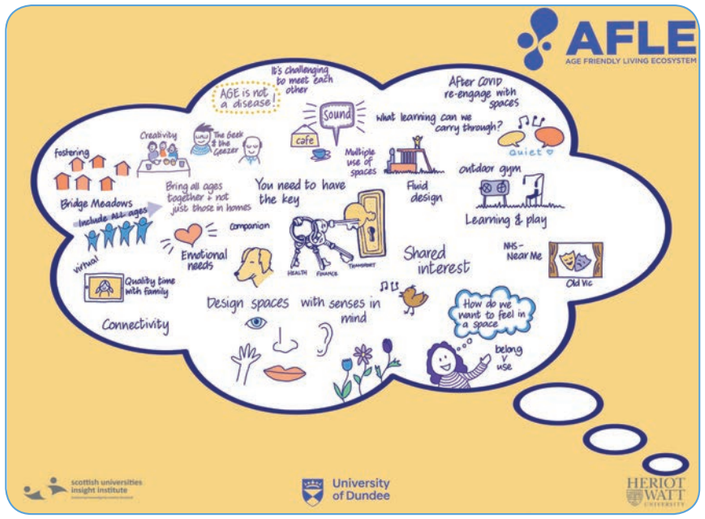


Figure 1. The thematic illustrations from VCC 1. Key themes from VCC 1 were captured in illustrative form by a graphic facilitator for Figure 1.

Virtual Co-Creation Camp 2

VCC 2 focussed on developing first steps towards co-creating an intergenerational Age-friendly Living Ecosystem

AIM	**To map out the first steps towards co-creating an intergenerational age-friendly living ecosystem.**
OBJECTIVES	• Establish shared interest and goals for a potential longitudinal CBPR project. • Determine understandings for co-creating research questions, aims, and objectives.
QUESTION	What first steps do we need to take towards co-creating an intergenerational age-friendly living ecosystem?
PARTICIPANTS	Members of Intergenerational National Network (inclusion of project team); national and international partners; older, middle aged, and young people.
ACTIVITIES	• Summary and reflections on VCC 1 and review of submitted visioning images and videos - 30 minutes. • Intergenerational Places Case Study 2 - The case of intergenerational place-making in Dumfries, Scotland (Jennifer Challinor, Crichton Trust) - 15 minutes. • Smaller virtual camp group discussion to brainstorm research goals, questions, aims and objectives - 30 minutes. • Coffee break - 15 minutes. • Spotlight of older people's perspective on intergenerational places - 30 minutes. • Full group sharing and consensus on research questions, aims and objectives - 30 minutes. • Full group discussion and next steps - 15 minutes.
FOLLOW-UP ACTIVITIES	• Post VCC 2 at home visioning exercise - taking digital images and/or creating video summaries reflecting on VCC 2 take home messages. • Online VCC 2 survey circulated to capture feedback from broader audience. • Intergenerational National Network follow-up meeting to discuss video development progress and research plan; discussions were audio recorded, and data used to assess and analyse implementation process under COVID-19 working conditions.
EXPECTED OUTCOMES / OUTPUTS	• Established set of project goals. • Established research questions, aim, and objectives for project proposal. • Poster produced by graphic artist illustrating key VCC 2 themes. • Take away messages and reflections for VCC 3.

Table 2. The aim, objectives, questions, participants, activities, and outcomes of outputs of VCC 2

VCC 2 Findings

Connecting and learning

Cross culture, global intergenerational ideas. The diversity among people of all ages within the same countries and cities was recognised, which can mean a "different lifestyle" (F15), and various needs and interests in terms of aims and priorities for designing an age-friendly living environment. Yet, participants identified the value of looking at similarities across contexts to address a shared challenge. For example, F3 asked, "What are some of the things that we've learned that are not a challenge but the commonalities we have across our cultures and across our generations?"

An example shared from Copenhagen, Denmark, in which seniors and students lived in housing environments with shared spaces like kitchens, illustrated the potential for intergenerational contact without completely changing the environment or community. This could be a helpful solution in a variety of contexts: "I think that you can build — maybe not a whole city but some of the same aspects within the city that you live in" (F9). The result of this can be that "you are still connected to your community and to the city that you're living in" (F9).

The interesting projects, and important questions related to the best way to gain and apply learning from these achievements.

How can we find out what is happening in other parts of the world, what are the best practices, what are some of the challenges that have been experienced as people are trying new ideas and new methods? (F3)

The potential learning from across cultures could be focussed through exploration of the shared barriers and facilitators to designing an age-friendly environment.

Embed through design: The importance of creating opportunities for learning and connecting through environmental design was emphasised, particularly to mitigate barriers to intergenerational contact and shared experiences.

Overcoming barriers between generations and using lots of shared experiences and thinking about activities and places where different generations can come into contact and meet and share skills from each other and learn from each other. (F6)

Sharing experiences through activities was deemed important for shifting the norms around intergenerational contact. As F2 suggested, "I think unless we have some shared activities, then we'll default to the current structures." Digital skills sharing was raised as a particularly effective potential bridge to facilitate the goal of "intergenerational inclusion" (F7), especially given the ongoing consequences COVID-19.

F11 shared an observation from the Māori culture in New Zealand in which organic opportunities for intergenerational working existed in the natural environment. This was compared to a perception of greater effort required to create and organise activities in the Scottish context. Participants would like to explore how to design spaces conducive for sharing experiences, especially exchanging knowledge and skills that can promote inclusion. Further, they were interested in how to design outdoor spaces to facilitate organic opportunities to connect.

Culture and relationships

Create familiarity and safety: Priorities in terms of culture and relationships strongly aligned with the theme of creating familiarity and safety, which was primarily discussed in a physical and

literal sense. The use of the natural environment and family systems was particularly highlighted. These were seen to allow for exploration of indoor and outdoor design ideas that facilitate opportunities for intergenerational relationships to develop. F11, from the Scottish context, spoke about the potential to explore intergenerational ideas for an age-friendly environment within families. F11 said, "Classically, people see intergenerational practice as not being family-based but I don't see how you can ignore that because it is your intrinsic intergenerational relationship, isn't it?"

Participants recognised that the feasibility of designing spaces to enhance intergenerational relationships within families could differ across national and cultural contexts. For example, F12 shared this observation: "I think intergeneration in China, in the families, is quite easy because older adults take a big responsibility for their

children and also their grandchildren." Exploring the differences in relationships between grandparents and grandchildren across cultures was seen to be a potential means for identifying opportunities to design living spaces that encourage connection between family members of different ages. While the family system was deemed a valuable route for exploration, the limited contact between generations for those who do not have connection to extended family was acknowledged.

There are many younger people who do not have grandparents and there are many grandparents who do not have younger people. So…we also need to think about those who do not have connections to younger generations. (F3)

The need for familiarity and safety in an age-friendly environment was discussed in a physical and literal sense as well as an emotional one. The existence of "physical barriers" to intergenerational relationship-building was identified, particularly to ensure physical safety without "increasing much more falling" (F12). Participants felt older and younger people want a sense of familiarity to be able to feel safe to build relationships, as suggested by F7 who asked: "How do we create a safe environment across the generations? Again, that could be a physical built environment and it can be that kind of emotional environment as well that we're talking about."

The emotional sense of safety and familiarity was discussed in a gendered way as sheds and gardens were identified as particularly welcoming for men, and "a good place to encourage them to transition into different spaces and utilise and socialise more than anything else" (F5).

Participants felt they would like to know what makes indoor and outdoor living environments — whether shared by families, neighbours, or strangers — physically and emotionally safe for people of all ages to use.

Facilitate community development: The priorities related to community development focussed on addressing isolation and linking people to connection through relationships with people as well as community assets such as service organisations and facilities: We also talked about actual places and where services are and where people are living and town centres and suburbia, and rural living and how to connect people together to the services (F6).

There was a sense that places themselves mattered as well as the spaces between them. An example shared by F1 regarding observations focussed on shed use in Denmark spoke to the importance of shared places that bring people out of their own environments to connect with others: "I think that there is something about how we use our spaces that are ours but there is something about how we use those spaces between buildings and the spaces in between."

