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RESEARCH ARTICLE

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Co-creation of social innovations for healthy ageing in rural Europe – a process evaluation of a volunteer-led guided conversation toolkit using Normalisation Process Theory (NPT)

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ABSTRACT

We critically explored the use of Normalisation Process Theory (NPT) in the evaluation of a co-designed intervention toolkit for Healthy Ageing through Innovation in Rural Europe (HAIRE). The toolkit was co-designed and implemented in rural communities in Belgium, France, the Netherlands and the United Kingdom. NPT was applied as a novel analytical framework to shed light on key practices and processes that supported implementation. Further, the paper discusses how social innovation research helps frame co-designing such interventions with local communities. During the study, 25 semi-structured interviews were conducted with project partners and volunteers who were involved in toolkit co-design and implementation. A need for co-designing toolkits that explore ageing holistically was identified. Holistic understandings of ageing can be developed by paying attention to person-centred and place-based (context-specific) aspects of ageing. Finally, we illustrate how NPT can guide future evaluation frameworks as it offers the flexibility required to understand context-specific implementation.

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Healthy ageing; social innovation; rural areas; co-creation; Normalisation Process Theory (NPT)

Introduction

In this paper, we use Normalisation Process Theory (NPT) to explore a co-designed toolkit's implementation, as an intervention, via local teams of volunteers. Normalisation Process Theory (NPT) is a framework that helps to understand how new technologies, practices, or innovations become routinely embedded in social contexts, such as in healthcare settings (May et al. 2018). It's application across healthcare (McCarthy et al. 2022), organisational change (Gunn et al. 2010), education (Chambers et al. 2020),

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and societal norms showcases its versatility and the broad relevance of its applicable concepts. NPT primarily focuses on understanding the processes involved in what people 'do' and the way they construct what they 'do' both as individuals and, collectively, as part of a socially organised group to work towards a specific outcome (May and Finch 2009). Four domains (coherence, cognitive participation, collective action, and reflexive monitoring) of analysis are used to understand implementation successes and challenges. These domains are elaborated further in Section 1.4. This project's toolkit was co-designed by project partners – consisting of local authority staff, volunteers, researchers, health and social care professionals and local older adults – and aimed to empower older adults (aged 60 years and above, and no longer in employment) in four rural communities in Europe (Belgium, France, the Netherlands and the United Kingdom).

The work was conducted as part of a project called Healthy Ageing through Innovation in Rural Europe (HAIRE), which aimed to inspire community-led social innovation (SI) in response to ageing-related challenges. Through the project's co-designed toolkit older adults were encouraged to: (i) define what support they need; (ii) participate in the design and delivery of services; (iii) develop solutions for themselves to reduce loneliness and improve their quality of life, health and wellbeing, based on valued interests, capabilities and preferences. Where possible, they were supported by local volunteers and other project partners.

Importantly, the purpose of this study is not to assess the specific ageing-related issues that emerged during HAIRE. Instead, we concentrate on the evaluation of HAIRE's co-designed toolkit via an NPT framework. As such, we assess the effectiveness of the co-designed toolkit as a mechanism for SI and concentrate on the four domains of NPT that help us to analyse the success of the tool's implementation – particularly in terms of usability by local volunteers.

Ageing and rurality

Rural communities grapple with numerous challenges, including an ageing population, deficient public transport, youth out-migration, diminished services, isolation, and fragmented health and social care systems, all negatively impacting the health and wellbeing of older adults (Volonteurope 2016). In the Global North, older adults who reside in rural areas need to travel larger distances to access health and social care services, and access to specialist care is particularly limited in such areas (Mattson 2011). Coupled with the projection that Europe's older adult population aged 60 and above will double in the next 30 years (European Union 2020; Eurostat 2019), the issues surrounding healthy ageing and older adult care emerge as urgent concerns for Western economies. An appropriate response to this challenge would be to manage the needs of the ageing population, whilst encouraging healthy ageing through the involvement of older adults in the design, delivery and implementation of support services (Volunteering Matters 2017).

Healthy ageing is a key strategy in combatting the increased burdens of disease that are associated with an ageing population: '23% of the total global burden of disease is attributable to disorders in people aged 60 years and older.' (Prince et al. 2015, 549). Essentially, the benefits of healthy ageing are felt by individuals, communities, service providers and the economies that support service provision (Eurostat 2012; Steptoe and Fancourt 2019). However, the identification of processes and practices that support the

empowerment of older adults to participate in service design and delivery – particularly in rural contexts – is a developing area of study (Fischl et al. 2020). The empowerment of older adults in this way may carry greater potential in rural areas for two reasons. First, this approach is a catalyst for redesigning rural social and healthcare services and in meeting the challenges faced by rural communities. Second, this approach is more credible in rural communities where traditional cultures, for example, around local identity, can be deeply engrained in everyday life and have greater influence on perspectives around healthy ageing and wellbeing (Ní Léime et al. 2022). Therefore, approaches that give older adults a voice through empowerment can encourage participation in service design and delivery, and co-construct actions for communities – including for specific individuals. Empowerment, participation and community-led action are key principles of SI (Lindberg 2017; Moulaert, MacCallum, and Hillier 2013). As such, SI can be considered as a mechanism for redesigning approaches to support ageing in rural communities.

Social innovation (SI)

SI has gained traction as an approach to addressing social problems and improving social services since the early 2000s. SIs are innovative co-designed (with communities) services, activities, processes and/or products that have the prime motive of meeting social need (over generating profit) (Mulgan et al. 2007). Governments, academics, non-governmental organisations, businesses and the voluntary sector see SI as a potential tool for addressing pressing social problems (Domanski, Howaldt, and Kaletka 2020). For example, Spinelli et al. (2019) note that systemic challenges facing ageing populations require novel responses that are grounded in place-based community-led schemes. Spinelli et al. (2019) also state that working with diverse groups of local stakeholders supports SIs positively. Hence, SI interventions are informed by participatory approaches that provide space for groups who are disadvantaged by the status quo – for example, older adults in rural areas – to share their experiences and pool their skills and knowledges in addressing community-wide issues (Moulaert, MacCallum, and Hillier 2013). The inclusion of diverse actors in SI creates the potential to address issues with co-constructed solutions that are relevant to communities (Wittmayer et al. 2019). The United Nations' digital platform on the Decade of Healthy Ageing provides an array of case studies that demonstrate the benefits of working in this way. Examples from their 2023 progress report range from tackling self-directed ageism to the co-design of age-friendly homes (UN, 2023).

In summary, SI promotes collaboration between diverse actors, while focusing on the inclusion of disadvantaged groups. Consequently, SI is a means of addressing the complexity and intractability of contemporary social issues and is a way to encourage the co-production of outcomes that foster socially inclusive economies (European Commission, 2010). In this study, HAIRE aimed to encourage SI by engaging older adults and local communities in its rural study sites in Belgium, France, the Netherlands and the United Kingdom. In alignment with SI's participatory ethos, a toolkit was co-designed with local project partners – including volunteers and older adults. The project provided its rural study sites with added time and resource via the recruitment of volunteers to implement the co-designed toolkit. The toolkit's main aim was to ensure that older adults in HAIRE's pilot sites could discuss the challenges of ageing in their community

from their perspective. The issues that were voiced by older adults were then used to engage local stakeholders in each pilot site – including local authority staff, health and social care professionals, academic researchers, older adults and voluntary sector organisation staff and volunteers – to ideate SIs.