Participants identified that a community-level approach to designing an age-friendly environment should be assets-based. F1 highlighted: ***I think we need to have a bottom-up approach to understanding what is the existing assets of a place and that could help us inform, like, what do we need in this place and where is the best place to locate things?*** (F1)

The engagement of stakeholders was discussed as useful for achieving representativeness in the process of facilitating community development.

We always do a stakeholder mapping at the start of every project and set up a steering group as well and have regular meetings for them throughout the year, just to make sure that we've got a representative of all different groups within the community. (F4)

There was a sense that infrastructure needs to support people getting to places but also to each other. Questions about what places matters to people and what is needed to connect people to these places, and each other, requires assessment of what spaces and connections to them are already in place.

Change narratives about younger and older people

Participants sought to transform age-related stereotypes, which were identified as barriers to intergenerational connection and co-creation of an age-friendly environment. Understanding conditions for creating "shared understanding," as noted by (F6), was deemed important to shift attitudes older people hold about themselves and younger people, and vice versa.

Effectively engaging people of all ages in the process of designing age-friendly environments was seen as a priority and a challenge across cultural contexts. F15, speaking about the Chinese context, raised the need to ensure questions are asked in a way that is accessible and generates responses beyond "everything is okay" from older people, and is inclusive of younger children as well.

Understanding perceptions held by older and younger people about each other and themselves would help to inform the design of an age-friendly environment. F1 shared, for example, "young people want to feel respected and feel that they're not going to get shouted at for being young people, for being louder or whatever." Questions should focus on how to respect the independence of individuals, older and younger, while building an environment based on increasing connection and opportunities for relationships to develop.

People and place

Embed through community investment: A new theme emerged that combined and focussed two previously identified themes: facilitate community development and embed through design. The participants prioritised an aim to sustain age-friendly environments through community development as well as investment. For example, F6 spoke about "commitment to intergenerational spaces and this way of working together intergenerationally so that we're not always chasing funding, so we have a commitment to this being the norm really."

Key questions to ask related to how to embed age-friendliness into the design of spaces as well as the infrastructures that fund building

projects. This level of embedding age-friendliness helps this concept not only to be sustained but also to become normalised

How do we make it so that this becomes part of what communities do rather than just something that when the money is there, we can support? (F1)

We don't want intergenerational communities to be another theme. We'd like it to have, as you say, this longevity, there is something that encompasses everything, that works for many people together in a way that is fair. (F7)
There was a sense that investing in design and adapting of spaces that are age-friendly does not necessarily mean spending more money. The focus should be on how to build and adapt spaces that are useful to people of all ages that could also be cost-effective compared to "acquiring land and building from new." (F2)

How to ensure the "longevity," as (F6) commented, of intergenerational spaces, and activities enabled by spaces, was identified as a key question. The imperative to gain community-level investment also related to concerns about the environment, and the potential ecological benefit of investing in age-friendly living spaces.

How to identify and support people who could champion the development of intergenerational spaces was also seen as a need for achieving sustainable age-friendly living environments. The best approach for gaining and using financial and human resources to grow and sustain the vision of multigenerational spaces was deemed a priority.

Flexibility for intergenerational use and change in circumstances

An age-friendly environment could be designed with features like furniture and equipment suitable for multigenerational use across the lifespan. For example, F9 said, "chairs can be a little bit bigger so that young children can come onto, to sit together and things like that."
An example shared from Scotland by (F2) identified "the actual interior space was moveable," which allowed it to be useful for changes in circumstances over time. Participants felt that universal design innovations could enable people to maintain independence and connect with each other as well. As F1 offered, "I think for both sides actually, no matter what age you are there are times when we want to be connected and there are times when we are quite enjoying isolation."

Multigenerational environments that aim to bring people together must also respect peoples' need for independence, and participants would like to know how to achieve this balance. Applying universal design principles also helps to avoid 'othering' older people through provision of segregated housing. As F3 from Canada said, "I would love to see communities that have a mixture but not housing just for older adults or activities just for younger people."

COVID-19 is perceived as influencing considerations for physical design of spaces. F1 added, "It's changing how people are thinking about where they live and what they desire in a home." Interest in multigenerational living, particularly within families, might be increasing due to COVID-19 and exploration is warranted of what opportunities exist to meet this interest. Universal design of environments could enhance feasibility of multigenerational living and attract potential users.

Feelings and emotions as a starting point for physical design

While feelings and emotions are a starting point for physical design (see Thematic Findings: Virtual Co-creation Camp 1), they were not prominently discussed in VCC 2.

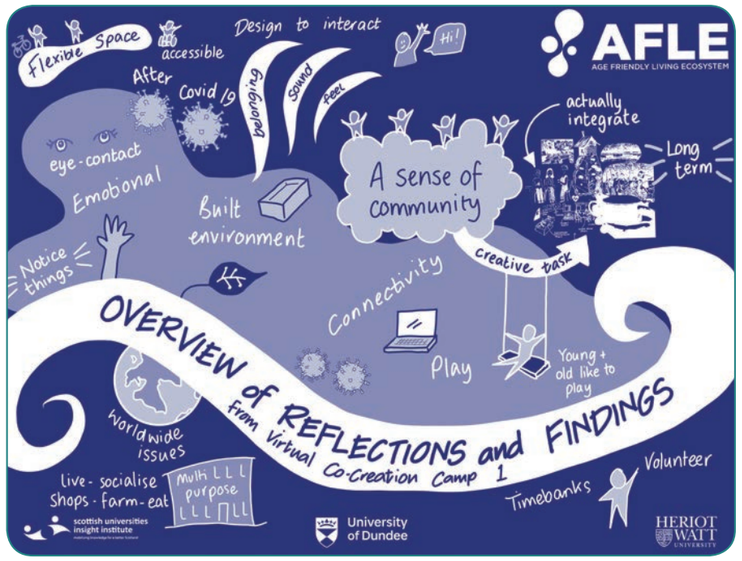


Figure 2. The thematic illustrations from VCC 2. Key themes from VCC 2 were captured in illustrative form by a graphic facilitator for Figure 2.

Virtual Co-Creation Camp 3

VCC 3 focussed on researching intergenerational Age-friendly Living Ecosystems

AIM	**To refine and confirm project aims, objectives and research questions towards the development of an intergenerational age-friendly living ecosystem.**
OBJECTIVES	• Determine work package activity structure (including number of work packages and themes) to address research questions, aim and objectives.
QUESTION	Having gained knowledge from VCC 1 and VCC 2, what knowledge do we need now to progress understandings of intergenerational age-friendly ecosystems?
PARTICIPANTS	Key project team members as part of the Intergenerational National Network.
ACTIVITIES	• Summary and reflections on VCC 2 and review of submitted visioning images and videos - 30 minutes. • Interactive co-creation of project aims objectives and research questions towards AFLE - 45 minutes. • Coffee break - 15 minutes. • 'Ideas' working group session in 2 groups to brainstorm on possible project impact - 30 minutes. • Interpretation of outcomes under pre- and post-COVID-19 - 15 minutes. • Full group discussion and next steps - 5 minutes.
FOLLOW-UP ACTIVITIES	• Post VCC 3 at home visioning exercise - taking digital images and/or creating video summaries reflecting on VCC 3 take home messages. • Online VCC 3 survey circulated to capture feedback from broader audience. • Intergenerational National Network follow-up meeting to discuss video development progress and research plan; discussions were audio recorded, and data used to assess and analyse implementation process under COVID-19 working conditions.
EXPECTED OUTCOMES / OUTPUTS	• Established aims, objectives, and research questions and general work package activity structure (including number and naming of work packages and themes) • Poster produced by graphic artist illustrating key VCC 3 themes. • Take away messages and reflections for VCC 4.

Table 3. The aim, objectives, questions, participants, activities, and outcomes of outputs of VCC 3

VCC 3 Findings

Six objectives for an upscaled longitudinal project for developing an intergenerational AFLE were identified.

Create roadmap

The project should aim to create not only a conceptualisation of age-friendly place-making but "something a little bit more concrete…a roadmap for people" (F3). This was deemed important given the circumstances of COVID-19 as well as diverse contexts in which age-friendly place-making could occur. The creation of a road map could allow for people "to find out for themselves, what would be good" (F4) in translating the conceptualisation to a reality in the context of ongoing changes in how semi-public and public spaces are being used and the diversity of potential implementation contexts.

Innovate the use of outdoor space

The project should aim to use outdoor spaces in an innovative manner particularly given the circumstances of COVID-19 and the perceived benefits of outdoor place-making. This should be considered across urban and rural settings.

COVID-19 has necessitated a change in the use of semi-public and public spaces as well as urgency to use outdoor spaces optimally. F2 summarised, "COVID-19 had made a difference to how we were relating to each other and how we were relating to, specifically, outdoor space as well." The opportunity to learn from existing projects that have been using outdoor spaces successfully to nurture people was also raised. F5 explained, "There is already so much knowledge and experience in the childcare sector" as outdoor nurseries for young children in Scotland have been making use of outdoor spaces year-round.

The potential to learn and innovate around the multigenerational use of outdoor spaces optimally was deemed particularly salient given the climate in Scotland: "I think that is quite a good theme to look at, the outdoor environments and our climate, especially in Scotland" (F1). The learning from creative uses of outdoor spaces in the height of COVID-19 could inform ideas for how to further facilitate intergenerational interaction and relationship-building through outdoor structures and spaces.

Focus on universal benefits of multigenerational use of spaces

Multigenerational spaces could benefit people not only as their age changes but also as the contexts in which they live change, which is relevant to people of all ages. As M1 explained, the project should consider "opportunities for people as they age, but also in response to changing environments."

The focus on this dynamism emphasises that the project would be relevant to people not only as they age but also as they adapt to changes in their circumstances. Further, F3 noted that the project's aims could "apply to younger people too," and the relevance of this project to younger people should be acknowledged. The project should emphasise the universal benefits of multigenerational use of spaces over time rather than focus on ageing.

Produce road map that can be used across cultural contexts

The findings from this project should be translatable such that a road map could be relevant across various contexts. The knowledge gained from this project could be widely useful yet acknowledgement of the differences in potential mobilisations of the road map is

important: "You translate from one language to another, you can't do it directly," as F4 explained. M2 added that he liked the "wording of culture" in the objectives to highlight the diversity of project participants and partners. The diversity of involvement could be emphasised to acknowledge the breadth of the investigation as well as the relevance of the findings.

Use terms that encompasses people of all ages (multigenerational)

The language used in the objectives should acknowledge the involvement of people of all ages rather than focus on older and younger people. F3 shared:

When we've spoken to people about who it is in their community, they want to know it's not defined just by being a teenager or being over the age of seventy; it's connecting with young mothers, it's connecting in the middle as well. (F3)

The importance of using language that acknowledges the inclusion of people of varying ages was typified by the notion of accessibility, as F4 noted, "anyone can be in a wheelchair." F6 shared a personal example related to inaccessibility of spaces to babies and their caregivers: "as I am trying to take a baby out in the pram, and things and as I'm trying to access spaces, many of these spaces are not really accessible to us as well. So, that is how it can be something that is much more across all the age groups."

While there might be specific considerations for certain age cohorts, it was agreed that taking a "multigenerational approach" (F3) is important.

Include intersectionality and inequality

In addition to including varying ages in the objectives rather than signpost specific age groups, the notions of intersectionality and inequality were raised. For example, accessibility of spaces not only relates to physical concerns but also resources like information, money, and transportation. F2 summarised:

We know that age doesn't cover all of the different aspects of a person when they are trying to use, to access, to develop meaning with space. And so, I think, disability, we've talked about gender, and we've talked about age. So, maybe there needs to be some kind of recognition of intersectionality. (F2)

F3 noted that "sensory stuff is really important in terms of accessibility" and thus consideration of varying sensory needs could be crucial for promoting inclusivity. For example, F3 specified that noise level might need to be a priority for engaging people affected by dementia and autism. While the scope of the project needs to be focussed and attainable, a range of perspectives must be considered, particularly in looking at multilevel constraints.

Alongside key objectives, VCC 3 discussions also established key area to explore for an upscaled longitudinal project for developing an intergenerational AFLE.

Interconnectedness

There was a sense that, with Scotland at the centre of the project, there is a need to facilitate engagement of partners and stakeholders to age friendly, intergenerational design not only in terms of their expertise but also in terms of their own connections and spheres of influence. Reflective learning between partners to share expertise and to innovate was seen as critical to success. As F2 suggested, rather than each partner providing their expertise, all partners need to discuss and debate how expertise combines in new and innovative ways: "I do think we do need to be able to represent the interconnectedness of the whole system…each partner works in specifically their area of interest and expertise and that we learn from that as a whole partnership." Further, as M2 highlighted, "It would be interesting to have a little overview of this is how Scotland is for said area."

Connecting partners to each other could allow for learning to be exchanged more widely and Scotland's status in the different areas of expertise was highlighted.

Understanding of involvement at different levels

The mention of engaging with stakeholders led to a discussion of how the project team could get people involved. It was agreed that understanding "what makes people wish to be involved of any age" (F4), is important for maximising the benefits of this project in regard to community development. The proposed socio-ecological model benefits from a community participatory approach. It facilitates understanding from the individual to societal level and enables conceptualisation of the processes that connect people to each other and their contexts. F2 explained the potential for the socioecological approach:

To understand intergenerational ecosystems from the perspective of—what is the person, the individual trying to get out of it and what does it mean for them? Right through to what does this mean on a societal level and what kind of policies and practices do we need to be working on to make sure this happens generally, rather than just for specific initiatives. (F2)

Understanding the motivations for involvement from the individual to the societal level would help ensure the conceptualised road map is representative of diverse stakeholders and developed sustainably for communities.

Figure 3. The thematic illustrations from VCC 3. Key themes from VCC 3 were captured in illustrative form by a graphic facilitator for Figure 3.

Virtual Co-Creation Camp 4

VCC 4 focussed on developing an intergenerational Age-friendly Living Ecosystem

AIM	**To build our knowledge of how to co-develop an intergenerational and age-friendly living ecosystem.**
OBJECTIVES	• Determine project activities to address the research questions, aim, and objectives.
QUESTION	What does co-development look like when applied to intergenerational age-friendly ecosystems?
PARTICIPANTS	Members of Intergenerational National Network (inclusion of project team); national and international partners; older, middle aged, and young people.
ACTIVITIES	• Summary and reflections on VCC 3 - 15 minutes. • Overview of key findings, aims, objectives, research questions, and approach - 15 minutes. • The case of building intergenerational spaces and places in Canada - (Olive Bryanton, AGE-WELL NCE) - 30 minutes. • Coffee break - 15 minutes. • Full group discussion on activities to develop a community of practice, capture different voices, and share what we have learned - 45 minutes. • Full group discussion and next steps - 15 minutes.
FOLLOW-UP ACTIVITIES	• Online VCC 4 survey circulated to capture feedback from broader audience. • Intergenerational National Network follow-up meeting to discuss video development progress and research plan; discussions were audio recorded, and data used to assess and analyse implementation process under COVID-19 working conditions.
EXPECTED OUTCOMES / OUTPUTS	• Established general work package activity structure (including number of work packages and themes). • Data for process evaluation. • Poster produced by graphic artist illustrating key VCC 4 themes. • Digital material for VCC 4 video. • Take away messages and reflections for VCC 4.

Table 4. The aim, objectives, questions, participants, activities, and outcomes of outputs of VCC 4

VCC 4 Findings

Role of technology

Technology was identified as playing a potential role in developing a community of practice, capturing diverse voices and disseminating knowledge. In particular, the circumstances of COVID-19 require considerations of video-conferencing and design technology, and its potential for initiating and maintaining relationships was highlighted.