HAIRE's toolkit (intervention)

It should be noted that the details provided in this section are for contextual and not methodological purposes. The HAIRE project consisted of 14 project partners comprised of academic researchers, local authority staff, social and healthcare service providers and voluntary sector organisations from rural locations in France, Belgium, the Netherlands and the United Kingdom. These partners participated in a series of workshops to co-design a toolkit. The main aim of HAIRE's co-designed toolkit was to inspire a place-based, person-centred approach to understanding the needs, aspirations, and passions of older people. A link to the toolkit is included in this paper's Appendix 1. In summary, the co-designed toolkit consists of the following tools: (i) a Neighbourhood Analysis (NA); (ii) a Guided Conversation (GC); and (iii) a Social Network Analysis (SNA). Features of these tools and their purposes are highlighted below:

- **NA:** This tool is applied as a group activity. Locals are invited to create a brainstorm of the resources available in their local area. Resources are categorised by using eight groupings: places, people, networks, partnerships, associations and groups, local entrepreneurs, culture and history and heritage.
- **GCs:** In-depth conversations with older adults about their wellbeing. Individuals are invited to talk about a set of topics relating to where they live (place-based), their personal situation (person-centred) and how empowered they feel. GCs allow participants to talk openly and reflect on their own needs, desires, interests and aspirations in relation to the topics that are included in the GC. Participants are 'guided' (not prescriptively) through the GC's topics to talk about what is important to them and the conversation is kept as natural as possible.
- **SNA:** A simplified version of social network analysis that is conducted one-on-one (with older adults). It is a survey-based tool that can be used as a summary at the end of a GC. Individuals are invited to list organisations and/or individuals they 'connect' with over certain issues and/or topics.

The toolkit was co-designed via six workshops and continued liaison via email and online meetings with the project's partners, local volunteers and local older adults over 8 months. Co-design work included creating toolkit features that were bespoke to each pilot site. For example, place-specific graphic designs for each site acted as conversational prompts during GCs. These designs included key local spaces and places, cultural objects and items that an older person might find in their home.

The eight-month co-design phase also involved the production of training materials for local volunteers who were recruited for toolkit implementation. Volunteers received training on each of the tools that comprised HAIRE's toolkit, safeguarding and working with older people. Toolkit deployment took place from September 2020 until March 2023. A total of 495 older adults provided insights on ageing-related issues in their

local area via at least one of the toolkit's tools. These insights were then used by project partners, older adults and volunteers to ideate (collaboratively) SIs that were relevant to the perspectives of local older adults and the local context.

Normalisation Process Theory (NPT)

Normalisation process theory (NPT) was deployed as theoretical framework for data analysis. This is a novel step in terms of analysing co-designed interventions. Consolidated Framework for Implementation Research's (CFIR's) use is more common for such studies. CFIR assesses interventions against a checklist of constructs under five domains: process models, determinants frameworks, classic theories, implementation theories and evaluation frameworks (Damschroder et al. 2022). Due to its checklist-driven structure, CFIR is more rigid in terms of how actions are categorised in relation to its domains. NPT's framework is open to interpretation, as its four domains are definition-driven, as opposed to consisting of particular actions (May et al. 2018). Further, two systematic reviews, McEvoy et al. (2014) and May et al. (2018), argue that NPT provides a conceptual framework to highlight important issues relating to routinisation, which is overlooked by other similar analysis frameworks. Hence, NPT is appropriate for examining individual and collective action during times of change and allows the dynamics of human agency to be connected to context. The contextualisation of human agency is relevant to HAIRE, as the toolkit's implementation depended upon individuals (volunteers) and how they built relationships with local older adults, as well as the project's partners. NPT's four domains are described below:

Coherence: this domain pertains to a person's understanding of an intervention and the sense-making work they engage in, in relation to understanding an intervention. This includes how they understand the purpose of an intervention, whether the understanding is shared among all who are involved in the intervention's implementation, or not. Coherence is also concerned with how individuals distinguish an intervention to be different from their existing ways of working – including the perceived benefits of an intervention, and the extent to which they value being part of the intervention's implementation.

Cognitive participation: this domain focuses on the relational work undertaken by implementing participants to support the implementation of a new intervention. This includes individuals who drive the intervention forward and get other stakeholders involved. This domain also relates to the belief held by the implementing participants that the intervention is a legitimate part of their role – including the extent to which implementing participants are open to new ways of working with their colleagues (project partners) and their willingness to support the intervention throughout its implementation.

Collective action: this domain relates to actual implementation work. The practical work that implementing participants do to apply an intervention is considered. Such work includes whether the proposed intervention can be easily integrated into existing work and whether the implementing partners have confidence in sharing the intervention with others – particularly with regards to supporting others to implement the intervention. Additionally, this domain is interested in whether the individuals are trained and supported adequately.

Reflexive monitoring: this domain focuses on the evaluation work that is related to the implemented intervention. Evaluation activities include the collection and use of

feedback – including on how the intervention has changed over time and how to improve it. This domain also includes understanding the impacts (positive and negative) that the intervention is having at an individual and collective level.

We argue that NPT is a useful analytical tool to understand the benefits of implementing a co-designed toolkit for SI through local volunteers, as well as understanding how volunteers can be better supported to undertake similar work in the future.

Methods

This study adopts a pragmatic and theoretically pluralistic approach, drawing from epistemological subjectivism, and focuses on practical outcomes and dynamic realities shaped by the actions (and consequences) of HAIRE's project partners and the volunteers that applied the project's toolkit. Particularly, this approach is suited to addressing complex issues like social innovation, which is multifaceted and multi-dimensional (Patton 1990).

We examined critically experiences relating to the implementation of HAIRE's toolkit via qualitative semi-structured interviews, which were conducted face-to-face with 25 participants. Interviewees consisted of HAIRE's project partners and the volunteers that they recruited to support the implementation of the project's toolkit. Semi-structured interviews were preferred over surveys for studies anchored around subjectivism due to their ability to capture the depth, nuances, and subjective experiences of participants. Subjectivism emphasises understanding phenomena from the perspective of the individuals experiencing them, valuing personal interpretations and meanings (Robson 2002). In contrast, surveys limit the ability to fully capture or understand the complexities of individuals' subjective experiences and the nuances of their perspectives. Semi-structured interviews, therefore, offer a more suitable and effective method for research grounded in subjectivism. We aimed to understand the rich contextualities that influenced each individual's experiences around implementing HAIRE's toolkit. Additionally, we were able to embed NPT's four domains in the topic guide that was used to inform the interviews. The creation of topic guides is standard practice for semi-structured interviewing and helps to guide questioning in relation to a study's interests and aims, without limiting participants to short answers and/or leading response(s) through a set of pre-defined options (Adams 2015). This study's topic guide is included as an Appendix 2.