As F4 noted, technology should be seen as the facilitator of activity and not the main outcome: "We talked a bit about hackathons… and not just about coming up with technology-based solutions but about them being the beginnings of a relationship that would grow from there." Even so, caution was raised in relation to relying too heavily on technology given barriers to digital access and culturally based negative perceptions of technology: "In some cultures, technology is seen as a threat by older people, so we need to be wary of that and not just go down that technological route" (F4).

Nevertheless, the need for technology alongside traditional methods of engagement was identified as important for reaching diverse participants: "we include everybody, and it doesn't always have to be the technological side of things" (F7). Careful consideration of the intended and unintended consequences of technology are suggested, as technology was viewed as creating opportunities but also for their potential to impose barriers.

Highlight the heterogeneity of older people

Recognition of the heterogeneity of older people was identified as the key to effective engagement and particularly the transformation of negative to positive stereotypes and to challenge ageism: "I think we really do need to big up our older people who are thriving" (M2). To help to counter ageism, it was emphasised that:

I think we are contributing to ageism when we don't show the other side as well. I know there is a lot of focus on health issues so, you're always looking at older adults as people who are incompetent, or they need support — they need somebody to help. So, we need to show the world that there are older adults who are very involved in their communities and working very hard so, we need to see them as well. (F2)

The involvement of multidisciplinary stakeholders offered perspective on the positive impact of recognising the heterogeneity of older people. Specifically, a student furniture designer explained:

Sometimes we will ignore their age because we think their physical condition is more important because if they can live by themselves or they need to use a wheelchair or they need others' help…that will make a big change about what kind of furniture they will use. (F9)

Assumptions made about individuals' experiences on the basis of older age limits opportunities to engage effectively with older people. The universality of ageism was seen as a threat to involvement but also an opportunity to involve diverse people because everyone is affected by it. As F8 summarised, "What we're talking about affects everybody." The prevalence of internal ageism was seen as a further threat and strategies to reach diversity of older people were explored.

Highlighting intersections with age

The focus on diversifying engagement with the project involved discussion of the different backgrounds and experiences people have, which were perceived as underrepresented in the co-creation camps to date. The barriers to participation in designing and living in age-friendly communities on the basis of characteristics

such as socioeconomic status, sexual orientation, and race/ethnicity were discussed. Strategies to effectively address this were discussed:

It is more than just opening the door, you've got to help people through the door as well…it's about going, "Well, this is what we're doing, and we would really like you to come, and we'll help you get there." (F3)

The diversity of national hubs represented by the project provided an opportunity to address participation barriers within those settings.

The kind of context is everything though and so some of those hubs — the hub in India — the experience of being an LGBTI person in India is very different to being someone who identifies in that way in Scotland or in Canada or wherever else. And so, I think there is something about encouraging everyone to engage through those networks. (F3)

There was a sense that diversifying involvement of people designing and experiencing age-friendly communities required local networks of champions who have knowledge and skills to "help people through the door" (F3).

In addition to identifying the value of developing a strategy as to how to increase the diversity of creators and community members of age-friendly living environments, the importance of reaching people who might benefit most from engagement was acknowledged. As M3 summarised, "The people who are already quite well connected, are already doing okay."

This notion of connecting people on the basis of characteristics other than age was also a strategy identified for promoting inclusion in designing and participating in age-friendly environments:

Thinking about pensioner's associations, youth groups, housing associations —schools, and having clubs in schools where it's not just connections and there are lots of other things going on there; that's where life happens. (F4)

Not just being disseminated from one age group or one particular person in society but actually being shared to and by the whole community together and lots of ideas about buddy walks and YouTube videos, those kinds of things. (F1)

As with highlighting the heterogeneity of older people, highlighting the intersections of characteristics such as race/ethnicity, sexual orientation, and socioeconomic status with age was viewed as an opportunity to enhance engagement given the universality of this project. The importance of inclusion for the project's benefit as well as for those with most to gain from engagement was also recognised.

Role of relationships

In exploring the importance of going "beyond the notion that just organisations that represent older people or represent younger people" (F5) could be included in this project, the crucial role of relationships was identified. As F8 explained, "it is about developing those relationships and it is those long-term relationships."

Some means to develop long-term relationships to facilitate communities of practice, inclusion of diverse experiences, and disseminate learning included the potential for "intergenerational champions" with a "foothold in the community" (F5). The development of peer support particularly among older people was also seen as a potential strategy for engagement.

Role of place

In addition to relationships, the role of place in relation to facilitating engagement in the community was highlighted. Specifically, there is the potential of identifying community places "as a base" so that there is continuity when "people move on" (F4). Further, the involvement of places that already exist could provide infrastructure for "outreaching" such as "going out there" and joining a group and "talking about" (F3) the project. Schools of higher education were recognised as an example of intergenerational space, and F5 posed the question: "Can we build on what they're doing to take forward thisidea of intergenerational to be part of communities of practice?"

Storytelling

The potential for storytelling to build trust among people from diverse backgrounds and reach various people was recognised. As F8 explained:

I think storytelling is one of the most powerful ways of doing a lot of things, it gives people a voice, it brings people together. It brings people together across generations, it creates a common understanding. I think storytelling is hugely powerful. (F8)

Storytelling was identified as a common opportunity across cultures for hearing and sharing diverse intergenerational experiences.

I think there is something in that whole oral history. And that will be across the world, there will be stories in China, I'm sure, there will be stories in Canada — unique bits of history. If we don't capture them, we are going to lose them for sure. (M2)

F2 asked, "If we want to hear a story from all generations, what is the story we need to hear?" The method of storytelling as a means to develop community of practice, involve people, and disseminate learning was enthusiastically discussed. Storytelling could occur in diverse settings comfortable for a variety of people, including a community place, a drop-in session, or a camp.

Time considerations

Consideration of the time required to comprehend the project and commit to involvement was discussed. M2 noted that explanation of the project can be lengthy, and a quick summary of points would be beneficial to maximise engagement: "If you need to tell someone in a quick period of time, what are the key bits they need to know, to really grasp what we're trying to do" (M2).

Further, there was a sense that once involved, time considerations exist that affect participation. Online and intensive days might engage more people, and allow for a variety of people to engage, such as those working in the third sector. F3 offered, "these are quite time-intensive meetings" and reflected on the potential benefit of a camp or institute. F3 suggested that the value and accessibility of engagement could be conveyed by a message such as, "Well, actually, we just need you for three days or a week and then you'll be part of something, you'll gain skills and understanding that will improve your job."

M2 agreed: "Three days is nice because, with other people's workload, you can say, it's three days, it's intense — but at the end of that — that's it, done." Streamlining an explanation for the project and offering a variety of ways to be involved such as online, drop-in session, camp or institute, could diversify participation of individuals and organisations.

Figure 4. See Figure 4 on page 33.

Virtual Co-Creation Camp 5

VCC 5 focussed on exploring opportunities for intergenerational policy and practice

AIM	**To explore opportunities for the development of intergenerational age-friendly policy and practice.**
OBJECTIVES	• Determine national and international practice and policy implications for an age-friendly and intergenerational living ecosystem.
QUESTIONS	Who should be around the table when developing intergenerational age-friendly policy and practice? How can policymakers and practitioners be persuaded to develop policy and practice in line with principles of intergenerational age-friendly ecosystems?
PARTICIPANTS	Members of Intergenerational National Network (inclusion of project team); national and international partners; older, middle aged, and young people.
ACTIVITIES	• Summary and reflections on VCC 4 - 30 minute • The case of progressing intergenerational planning policies in Scotland (Petra Biberbach, Planning Aid Scotland) - 15 minutes. • Full group discussion - 30 minutes. • Policy Road Map: Policy into practice discussion - 45 minutes. • Coffee break - 15 minutes. • Full group discussion and next steps - 15 minutes.
FOLLOW-UP ACTIVITIES	• Online VCC 5 survey circulated to capture feedback from broader audience. • Intergenerational National Network follow-up meeting to discuss video development progress and research plan; discussions were audio recorded, and data used to assess and analyse implementation process under COVID-19 working conditions.
EXPECTED OUTCOMES / OUTPUTS	• List of potential policy and practice implications that can be integrated into the proposal and developed for dissemination. • Poster produced by graphic artist illustrating key VCC 5 themes. • Policy road map. • Take away messages and reflections for VCC 5.

Table 5. The aim, objectives, questions, participants, activities, and outcomes of outputs of VCC 5

VCC 5 Findings

Ground up, community-led initiatives

The importance of planning policy and practice from a ground up perspective at the community level was deemed essential: "It is really, really vital if we get the right kind of places that people want; not what architects want or planners want or transport engineers want, but what people want and need," said F1.

It was suggested that people of varied ages can have common wants and needs (e.g., walking paths) and there was an emphasis on the importance of accessing and of having the appropriate mechanisms for accessing the voices of all ages to inform community-led policies and practices for age-friendly environments.

How we get those different voices to be heard to create those better environments. Whether they be urban environments, rural environments, whether the physical spaces, the interior spaces — how do we capture those intergenerational needs from these different voices and how can we actually apply that to a policy to make a change to improve these spaces and places, to make them more accessible. (F10)

The concept of universal accessibility was seen as key for exploring and meeting needs of diverse multigenerational people within communities. Organising communities around key concepts such as universal accessibility was deemed a strategy for planning policy and practice.

Awareness-raising and mainstreaming

A potential focus for engaging community members in policy and practice discussion was to undertake awareness raising about the topic. As M3 summarised, what might be needed is a "bigger awareness-raising project, to just make sure everyone is aware of what the benefit of intergenerational work is and are." M2 noted the power of examples to narrate the benefits and help explain: "it's using examples, having examples ready that really communicate so much more than words can do."

This awareness-raising strategy aligns with the goal identified to mainstream age-related issues into policy and practice rather than, for example, develop specific policies for older people. Appropriate messaging about intergenerational policy and practice could engage people who do not realise the relevance of the topic to them, in discussions as well as supporting policy mainstreaming of age-related issues.

Actively having fun

Another strategy identified for engaging community members on the topic of intergenerational policy and practice was to organise activities that are fun in order to get people active and talking to each other. The focus on concrete, purposeful and stimulating joint or shared activity is important here.

If you get people together to do something, they both want to do, and it's fun, they forget what people's ages are, they don't see age, they just see people and they have fun together. When you're having fun together you have conversations and conversations are a way of talking about stuff. So, if we want people to talk about stuff you can feed something into that conversation. So, rather than say, "I want you to talk about this policy" you say, "Well, while you guys are talking what do you think about that?" (F2)

A fun gathering for facilitating community engagement could also help to bring people together who would not otherwise easily connect and potentially address the "overriding

issue of ageism" (M2); recognising that being active and having fun is equally important for young and old. M2 continued, "It is a matter of building the environment to actually come together. It probably takes a little bit of that unofficial, pre-getting together to become comfortable with each other — to realise that we each have a contribution to make."

Planning environments for sociality through processes of joint activity and having fun aligns with the overall aims of intergenerational policy and practice which are designed to emphasise well-being and the senses. The notion of an environment that incentivises people to come together and want to work together was deemed important for evolving intergenerational norms and encouraging diverse participation.

Confidence in relationships and process

Trusting relationships among communities and professionals involved in the planning of intergenerational policy and practice was reported as needed for encouraging participation and sharing ideas among diverse community members. However, it was acknowledged that developing trust, confidence in working together, and strong effective working relationships takes time and focussed effort: "including all voices is a long time, it takes time and effort to build people's confidence and skills" (F11). Further, F11 stated that such trust and confidence building is multi-directional and should not just be centred on community residents or lay people in general: "I think that is all people's confidence and skills and that includes the professionals, the developers, and the planners' confidence and skills and engaging communities and vice versa."

There was a consensus that relationship-building within communities and among those involved in policy and practice development and implementation takes time. Yet getting "to a point where people actually are confident enough to share ideas and feel that their voices are being heard" is essential, as (F10) observed, and needs to be based on notions of equality such that all professional, academic and lay perspectives are equally valued and can find their place in the development and implementation process.

The process of community engagement needs to be organised around equality and diversity, as F3 said, it must "give people confidence that you are talking to as wide a cross-section of the community as possible." The need for cultivating confidence was deemed important for developing relationships to ensure the inclusion of diverse perspectives as well as conveying the success of the inclusion.

Figure 5. See Figure 5 on page 33.

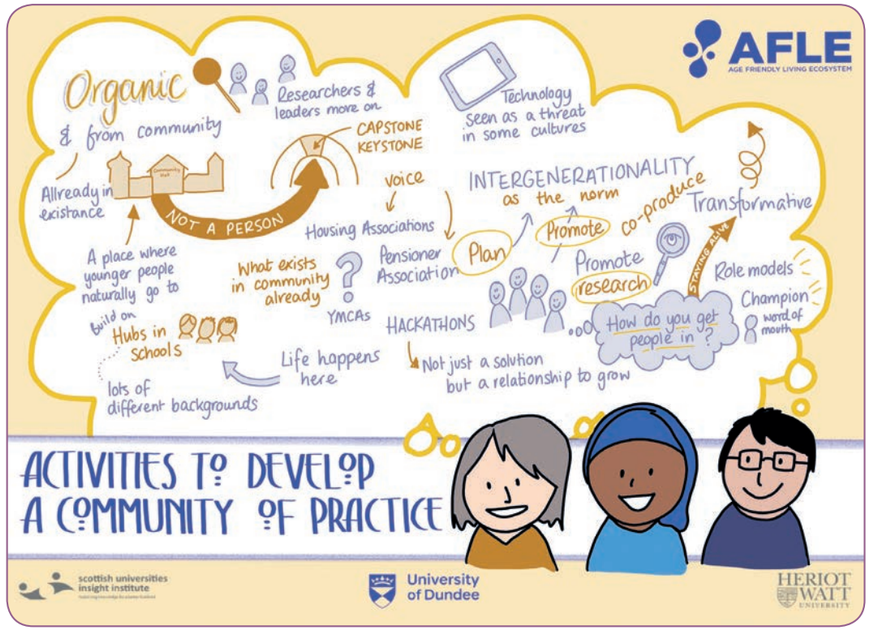


Figure 4. The thematic illustrations from VCC 4. Key themes from VCC 4 were captured in illustrative form by a graphic facilitator for Figure 4.

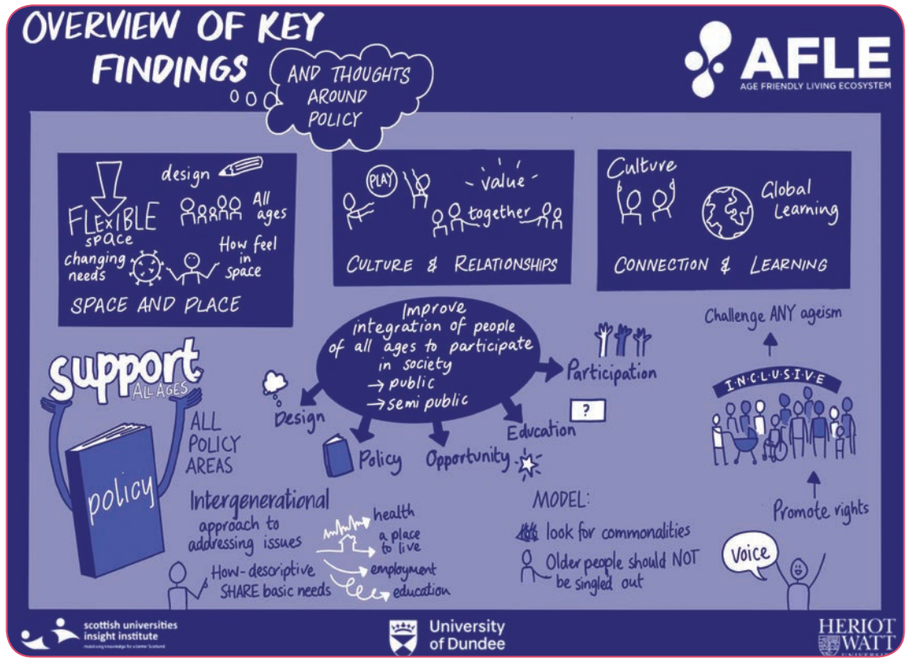


Figure 5. The thematic illustrations from VCC 5. Key themes from VCC 5 were captured in illustrative form by a graphic facilitator for Figure 5.