Interview sampling was purposive to ensure that different levels of involvement (experiences) in co-designing and implementing HAIRE's toolkit were captured. The participants that were interviewed and a summary of their experience relating to HAIRE is presented in Table 1. More interviews were held in some locations, as Covid-19 restrictions limited arranging interviews and the availability of interviewees throughout the study. The research team conducting the interviews was based in the UK, which meant that interviews were arranged more easily with project partners in the UK. In cases where it was not possible to interview volunteers, the research team prioritised recruiting individuals that were involved in volunteer co-ordination. Volunteer co-ordination involved training a site's volunteers in the toolkit's use, supporting them during toolkit implementation and discussing emerging findings regularly (at least monthly).

Table 1. A summary of interview participants.

Location and number of participants	Partner types interviewed	Experiences captured
Netherlands: 4 interviewees	Academic researcher (n = 1) Local authority staff (n = 1) Volunteers (n = 2)	The academic researcher and local authority staff were involved in project co-ordination, which included training volunteers to use HAIRE's toolkit. Volunteers implemented the toolkit and discussed findings with the wider local project team in this site. One volunteer who was interviewed on this site was recruited at the start of the project. The other interviewed volunteer joined the project during its toolkit implementation phase.
United Kingdom Site 1: 4 interviewees	Local authority staff and councillors (n = 4)	All interviewees were local authority staff in this site. However, the roles that they adopted on the project varied. The roles captured included: (i) volunteer co-ordination (including training); (ii) financial and logistical management; (iii) engagement and outreach to local collaborators and (iv) lobbying policymakers.
United Kingdom Site 2: 8 interviewees	Local authority staff (n = 3) Voluntary organisation staff (n = 3) Volunteers (n = 2)	Local authority staff and voluntary organisation staff were involved in project co-ordination. Co-ordination included training volunteers and financial and logistical management. Additionally, local authority staff, voluntary organisation staff and volunteers collaborated to organise local events to help ideate and co-design innovations. Finally, volunteers were involved in toolkit implementation and one volunteer supported other volunteers in implementing the toolkit.
Belgium: 6 interviewees	Local authority staff (n = 3) Voluntary sector organisation staff (n = 3)	Here, voluntary sector staff and local authority staff co-ordinated volunteers collaboratively. Volunteer co-ordination included training. Additionally, local authority staff and voluntary sector staff lobbied policymakers based on the toolkit's findings. The two other roles that were discussed in this site were project management (financial and logistical) and organising local events for volunteers and older adults to ideate innovations.
France: 3 interviewees	Academic researcher (n = 1) Local authority staff (n = 2)	In this site, an academic researcher and local authority staff collaborated to co-ordinate volunteers. Co-ordination included training. Other roles that were discussed included: (i) lobbying healthcare policymakers and service providers based on the toolkit's findings, (ii) the academic analysis of toolkit findings and (iii) organising local events for locals and volunteers to ideate innovations.

Analysis was conducted thematically. NPT's four domains and the subareas within those domains were used as a deductive coding framework to organise and reflect upon the semi-structured interview data that we generated. Deductive coding uses pre-existing theories to create frameworks for analysis (Elo and Kyngäs 2008). Hence, deductive coding was appropriate for this study, as NPT, an existing theory, was a key research interest – in terms of its application to evaluate interventions like HAIRE – and the semi-structured interview guide that was developed was based on NPT.

The study was approved by the University of Plymouth, Faculty of Health Ethics and Integrity Committee. Interviews were digitally recorded, transcribed fully and analysed thematically using NPT (May and Finch 2009).

Results

In this section, we present interview findings in relation to NPT's four domains. The following discussion section then expands these findings to cover NPT's usefulness in

assessing toolkits like HAIRE. Areas for development, in terms of the toolkit and using NPT, are also covered.

Coherence

Across the pilot sites, participants held a shared understanding of the intervention. The participants understood the intervention as a novel and helpful way of engaging and empowering older adults. They mentioned that, through HAIRE's toolkit, older adults could identify their healthy ageing needs and prioritise those needs in thinking about SIs. Conversations could then extend to other actors – for example, policymakers, health service providers, voluntary sector organisations and volunteers – that might need to be engaged to support SIs. To expand our findings about how project partners discussed the toolkit's purpose, sub-areas of NPT's coherence domain are detailed below.

Differentiation and individual specification

In order to make sense of how and why HAIRE's toolkit was implemented, participants made comparisons to traditional ways of working (specifically top-down approaches) and reflected on the difference that HAIRE's toolkit made to understanding what healthy ageing entails in their local context. This form of sense-making is referred to in NPT terms as differentiation and individual specification. Many participants identified the volunteer-led guided conversation as a novel intervention. The empowerment and involvement of older adults featured as something that was missing in the top-down ways that local authorities tended to work – including in relation to initiatives that aimed to support healthy ageing. This point is highlighted in the quote below:

> What I can see is that the formal … the ones having a formal role are not always good, they don't know what's happening in villages or neighbourhoods very well, because they are busy with doing other things. So I think that's a missing link, and that's what I like about HAIRE … we're able to discuss this [things] with people and try to help people … to really listen to the elderly, and also the peer aspect of it [is good] … older adults listen to each other … Because our policy is made in the bigger cities, and we live in quite a different area with other issues. (Study location: Netherlands).

Communal specification

In terms of communal specification, a shared understanding of the toolkit's purpose was held across HAIRE's pilot sites. The interviews demonstrated a shared view regarding the purpose of the toolkit, with all participants perceiving the purpose to be listening to local older adults and identifying their needs. These insights can then be reflected upon by the older adults and project partners to inform the co-design of SIs (see quote below).

> I mean there's lots of good things to say about it, you know it's holistic, it's person-centred, it produces data that's kind of you know aggregable from all of that. And it has kind of distinct elements that are novel, that are interesting, that provide you know value added. (Study location: UK)

The quote below, which is from a different study site, echoes the sentiments that are alluded to in the quote above.

> We are very, very positive about HAIRE toolkit … it's a place-based thing – and it's different in 'X', it's different in 'Y', and it's different everywhere … and because we live in 'X' and we have our own culture … we have our policies and our way of arranging things … and this is what decides whether things are able [possible] or not, they must be culturally feasible. (Study location: the Netherlands).

Additionally, challenges relating to understanding HAIRE's toolkit did emerge. Since the toolkit was developed in English, non-English speaking pilot sites had trouble in understanding it during training, and this impacted the way in which they understood its implementation.

> [The toolkit] was a bit complicated to understand for our colleagues, so we needed a double level of translation to translate from English … and then translate into a language that could be easily understood. (Study location: France)

It should be noted that the toolkit was translated and implemented in the native language in each of HAIRE's study sites. However, training materials were produced in English only (the project's common language). Local project partners were responsible for applying the training materials in each local site.

Significantly, subtleties about practice could be lost in translation – particularly for volunteers who were not involved in the co-design process. A key example here is that the Guided Conversation tool had a list of recommended questions that could be used if holding a conversation with an older adults was proving to be difficult. Some volunteers thought that they had to ask all of the questions included in the Guided Conversation and, consequently, they defined the process as being labour intensive.

Internalisation

Internalisation involves how the perceptions of individuals develop when they reflect on the purpose of an intervention. In HAIRE's case, individualised perspectives varied based on experience. Some saw the toolkit in its totality, i.e. how the different tools linked to each other, while others specialise in implementing a specific tool, for example, the Guided Conversation. A key influence on this finding was whether an individual was involved in the toolkit's co-design and/or undertook training on the toolkit's use at the beginning of the project. Often, volunteers and other partners who joined the project during toolkit implementation were not required to use all of the tools, as they had been implemented already. This limited scope in terms of communicating and understanding the toolkit's holistic nature. Additionally, the lack of involvement in planning the toolkit's implementation and discussions that co-defined the toolkit's purpose meant that these individuals saw HAIRE as a data collection exercise. The two quotes below demonstrate how some interviewees were unaware that the toolkit could involve older adults in the ideation of innovations.

> There's both personal questions and about surroundings … so that's easy for people to help people to see okay this is a personal thing and this is a thing on another level, how they compare to each other … [but] what is it we [the local authority] can do about it? (Study location: the Netherlands)

> I would say it's [the toolkit] probably a very good way of collecting data. (Study location: UK)

Cognitive participation

Cognitive participation is the relational work that people do to support the implementation of a new intervention. In HAIRE, this involved co-ordinating volunteer training (led by local project partners) and linking volunteers with older adults to implement the toolkit. Moreover, volunteers supported each other during implementation. Such support included sharing experiences and workloads. This domain's subareas are expanded upon below in relation to HAIRE.

Initiation

Initiation relates to key individuals who drive the implementation of an intervention. In HAIRE, local volunteers were noted as such individuals, as they used the toolkit to engage older adults (the target audience). Predominantly, volunteers were recruited, trained and supported by project partners in HAIRE's pilot sites.

Overall, initiation was possible once volunteers were on board. However, project partners highlighted challenges in recruiting volunteers, and this hindered initiation. Project partners had less capacity – particularly in terms of time – to implement the toolkit without the support of volunteers. The quote below demonstrates the significant disruptions to initiation caused by the Covid-19 pandemic.

> Recruitment of volunteers was really hard because we couldn't get out and go to all the local groups and explain what we were doing … because we were still in the pandemic, you know so much of the participant and volunteer recruitment was through personal contacts. (Study location: UK).

Furthermore, the individual agendas of volunteers can create a barrier to initiation. As shown by the quote below, the views of individuals who are key to implementation can create tension and limit others getting involved – particularly if their views are deemed as being controversial and/or prejudiced.

> I'm constantly struggling with it [recruitment of volunteers] … we don't have a good policy here, and so everybody can join in, but sometimes the people are not a good fit … But here everybody is welcome … and that was the [can be a] problem … [one older adult called and said] 'I was not really glad with my volunteer because he was a little bit racist and he was a little bit sexist and he put words in my mouth, and that [my responses] are not my answer [s]. (Study location: Belgium)

Legitimation

Participants, on the whole, accepted that the toolkit met local needs. There was acceptance among local volunteers that the implementation of the toolkit was part of their legitimate role and they were satisfied about implementing the toolkit, as part of their role. Interviewees also reported the toolkit's gradual acceptance by other organisations and places that neighboured HAIRE's study locations. This acceptance by neighbouring areas was influenced by existing relationships, i.e. where neighbouring areas had collaborated on previous projects and/or work.

Beliefs around providing support to older adults and improving the local area influenced satisfaction in the toolkit and taking an active role in its application. Furthermore, volunteers felt happier in their role when local older adults had positive

experiences through HAIRE's toolkit. The quote below highlights how volunteers were able to legitimise the toolkit and their role through the local benefit (perceived) it brought to the project's study sites:

> I think people like to be part of stuff … people love to feel they have made a contribution to the project quite honestly. (Study location: UK)

However, it was reported that some older adults were initially reluctant to participate in HAIRE. They had some apprehensions about what questions would be asked and how the data would be used. Some older adults chose not to get involved and they perceived HAIRE as *just another research project* or another mechanism for top-down organisations, like local authorities, to collect data on local people. The two quotes below show how such perspectives can hinder an intervention's legitimisation (acceptance) in a local area:

> I got one or two family members who phoned me to say oh tell me … you were talking to my mum, tell me a bit more about it. So they were looking for a bit of reassurance. Just one lady I think said as long as you don't ask me any questions about my money … and I said no, absolutely not, it's not what it's about … so she had clearly sort of fears that there was something a bit perhaps dodgy going on here, but I reassured her. (Study location: UK).

> I'm just kind of thinking what is the [purpose] … what's going to be the true benefit of it, and are people going to think 'oh gosh here we go again, here's some more research' – which then gets people's backs up (Study location: UK).

Enrolment

Enrolment relates to openness in working with other partners during the implementation of an intervention. Positive perspectives relating to this subdomain featured strongly in the interviews across all pilot sites. All interviewees highlighted that they were open to working with others. A frequently occurring theme across the pilot sites was changing relationships between various groups (such as local councils, volunteer sector, health and social care agencies and older adults) and shifting power dynamics. Some participants, for example, suggested that HAIRE's toolkit had altered the relationship between the communities, older adults, public and volunteer sector and is a tool that aided collaboration to flourish.

Interviewees reported increased collaboration among stakeholders during and after HAIRE. Collaborations brought different stakeholders together and encouraged them to work on addressing the needs of local older adults. This point is highlighted by the quote below:

> I think that the project had a positive impact, very strong positive impact, in terms of how we brought the partners together so that they would collaborate. Before the project even though we all had the same needs, the same objectives we were all working on our own in our own organisations. HAIRE really did enable us to come together to meet each other, to talk together and create a momentum for a dynamic partnership which is going to continue afterwards. (Study location: France).

Although, some interviewees were hesitant in defining a positive impact on collaboration and, consequently, around enrolment. See below:

> [Collaborative working is] same … It's too early to detect an improvement, so it's the same. Yeah, it's too early - I hope about a year I can say it's increased. (Study location: Netherlands).

Importantly, individuals who were not part of the toolkit's co-design and joined the project during implementation were less able to build relationships with other partners. Additionally, partners who viewed less collaboration happening in their pilot sites stated that positive steps were being made, but the *traditional* silos that local authorities, health-care service providers and/or voluntary sector organisations worked in would take time to change. Covid-19 provided a challenge here too. At times, it was impossible to co-ordinate meetings between stakeholders, which hindered creating collaborations with good rapport.

Institutional and legal requirements could be a barrier to enrolment and collaboration too. For example, the quote below indicates how data protection policies could be a hindrance.

> [Our project manager] has been trying to work with the local GP surgeries to get them on board … And the GP surgery have declined this, even though we've said how great it is and [what] a benefit it would be to local people, they've said that because of data protection they don't want to get involved. And that's been so hard for us. (Study location: UK)

Activation

Activation refers to an implementation partner's willingness to support an intervention. In HAIRE, it was evident that volunteers and most other partners were open to new ways of working. This openness was enhanced when individuals realised that issues being highlighted by older adults were specific to local challenges and that the toolkit was a mechanism for identifying and co-designing innovations with local relevance. However, as seen below, it was noted that engaging a diverse range of local older adults with the toolkit proved to be challenging.