Virtual Co-Creation Camp 6

VCC 6 focussed on knowledge translation and pathways towards impact

AIM	**To develop ideas for effective knowledge translation and pathways towards an intergenerational and age-friendly living ecosystem.**
OBJECTIVES	• Establish communication mechanisms for wider dissemination of key learning points. • Determine knowledge translation outputs (policy and practice) for wider dissemination.
QUESTIONS	What opportunities are there for knowledge translation? How do we measure impact?
PARTICIPANTS	Members of Intergenerational National Network (inclusion of project team); national and international partners; older, middle aged, and young people.
ACTIVITIES	• Summary and reflections on VCC 5 - 30 minute • Overview of case studies - 15 minutes. • Breakout groups: Knowledge translation and impact - 30 minutes. • Coffee break - 15 minutes. • Full group discussion - 30 minutes. • Spotlight of youth perspectives on intergenerational communication for shaping intergenerational spaces. • Full group discussion and next steps - 15 minutes.
FOLLOW-UP ACTIVITIES	• Online VCC 6 survey circulated to capture feedback from broader audience. • Intergenerational National Network follow-up meeting to discuss video development progress and research plan; discussions were audio recorded, and data used to assess and analyse implementation process under COVID-19 working conditions.
EXPECTED OUTCOMES / OUTPUTS	• Plan for virtual time capsule. • Individual pledges for actions towards developing a living age-friendly ecosystem. • Poster produced by graphic artist illustrating key VCC 6 themes. • Report and peer-reviewed publication. • Draft proposal for planned submission to the Economic and Social Research Council (ESRC).

Table 6. The aim, objectives, questions, participants, activities, and outcomes of outputs of VCC 6

VCC 6 Findings

Value involvement in knowledge translation and implementation

Involvement of local people of all ages in intergenerational design and from a wide range of sectors was deemed an essential consideration for successful knowledge translation and implementation. Such involvement should begin at the start of a project.

Both local and national involvement was identified as useful for helping to overcome resistance to change in a community and among potential funders. F5 shared the example of an "implementation council" comprised of community-based stakeholders that formed as part of a policy developed for older people. The involvement of individuals impacted the governmental response to the policy and led to action.

So, the new government saw it (the project) as very important, and they brought it off the shelf and have developed the implementation council and the council is now overseeing that all the recommendations are being taken care of. (F5)

The need to ensure all people involved at any stage receive feedback was also highlighted as important for implementation. F1 said, "quite often people said, you know, we were invited along, they seemed to listen then we don't know what happens afterward," which could affect support for a project.

The potential for engagement facilitated by the increased use of digital platforms due to the COVID-19 pandemic was recognised as an opportunity to broaden and diversify involvement: "I've been able to participate in more community projects because they're happening on Zoom or on other platforms," F2 said. This could be another key to translation of ideas into real-world environments. Valuing and promoting the involvement of a broad range of individuals and sectors in the development of an idea could lead to increased stake in bringing the idea to fruition. Further, the more individuals and sectors involved in any stage of the project, the more they could potentially benefit from the project.

Understand community

The importance of understanding what is happening in an environment in order to offer informed input related to intergenerational considerations was described. As F5 offered, "I think we need to find out what is happening and how can we support what they're doing?" Further, understanding misconceptions about intergenerational environments would allow for those misconceptions to be effectively challenged.

What might different people's misconceptions be of intergenerational work? For example, let's have a look at what those are. And one I thought was really important was to consider people's feelings because, even if we're working with professionals on strategy, they're people the same as us and everybody has got feelings and we should be considering those as we work together. (F1)

The potential use of "middle people" (F2) to help academic researchers understand the impact of projects and then be able to inform policy was an idea for facilitating effective evaluation. The notion of understanding what could potentially go wrong in implementation was also described as a good consideration for its success.

As M1 reflected, "whatever way you try to do something, you allow the eventuality of things to go wrong, so that they can be resolved, and things carried on." Understanding a community and a project's implications in a community

could support the implementation of ideas, encourage engagement, help to identify benefactors, and improve evaluation.

Invest in well-being

The notion of well-being was identified as particularly important for increasing support for implementation of intergenerational design ideas and evaluation. F3 described the importance of recognising the social determinants of health and that "people's well-being has a major impact on economic sustainability."

In relation to encouraging engagement in intergenerational design ideas, F3 observed "It's about seeing this as an investment, not a cost." F2 offered that post-occupancy surveys that measure impact on well-being could be an effective approach for evaluation. An emphasis on well-being could attract interest and help to demonstrate impact of a project.

Tell stories

The potential impact of telling stories to generate interest and evaluate projects was discussed. There was a sense that communities do not necessarily know what funding is available, and that narratives told through methods such as graphic illustrations and videos could increase awareness and promote engagement.

So, thinking about we can — or how that kind of knowledge translation of good case studies could be explored and shared more publicly, to a kind of lower level, a more understandable more translatable level to average people in communities, not just policymakers in suits. (F2)

While "hard evidence" (F3) was deemed important, particularly for engaging policymakers and developers, "it is about those narratives, about the stories, about the actual immediate impact on people's lives" that's key. Informal surveys and discussions were other strategies put forward for getting mixed evaluation information. Qualitative evidence could help generate interest in various stakeholders and provide valuable feedback about projects that could inform further developments as well as policies.

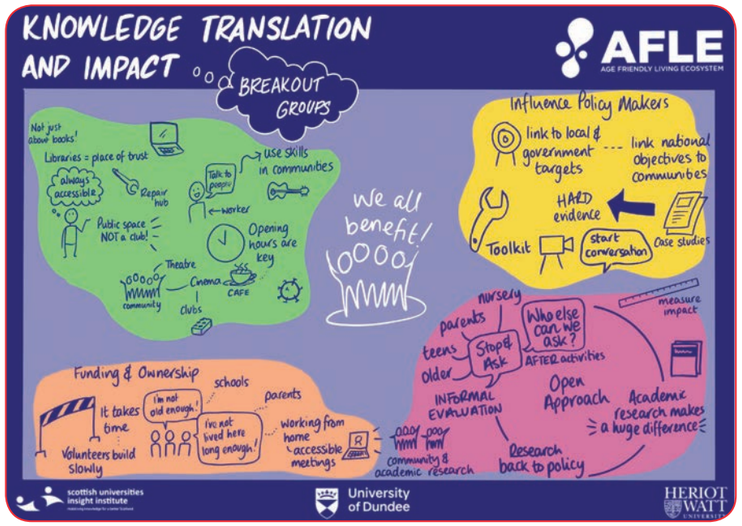


Figure 6. The thematic illustrations from VCC 6. Key themes from VCC 6 were captured in illustrative form by a graphic facilitator for Figure 6.

The AFLE Road Map

Bringing together the findings from the six AFLE VCCs, an AFLE Road Map was developed (see Figure 7 below). The road map identifies the following policy and planning directions towards developing an intergenerational Age-Friendly Living Ecosystem, applicable across diverse geographical locations and contexts.