> It's challenging, and you have always the same people – we want to try to reach other people with more need of it [the toolkit]. Now we only see that people … that's my experience … the people that come out already, they are here already … and we want to reach the people that are inside and we don't see – that's difficult. (Study location: Belgium).

The point above highlights how it can be difficult to navigate barriers to engagement that have been established and consolidated over time. People who feel marginalised and/or have been excluded from processes and spaces that encourage sharing – particularly in relation to the sharing of perspectives and experiences – need more time to build trust and get involved in interventions and/or participatory research (Christopher et al. 2008; Jagosh et al. 2015).

Additionally, some individuals prefer to stay in their own family and/or friendship units and do not get involved in wider community-based and/or social activities. This point is highlighted by the quote below:

> Some people don't like to come out and they think it's more easy to stay inside … I think it's from the inside, they don't like … they think they don't like it, but you have to trigger them and maybe they will like it – but that's hard, that's difficult. Some people like to be with their own family and do things with them, so that's fine too, you have that kind of people too. So … and you need to respect that. (Study location: the Netherlands).

Interestingly, gender played a role in activation. Women were more willing to take part and/or help with the toolkit's implementation, as seen by the quote below:

> It's always more easy to talk to women over here. Men are involved, but if you do interviews you always have two thirds or something with women instead of with men. (Study location: the Netherlands).

HAIRE set out to engage older adults from the outset. Any project that involves older adults has a care-related dimension to it, as older adults are seen as a vulnerable group in Western societies and discussions around the vulnerability of older adults became more commonplace during the Covid-19 pandemic (Chen 2021). Thus, the gender divide that is highlighted here relates to a wider societal issue, where caregiving is seen as a feminine role and/or quality (Cunha and Atalaia 2019; Zygouri et al. 2021).

Collective action

Collective action covers the operational work that people do to enact an intervention. This includes whether an intervention can be easily integrated into existing work cultures. Considerations are given to the training that is required to instil confidence in all actors that are involved in implementation. To demonstrate this domain's relevance to HAIRE, we begin by exploring the sub-area of interactional workability.

Interactional workability

Largely, interviewees referred to the integration of HAIRE's toolkit into existing work, or interactional workability, with positive sentiments. Many volunteers felt well-supported and found the training that was provided adequate.

An interesting influence on interactional workability was how implementation partners – including local volunteers – perceived their local community. For example, if a community was deemed to be proactive, it became easier to engage older adults and use the toolkit. Specifically, the existence and availability of initiatives that engaged older adults in local areas, for example, community groups and community-led social activities, supported the implementation of HAIRE's toolkit. This point is alluded to in the quote below:

> [Here] there's a lot of activities going on … they've got a proactive community association, who are constantly engaging with the community, providing events, activities … And when I'm engaging with people and mixing with community it's far easier to get something up and running. (Study location: UK)

Overall, a working culture where project partners – including volunteers – became part of a community and organised activities in ways that were valued by locals proved to be beneficial for HAIRE. The array of activities and conversations that emerged during HAIRE contributed to a feeling that the project was making a difference. This point is expanded in the quote below:

> I think seeing results – seeing results … It's a result, it's not just policy anymore, or something that's in the air and pretty vague – it's very concrete and they can see results, and that is what helps people to work on it together I think. (Study location: Belgium)

HAIRE's community and relationship-focused working culture proved to be a major positive for the project's progress. Project partners were brought together in regular meetings – including during informal online drop-in sessions – and they were in frequent contact with the project's lead partner. The lead partner's approachability and responsiveness – particularly when issues arose – was key in establishing a project-wide close-knit working community. The quotes below demonstrate the importance of establishing a working culture that made partners feel they were part of a wider community:

> I'm loving the drop-in sessions because you can get a lot of information [from other partners and the lead partner]. (Study location: Belgium).

> I mean just kind of administratively and relationally, everyone's been really engaged with what they're doing, been kind of you know generous and it's felt like a really nice partnership … I mean just a lovely set of people, yeah … and those relationships are things that will kind of spawn other things, you know there's an opportunity to build on the kind of experience of HAIRE because of the relationships. (Study location: UK)

Although, some barrier-producing working cultures could not be changed, as they involved legal requirements. In essence, bureaucracy and national/international legislations can impact on the implementation of interventions like HAIRE. One example is the Disclosure and Barring Service (DBS) check required to recruit volunteer in the UK, see the quote below:

> One barrier that I do find is DBS check – when we have volunteers that come forward to help, it's amazing, you just want to get them up and running as quickly as possible, but the DBS process is very lengthy … I think it was about 3 or 4 months to recruit one particular volunteer because of the DBS process. It's backward and forth, backward and forth, and I know that, if someone has moved around a lot, that [if] they've had loads of jobs, then their checks [take longer] – and I completely agree that it is a process that needs to be followed, but it does throw up some barriers for us. (Study location: UK)

Additionally, the bureaucracy involved with being part of an international (European Union funded) partnership proved to be a barrier to adopting HAIRE's working culture on a wider scale and/or quicker. The quote below highlights this point:

> I think it's a lot of administration, yeah. That's the only thing that is a little bit hard, Yeah … the financial claims and everything that comes with administration – it was a lot I think. so … yeah the hours that we spend on a project, we need to registrate everything. But I think it's needed, so I understand that. But that's a lot of work, and a lot of emails. Yeah. Maybe the language barrier was there, but that's okay. So it takes more time to do the administration because it's in English or you need to read it in English (Study location: UK)

Another working culture that clashed with HAIRE was that of academics. Academic researchers supported partners in performing analysis on the data that was generated by HAIRE's tools. This data was rich and (mostly) qualitative. The processes and practices involved with qualitative analysis took time and were a point of frustration for partners, as alluded to by the quote below:

> The reports came through quite slowly. Obviously there were delays in it, but in terms of us trying to feed back with councillors or the management team or advisory group, we could have done with that information being a bit quicker. (Study location: UK).

Relational integration

Relational integration concerns how individuals adopt an intervention into their working practices. In HAIRE, all study sites were satisfied with the toolkit's flexibility. They could implement all three tools that comprised the toolkit together or individually based on what was feasible. Additionally, not all questions and/or sections of the tools had to be completed, as HAIRE was more concerned with what older adults valued and chose to speak about. This flexibility allowed partners to use the tools in ways that aligned with other commitments, for example, the time that they needed to dedicate to other jobs and/or projects.

However, partners – local authority staff in particular – expressed a lack of interest and capability among their colleagues in adopting HAIRE's toolkit. Therefore, the implementation of the toolkit was, on the whole, limited to project partners and/or individuals (volunteers) who were recruited for HAIRE specifically.

Skill-set workability

Skill-set workability assesses how existing skills can be built upon and/or adapted to accommodate an intervention. For HAIRE, good listening and engaging conversational skills proved to be two skills that influenced the toolkit's application positively. The quote below highlights how volunteers that had such skills found it easier to use the toolkit and advance its implementation more freely:

> I think you need to perhaps select your volunteers carefully … volunteers have got to be people who want to do something … You've got to have a fundamental interest in that, otherwise you're not going to do it. And it's got to be people who will as well as talk … as I'm doing at the moment … but they've got to be listening. (Study location: UK)

Additionally, a desire to have a positive impact and support the local community meant that volunteers were more willing and proactive in learning to apply HAIRE's toolkit. The quote below highlights this point.

> I think we need volunteers who want to help to build up a community to help interconnect … that's important I think yeah, yeah, to make the connection between the individual and the community, and someone who can keep data confidential. (Study location: the Netherlands).

The quote above also highlights how an ability to keep discussions private was a sought out quality for individuals who applied HAIRE's toolkit. This quality inspires trust and creates relationships that centre on respect. Mutual respect is seen as a foundation for the success of health-related interventions (WHO 2015). The quote below shows how important respect was for the toolkit's use.

> Skills for volunteers – I think listening, having respect and being open for all cultures, being very open-minded. Because you are also getting a lot of information that sometimes stands far away from your own being (Study location: Belgium).

The respect that is referred to above is not only positive from the perspective of maintaining confidentiality, but in terms of eliciting wide-ranging worldviews too. As such, the establishment of respect supported the elicitation of diverse contributions to conversations that were facilitated by HAIRE's toolkit.

Contextual integration

Contextual integration helps to assess existing factors in places, communities and organisations that have an influence on an intervention. The Covid-19 pandemic created a joint contextual challenge for all of HAIRE's pilot sites. Interview responses relating to contextual integration were dominated by the pandemic's impacts on applying the project's toolkit. The limited opportunity to organise face-to-face meetings to train volunteers and apply the toolkit through in-person meetings between older adults and volunteers created a significant barrier. Essentially, social connectivity was limited, which impacted how HAIRE was promoted and co-ordinated (see quote below).

> I think in hindsight Covid obviously has delayed the project … it's slowed down the pace of that social connectivity, and yeah just on reflection it would have been really good to have that event at the beginning of the project because then we could have promoted HAIRE the way we wanted to, and that wellbeing aspect, and what we can do to support local people and encourage social connection. (Study location: UK)

As alluded to in the quote above, partners found it difficult to promote HAIRE to attract volunteers and participants (older adults) without social connection. Limited social connectivity meant that it was difficult to engage communities, as communications had to be co-ordinated remotely. The pandemic took away access to important meeting spaces in communities, where the project could have been introduced to communities more easily. The quote below demonstrates the challenge that was experienced due to key spaces shutting down.

> We started February 2020 – February was our first meeting, and then in March Covid came. And the first happened [here] was they closed the local service centre because it's mainly visited by 60 + people of age. So they closed it and that was just a week before the general lockdown, and we were in the lockdown [here] for several months. So the first year was very challenging. (Study location: Belgium)

Reflexive monitoring

Reflexive monitoring refers to how participants evaluate an intervention. This can include the collection and use of feedback, and reflections on how an intervention changed over time. Perspectives on how the intervention can be improved and the support that future users may need to apply the intervention are also considered. Systemisation is the first subarea of this domain and findings relating to systemisation are presented in the next sub-section.

Systemisation

Systemisation, which involves embedding systemic support to help the implementation of an intervention, was dominated by discussions around the formalisation of HAIRE's toolkit. Many partners felt that the inclusion of the toolkit in local authority and/or health service provider practices would inspire its wider application.

> I think that we have to take the social workers more on board … but also with the support of the municipality (Study location: Belgium).

Encouragingly, one of the partners was proactive about this facilitative recommendation and pushed for the toolkit to be included in a regional strategy in Belgium. The strategy

showcases HAIRE's tools as a way of supporting place-based SI that is derived from local perspectives and experiences directly (VVSG, 2023).

Additionally, the toolkit's wider implementation could be better supported if prospective future users were made aware of the innovations that arose as a result of its application. During HAIRE, a range of innovations were designed and applied based on the toolkit's findings. The innovations ranged from significant organisational changes, such as the creation of a new role within a local authority (UK-based) to organise and promote social activities, to living libraries (in Belgium), where older adults *are the books* and tell visitors stories about their life. In essence, the project's innovations provide evidence around how the toolkit made a difference to local life, and promoting this feature of the toolkit would facilitate its wider use.

Communal and individual appraisal

Communal and individual appraisal assesses individualised feedback on the effectiveness of an intervention and generates a consensus on whether an intervention has produced positive results. In this study, most interviewees were keen to gauge the toolkit's long-term influences on their local communities before committing to an opinion over the toolkit's effectiveness.

However, as for other domains, the fact that the toolkit led to tangible outcomes, i.e. the innovations that were co-designed, was seen as a positive. Partners – including volunteers – regarded the design and implementation of innovations as a sign of success (in terms of fulfilling project aims).

> What I've learnt is that the perspective of older inhabitants in X village is totally different from the perspectives of professionals. And you can't ignore the perspective of the inhabitants, it's very important. So, the co-creation methods of social innovation of HAIRE are very important (Study location, the Netherlands).

Partners reported that being able to showcase the toolkit's successes (specific innovations) attracted other individuals and organisations to the toolkit. As such, non-project partners in the local community, and beyond, were able to appraise the toolkit positively.

> So Herselt is another place in Belgium – they also want to use the tool. So my volunteers trained their volunteers, and I think that's a very important aspect [of success]. (Study location: Belgium)

> There was [interest] from the Flemish department they did an announcement, we want more care neighbourhoods in Belgium so put in your project. So there were a lot of projects that were looking for a tool, and Herselt came out with us because we already have been talking a lot about it, having a soundboard group that we were telling what we were doing. We did a participation group where we came back to the results. So I think people are hearing about it, we're also on social media, and Herselt called and said we want to have a meeting and use your tool of the guided conversations. But we also had a conversation with Mol, municipality of Mol, and they also did some guided conversations (Study location: Belgium)

Reconfiguration

In NPT, the recommendations that an intervention's implementers make to improve the intervention are referred to as a reconfiguration. For HAIRE's toolkit, some of the

recommendations that were made resulted from training-related challenges, which we have already partially discussed. Training that was delivered to volunteers that joined the project at a later stage seemed to overlook some practice-related elements of the toolkit. As aforementioned, volunteers thought that they had to cover all the questions that were included in the Guided Conversation tool. However, most of the questions that were included in the tool were optional and were included to help volunteers if conversations were not easy to maintain. This miscommunication influenced the recommendations that were made for improvement, see below:

> … make fewer questions and more straightforward (Study location: UK).

Another interviewee expanded this point further by saying:

> Definitely the part about the gender need shaving off from GC … the part about the social contacts was quite difficult for some of them … because I don't think a lot of them could remember how often they saw the people … And something like your finances 'How do you feel about your finances?' – something like that. And they could be given words like 'not worried' or 'worried' or 'concerned' and 'not concerned' – something like that. (Study location: UK).

The quote above also shows a misunderstanding around the purpose of the Guided Conversation, which was to generate open and participant-led insights. Their recommendation of including multiple-choice options as responses would have limited the rich qualitative data that the tool aimed to generate.