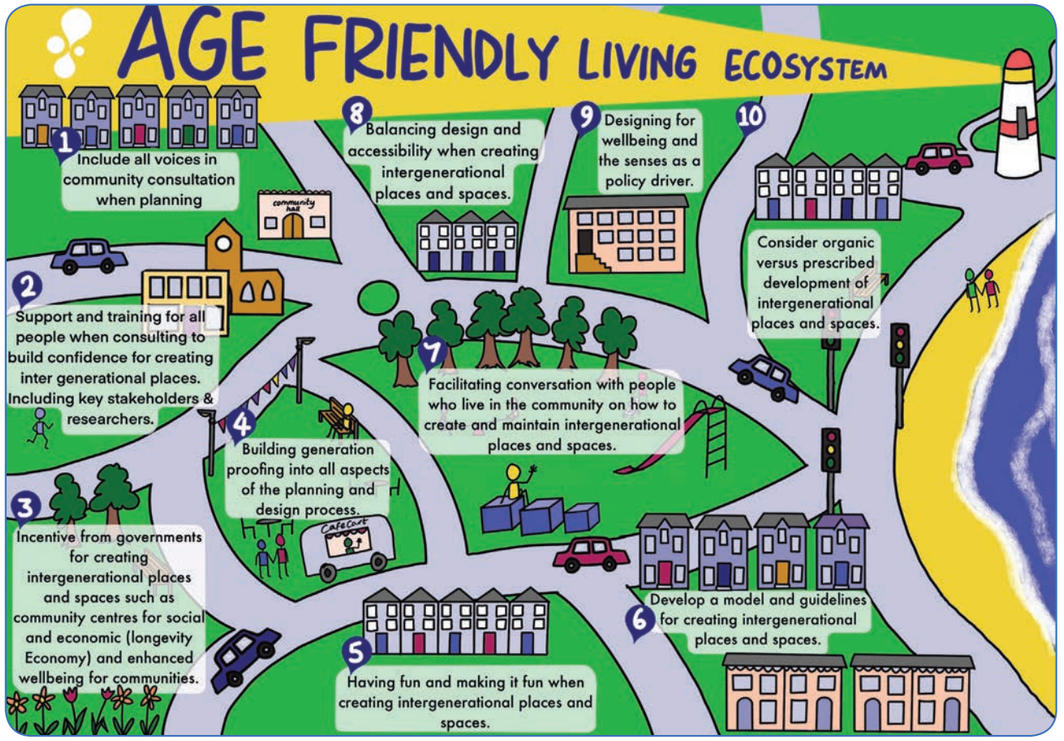


Figure 7. The AFLE Policy Road Map.

The Survey Findings

Intergenerational interactions. Participants reported the frequency with which they interacted with people who were younger or older than themselves (excluding immediate family) in their everyday lives.

	Frequency/Percentage Younger	Frequency/Percentage Older
Often	58%	61%
Sometimes	30%	33%
Seldom	11%	6%
NEVER	---	---

Table 7. Survey findings of the frequency of interaction with people who were younger or older than themselves.

Intergenerational and age-friendly places. Participants were asked if they had ever been to a place that they considered "intergenerational." Most indicated that they had with 84% saying "yes," but a surprisingly high percentage of 16% who felt they had not.

Three categories of age-friendly place features were identified from survey responses as important for optimising health and well-being across all ages and stages of life: 1 physical aspects of the environment; 2 social-cultural aspects; and 3 the sensory environment.

1. Physical features were defined as: built environments that enabled accessible and flexible indoor and outdoor spaces for people of all ages. Characteristics of positive indoor spaces for all age groups were:

- Aesthetics, e.g., colourful, "having artwork that enables a sense of shared ownership."
- Flexible layout and readable environments, e.g., "multi-use and multi-purpose," and "having secluded corners for peace and privacy."
- Safety and security.
- Link to the natural environment, e.g., "having views to outdoors," "having plants."
- Quality facilities, e.g., high quality, accessible toilets.
- Spacious: "well-spaced to accommodate for social distancing."
- Accessible facilities: "accommodating mobility aids and people with mobility issues"; "high quality toilets"; "having good signage with pictures and words"; "having automatic door entrances and elevators"; "having colour contrast between floor and wall"; "having different heights of tables and chairs"; "having non-slip floors"; "having light switches and electric sockets at the correct height"; and "having good seating."

Socio-cultural considerations: built indoor and outdoor features, participants reported the need for socio-cultural considerations, aligned with a social justice perspective. For example, there is still a fundamental need to ensure that housing, transportation and activities of

2. daily living are affordable, well designed for accessibility, safe, and inclusive for all people across generations. It was stressed that any member of the community, regardless of age will have something to offer, but to enable collectivism versus individualism (Heu et al., 2019), pervasive ageism and stigma must be addressed so that AFLE initiatives build welcoming, safe and inclusive places and spaces for people of all ages and cultures.

3. The sensory qualities of intergenerational places were often identified from the perspectives of older people's (or their carers') needs; for example, noise control was important for people living with hearing impairment and people with autism with sound sensitivities. Lighting was seen as important for lip reading. Other sensory aspects of intergenerational places were based on activity, e.g., the sounds and sight of children laughing; a baby crying; smells from food cooking; people cycling; people using smart phones; athletes playing sports; and people playing music. Sensory aspects of place were revealed as bringing a sense of warmth and friendliness thus making the space more inviting.

Some survey respondents gave more general responses such as spaces being comfortable, "generally welcoming for all ages," friendly, and welcoming.

Indicators of good quality intergenerational age-friendly outdoor spaces were felt to be: "weatherproof areas"; "toilets accessible to all"; "well-lit sidewalks that are in good shape"; "inclusive public seating"; "green space"; "access to public transportation"; "art and play structures"; "openness for sports"; "having skateboard friendly slopes"; "safe buffer zone between pedestrians and traffic"; "walking and cycle friendly sidewalks"; "clear sightlines and signage"; "benches, tables, and seating at different heights"; "no trip hazards"; "allotments for community gardening"; and, overall, spaces that are "safe and secure, non-threatening, and welcoming" to all people.

Conclusions and Key Messages

An age-friendly environment involves a physical design that embeds and facilitates opportunities for people of different ages to connect on a regular basis through shared purpose and experiences and to develop cross generational relationships of mutual benefit. This can be achieved by addressing needs, interests and leisure. It implicates in the design of intergenerational places, which welcome and cater for older people's attention to the sensory experience of place, the way in which socio-physical environments promote or generate feelings and emotions (bringing ambient environment into focus), sense of safety and belonging, and enjoyment of activities such as eating, playing, and learning.

Space and intergenerational relationships and programming that are enabled by meaningful places are typically designed to remain useful and accessible over time to diverse people of all ages and are perceived by them as beneficial. Designing with physical and emotional safety in mind also underscored the need to design out environmental hazards such as trip hazards and to focus on both family-based interventions as well as for the needs and enjoyment of young people.

While universal design was discussed, and the merits of universal design (particularly in interior places) extolled in terms of promoting the independence of younger and older people and making life easier for people of all ages, the difficulties of producing effective, vibrant, well used universal design in a diverse, inclusive, and accessible environment were recognised.

Here, universal design was envisioned as "a design process that enables and empowers a diverse population by improving human performance, health and wellness, and social participation" (Steinfeld & Maisel, 2012, n.p.) rather than an end product. This evades some of the critiques of universal design as providing environmental or technical fixes for singular problems and emerging from professional perspectives rather than being co-produced with the target population. However, care needs to be taken in intergeneration design for older people, that usability and accessibility are not prioritised over the socio-psychological or cultural meanings associated with spaces and places.

The findings from the Virtual Co-creation Camps identified activities aimed to enhance intergenerational engagement. Developing a community of practice and sharing widely what has been learned about such design was enthusiastically suggested. Activities for engagement would, as a minimum, consider the role of technology, the heterogeneity of older people, barriers to engagement on the basis of characteristics intersectional with age, the role of relationships, and the role of place.

An assets-based approach in designing links between people and community services was highlighted in the workshops, suggesting that community development focus not only on physical infrastructure but also on mapping the resources, facilities, people, places, and services that use a community area to identify how best to integrate across them. This would provide a network of interconnected community assets that link together in supportive structures, substantially reflecting the socio-ecosystem approach to community participation (Sixsmith et al., 2021).

The notion of a socio-ecological system (Bronfenbrenner, 1994; Coll-Planas et al. 2017) involves the individual person, their relationships, local communities, and

organisations (health and social care, voluntary and community organisations, leisure, retail and private and public businesses) working together to provide the inter-related contexts for sustainable support and liveability.

Community-level engagement and support for the design of age-friendly intergenerational spaces and places present challenges and opportunities, particularly concerning the reduction of negative age-related stereotypes and attitudes that apply to both young people and older people. Challenging negative discourses about younger and older people could help to achieve mutual understanding among people of different ages, which could also facilitate safety.