Contrarily, interviewees who were involved in the toolkit's co-design process and who received their training at HAIRE's inception made recommendations that better aligned with the toolkit's aims. The toolkit's place-based characteristic meant that specific interests were added to the tools for some study sites. In these sites, this meant that specific topics, which some future users may not find relevant and/or easy to use, were included in the tools. It was expressed that adaptable templates of the tools, as opposed to HAIRE's exact materials, could be more helpful for future users. This point is alluded to in the quote below:

> We combined dementia and life ending plan … when someone else is going to do a guided conversation that they really have to think about what is that we want to explore. Now we got a lot of information that was good, but sometimes it also overlaps, and I think that we maybe have to make it a little bit smaller. (Study location: Belgium).

Additionally, the Covid-19 pandemic appeared as an influence on reconfiguration. The limited opportunities to meet older adults face-to-face meant that, in some cases, the toolkit had to be applied in its entirety during a single interaction and/or over the telephone. Single appointments and telephone conversations formalised the toolkit's reception by older adults and HAIRE's partners saw this way of working as a drawback. Overall, it was felt that spreading the application of the tools across a series of informal meetings would make the toolkit's use easier. The quote below demonstrates this point.

> Now that we don't have Covid restrictions then it's easier for someone to meet, and you find that conversations naturally progress when you're meeting someone in person than over the phone. … When we were doing it over the phone – if you got someone that may be hard of hearing, you can have adaptations, but not everyone is able to speak

> easily over the phone - so that can be a tricky barrier to overcome. You'd want to try and make things inclusive, so that's something to think about for the future I think. (Study location: UK).

Additionally, some partners found aspects of the toolkit difficult to apply, while others had no issue with the same features. For example, HAIRE's Guided Conversation included a radar scoring system for the topics that it covered. Radar scoring, 1–7, aimed to help older adults summarise their overall feeling about particular topics of conversation. The score was not comparative to others and provided a way to understand a person's overall satisfaction about the conversational topics that were included in the toolkit, for example, facilities and amenities (as a place-based sub-topic) and family and friends (as a person-centred sub-topic).

> I think the wheel, the radar – that was a bit confusing. But yeah, that's … I don't know whether it's possible to sort of review that a little bit. (Study location: UK)

Consequently, the toolkit may be more accessible to future users if the radar scoring system was made optional.

Interviewees also suggested that guidance on sharing learning from the toolkit with local communities should be part of the toolkit's materials. The production and publication of such guidance would make information more shareable and act as an added mechanism for toolkit adoption. This suggestion is expanded upon in the quote below:

> … Not forgetting that people are also interested in hearing about what the data meant at the end of the day - in straightforward terms. Because I know long reports were written. People don't want to read … when you're in a job and you read reports all the time, it's everyday stuff. Once you become retired and you're not in the habit of reading reports, you know people just don't do it anymore, do they? – if ever they've done it really. So something straightforward I would say … We could still find a way, maybe in [the local] magazine, of saying what we've done … what we found, and how that will impact on us going forward. (Study location: UK).

Finally, a further recommendation that was made focused on providing guidance around identifying practical steps (actions) via the toolkit's use. The toolkit that was deployed during the project included a section on potential actions. Potential actions were categorised using three groupings: signposting, support and referral. Signposting involved giving people information about existing social activities, support meant that individuals could be supported to join an activity, for example, a volunteer helping someone access a social group, and referral was for more serious issues, where specialist and/or emergency services had to be alerted. However, project partners suggested that future users would require more guidance on how to define roles, responsibilities and processes for applying particular actions – including what individuals (older adults in HAIRE) can do themselves.

> It's better that you have people here from the municipality that ring the people and do the action. You still can give an action plan on paper but it's maybe more beautiful if you really keep in touch with the people and say hey I noticed in your guided conversations that you don't know anything about the activities for seniors, did you get my information guide that you do something with it … maybe just a phone call would be nice also for the follow-up from the action points. (Study location: Belgium).

Discussion

NPT proved helpful in identifying key factors that supported the implementation of a co-designed toolkit for healthy ageing across rural areas of the UK, France, Belgium, and the Netherlands. NPT allowed for flexible responses to be elicited in relation to its domains. Therefore, we could accommodate highly local perspectives during our evaluation of the toolkit. A more rigid evaluation framework would have excluded some highly contextualised insights and subsequent innovations. For example, the living library (Belgium) example that was mentioned in our results section.

Over the duration of the project, it was evident that partners – including volunteers were starting to see the value of HAIRE's toolkit and its positive impact on older adults in their local area. This study's interviews showed that toolkit implementation was received positively. A key reason for this positivity was the adaptability of the toolkit to project partner interests and the time commitments that volunteers could offer the project in each site. Variations in volunteer time commitment and how the toolkit could be applied were accommodated by HAIRE's toolkit. Specifically, volunteers could use all the tools that were included in the toolkit or, if time constraints were an issue, they could choose the most useful tool and apply that in a way that best suited their circumstance.

Additionally, the toolkit helped older adults to engage with their local area, to reflect on their needs and co-design action plans to address those needs. The local relevance of the actions and SIs that were co-designed was seen as a key strength of HAIRE. Plus, the use of local resources and developing diverse collaborations to work more productively for healthy ageing maximised the benefits of applying HAIRE's toolkit. The interviewees in this study reported that, due to its novel collaborative, place-based and person-centred approach, the toolkit is being valued and disseminated in other geographical and organisational contexts. Although, the establishment of positive relationships with organisations in other geographic areas can take time and is difficult to fulfil during a time constrained project. Table 2 consolidates and summarises our key findings across NPT's four domains. These summarised points are then expanded by considering and reflecting upon existing literature.

Yet, a narrow understanding about the purpose of the toolkit, for example, when it was seen as *just another data collection tool* proved to be unhelpful in its application. Volunteers who treated the tools as a way of collecting data were unable to build valuable relationships with older adults and were less involved in the processes that helped ideate SIs after the toolkit's implementation. Hence, developing a shared understanding about the purpose of an intervention is critical for its implementation (Miller et al. 2012). This shared understanding can be developed through well-designed training materials and processes that are used at beginning of an implementation phase (Lines et al. 2022). Such materials should be usable by individuals who support implementation after an initial phase of training and implementation. In so doing, an intervention can be supported at various stages and volunteers can add capacity to its implementation at any time. Importantly, the key principles and practices that define purpose must be communicated clearly whenever training is delivered and refreshed during implementation. If an intervention is successful in developing a shared understanding about its main purpose, it's more likely to achieve its desired objectives (Lines et al. 2022).

Table 2. Normalisation of HAIRE's toolkit supporting volunteer-led social innovation for healthy ageing.