Universal design, designing for multiple sensory, experiential, leisure, and functional spaces, interconnecting across community assets all require sustained financial backing, engagement, and action on the part of community members and commitment from local and national government, commerce, and industry. Without this, progressing from the siloing of generations through service provision, especially young people and older people, in spaces and places, as found by Cushing and van Vliet (2016), is likely to continue and the normalisation of everyday intergenerational living is less likely to naturally emerge. As Kaplan et al. (2017) have argued, intergenerational societies tend to be sustainable, liveable societies.

What is important here is valuing involvement, understanding everyday community life, investing in well-being, and telling stories (that are listened to and, where realistic, actioned) were key themes identified for translating intergenerational design ideas into reality. Identification of key benefactors and a thorough and robust evaluation of the process of research and design were seen as instrumental in producing sustainable intergenerational environments.

The findings indicate that the development of intergenerational policy and practice must involve ground-up community-based conceptualisation, relationship building, and involve diverse intergenerational community representatives. Strategies identified to achieve effective community-level engagement include organising activities that are fun and meet well-being and sensory needs, ensuring power balances are maintained across professional, practitioner, academic, and experiential

CONCLUSIONS AND KEY MESSAGES

stakeholders. This is in addition to bringing people together to talk about topics that are universally relevant, concrete in nature, and that raise awareness. This can be done through events and messaging focussed on facilitating genuine engagement (see Pratesi et al., 2013; Sixsmith et al., 2017) as well as accelerating progress with mainstreaming age-related policies and practices.

Cultivating trust and confidence among community members and professionals involved in the process of policy and practice development and implementation is essential.

Trust and confidence are needed for creating relationships among diverse community members and professionals as well as ensuring that policy and practice development and implementation processes are deemed fair and representative.

To realise the strategies identified for ground-up community-led engagement that include intergenerational policy and practice development and implementation, discussion of how to overcome perceived barriers (e.g., time for relationship-building), facilitate opportunities (e.g., messaging, communications, empowerment), and build on current known facilitators is needed.

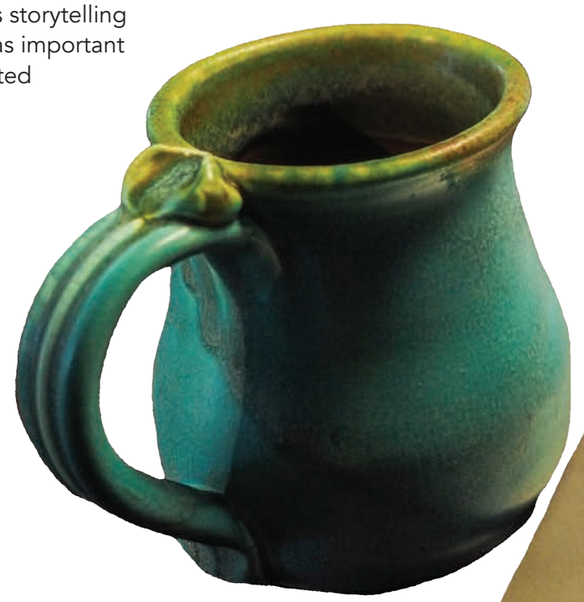
When creating intergenerational policy and practice, avoidance of a "them and us" attitude is crucial. It can be achieved by highlighting and challenging normative power relationships that tend to prioritise professional voices over those expressed by younger and older people and local communities. These strategies can help to inform local planning guidelines to ensure age-friendly intergenerationality is threaded throughout all planning practices.

Regarding next steps, the themes identified for refining the project's aims, objectives, and questions relate to the importance of producing a road map that is usable across cultural contexts, that highlight the benefits of multi- and intergenerational spaces for changes in both personal and global circumstances, that are inclusive in terms of language, and are considerate of intersectional social identities.

Interest in multigenerational housing for intergenerational living was seen as a major step towards development of intergenerationality for age-friendly development. Interest in this may be increasing due to COVID-19 whereby communities came together to support those in need. However, knowledge in how to do this effectively was not well developed. Consequently, this was identified as an area for future research.

Furthermore, innovating the use of spaces and places by emphasising inclusivity and diversity (so that difference across older people and difference across young people is recognised and accommodated, and that equality of opportunity is expressed through design) alongside the interconnectedness of people, places, services, and community resources and facilities, was identified as a way forward. The result being co-producing age-friendly intergenerational spaces and places.

Understanding the socio-psychological basis to intergenerationality in space and place was identified as a further and necessary area for future research. Methods such as storytelling and visual narrations were seen as important ways to reveal meanings associated with places.



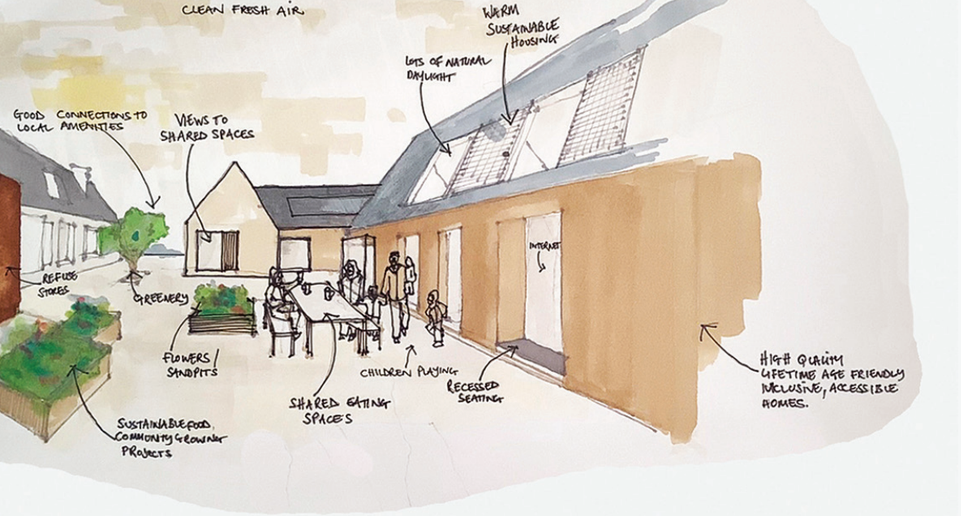
Team Reflections

The participants in the workshops felt that COVID-19 and post COVID-19 development of community spaces and places provide a window of opportunity for genuine age-friendly, intergenerational design of spaces and places. However, this should include design for the senses, for experience, as well as for shared activity and purpose in addition to taking into action the socio-psychological meaning of place.

Involving notions of inclusivity, diversity, and equality is essential to effective age-friendly, intergenerational development suggesting that research and design work need to progress hand-in-hand, and that intersectional theory would be a useful tool to frame how people's characteristics and social positionalities in addition to age will be considered in the conceptualisation.

Identifying a specific role and method for technology in age-friendly, intergenerational design to build and share ideas, to interconnect across ecosystems and to promote inclusivity, diversity, and equality could be valuable.

In order to realise the strategies identified for ground-up community-led engagement with intergenerational policy and practice development and implementation, discussion of how to overcome perceived barriers (e.g., time for relationship-building) and facilitate opportunities (e.g., messaging) and build on current known facilitators is needed. When creating intergenerational policy and practice, avoidance of a "them and us" attitude is crucial and can be achieved by highlighting and challenging normative power relationships that tend to prioritise professional voices over those expressed by younger and older people and local community.



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Acronyms

AFLE	age-friendly living eco-system
AGE-WELL NCE Inc.	Aging Gracefully across Environments using Technology to Support Wellness, Engagement and Long Life, Inc.
CBPR	community-based participatory research
CC	Co-creation Camps
ESRC	Economic and Social Research Council
F	female
INN	Intergenerational National Network
JISC	Joint Information Systems Committee
KT	knowledge transfer
M	male
UK	United Kingdom
UN	United Nations
VCCs	Virtual Co-creation Camps
STAR	Science and Technology for Aging Research
SDGs	Sustainable Development Goals
SUII	Scottish University Insight Institute

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NOTES AND REFLECTIONS

Notes and Reflections

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