Coherence	Cognitive Participation	Collective Action	Reflexive Monitoring
• Agreement on the toolkit's purpose across HAIRE's pilot sites. The agreed purpose focused on listening to and identifying the needs of local older adults. • A novel, volunteer-led approach that emphasised empowering and involving older adults. This approach contrasted with traditional top-down methods. • At the time, the toolkit's UK-based development complicated implementation in non-English speaking sites. These complications occurred despite the production of translated versions of the toolkit. • The extent of a partner's and/or volunteer's involvement in co-design and training processes shaped their implementation experiences. Partners and/or volunteers who were involved in all of the project's co-design and training work were more effective in communicating the toolkit's person-centred, place-based approach to older adults.	• The engagement of older adults in the toolkit (intervention initiation) relied on local volunteers. Hence, challenges in recruiting and retaining volunteers hindered engaging older adults (initiation). The Covid-19 pandemic drove these challenges by limiting the capacities of project partners in recruiting volunteers. • Gradually, the toolkit was accepted by organisations and groups outside of the project's partnership. This acceptance was driven by such organisations and groups experiencing and witnessing the benefits that were inspired by the toolkit. • The toolkit changed the power dynamics within and amongst local authorities, the voluntary sector, health and social care service providers, and local communities (positively). • Institutional and legal requirements, such as data protection, provided a barrier for implementation. In some circumstances, processes were too time consuming to maintain local interest in the toolkit. Additionally, the toolkit struggled to overcome existing barriers in relation to the inclusion of traditionally marginalised groups (e.g. ethnic minorities).	• The project fostered a community-based working culture. This culture was achieved through the organisation of regular meetings. In relation to the project's lead partner, close contact with partners, approachability and responsiveness were qualities that aided the toolkit's implementation. • On occasions, institutionalised challenges, such as bureaucracy and national/international legal requirements, presented barriers to adapting the toolkit in time when required. • At times, the long timeframes that are associated with qualitative data analysis proved to be challenging in terms of maintaining engagement amongst project partners. • Awareness around maintain privacy and building trust with older adults helped the toolkit's implementation within smaller communities. • During particular phases of the project, the Covid-19 pandemic meant that the project's co-ordination had to be facilitated digitally. Digital interactions were not always as effective as in-person interactions in relation to implementation.	• The toolkit inspired a range of innovations. Innovations ranged from significant organisational adjustments, such as the creation of a new role in a local authority, to service-based innovations. For example, the provision of community transport for older adults, where older adults are involved in the service's planning and organisation. • The toolkit's successes were showcased via transparent feedback opportunities. These opportunities spanned all phases of the project (co-design, implementation, adaptation and evaluation). This approach helped to foster positive experiences, as partners and volunteers felt included. Subsequently, these positive experiences helped to engage organisations and groups (outside of the project's partnership) in the toolkit's successes. • Volunteers who were involved in the project from an early stage demonstrated a better understanding of the toolkit's holistic qualities. The retention of such volunteers is important for ensuring that newer volunteers are supported with learning about the toolkit (training) and its implementation.

In summary, improving clarity and consensus over the intervention's purpose would be helpful in addressing challenges that emerge during implementation phases.

Social and cognitive processes that help individuals commit to an intervention's purpose help implementation (May 2013). Although, some processes, like recruiting volunteers to support older adults in rural communities, can be challenging. Therefore, interventions like HAIRE's toolkit would be better supported if volunteering was made more sustainable and possible at a personal, community and societal level

(Colibaba, Russell, and Skinner 2021). HAIRE's toolkit produced its best results when volunteers had the time and support to commit to its application fully and built valued (by volunteers and the older adults) relationships with older adults. Therefore, the recruitment of volunteers should be undertaken through community-led processes and messaging. This would ensure the establishment of a community-orientated working culture, which lends itself to the positive implementation of HAIRE's toolkit. Volunteers also need to be well supported and trained in leadership skills so that they can champion place-based tools like HAIRE for local benefit (Davies, Lockstone-Binney, and Holmes 2021).

Importantly, informal meetings that were conducted in a comfortable environment proved to be the best way to engage volunteers in sustained use. Previous studies have shown how this point is key in volunteer retention too – particularly in relation to interventions that provide support for older adults (Roberts et al. 2014). Moreover, interviewees did not report any resistance in implementing the toolkit. Mainly, this result was attributed to the flexibility of the toolkit tools and the positive results that were achieved (in terms of the innovations that it led to). Owusu-Addo et al. (2021) also document these qualities as positive drivers for toolkit adoption and/or use at an individual level.

Covid-19-related restrictions, especially the inability to meet face-to-face, were identified as main barriers to implementation. This factor is no longer current, which should be helpful for future implementation. However, organisations working with older adults should prioritise developing digital skills among them. Such developments would enable individuals to use and participate in digital versions of HAIRE's toolkit. Hence, the toolkit would be safeguarded from the impacts of any future societal crisis, like Covid-19, that restricts socialisation. Further, research has shown that older adults who are willing to learn digital skills improve their quality of life (Weil et al. 2021). Intergenerational platforms where young people can help older generations develop digital skills can also support such activity (Krzeczkowska et al. 2021). Specifically, skills development around the use of online meeting platforms can help older adults to stay connected and be involved in projects like HAIRE (Gorenko et al. 2021; Lin, Bautista, and Core 2020).

This study's interviews identified further areas of improvement for the implementation of HAIRE's toolkit (reflexive monitoring). Principally, areas for further improvement relate to the creation of templates that help future users adapt (easily) the components of the toolkit as they wish. Adaptations would be most useful in contexts where older adults may find it difficult to understand certain parts of the toolkit. Thus, it is important for ageing-related interventions to accommodate a wide-range of cognitive and physical abilities. Previous research has shown that interventions for older adults are more likely to be adopted and sustained if they cater for a wide-range of cognitive and physical needs (Owusu-Addo et al. 2021).

Cultural contexts added nuance to experiences of toolkit implementation during HAIRE. National culture was not the only cultural influence here. Organisational cultures that prioritised differing challenges of ageing shaped the toolkit's co-design and use. Importantly, NPT's flexibility as a method helped this study reveal such nuances. We were able to demonstrate that study sites who had existing relationships with older adults and were proactive in organising local events used the toolkit more

effectively. Additionally, good working relationships with organisations in neighbouring areas helped to expand the toolkit's implementation. Importantly, a collaborative culture was seen to influence the toolkit's use positively.

The key learning that we established around collaboration was that hierarchies, in terms of academics, professionals (e.g. local authority staff and social workers), volunteers and older adults, should be as horizontal as possible during interventions like HAIRE's toolkit. The flattening of such hierarchies allows for rich dialogues to take place and enhances the reflexive learning that can be achieved (during planning and implementation).

To summarise, clear communication, continued dialogue and horizontal hierarchies allowed for success across all four of NPT's domains. Moreover, key improvement points for implementation revolve around instilling confidence amongst an intervention's main users (volunteers and older adults in HAIRE's case), and to allow for bespoke adaptations that are relevant to local contexts to continue when an intervention's tools are in use. Users should be encouraged to make such adaptations. Confidence and experience were important qualities that facilitated such adaptations amongst HAIRE's volunteers. The project would have benefitted further from clearer messaging and the installation of confidence amongst volunteers around how HAIRE's tools could be adapted.

Limitations of the study: This research did not interview older adults who were the recipients of HAIRE's toolkit, as project participants. This was due to time constraints and the logistical complexities that were caused by the Covid-19 pandemic. Additionally, for these reasons, this study does not include any first-hand researcher observations around the toolkit's implementation. Future research should evaluate such toolkits from an older adult perspective and include researcher observations and reflections in their study design too.

Conclusion

NPT's four domains provided a valuable and suitably flexible framework for understanding how SI interventions, like the HAIRE toolkit, can be implemented across diverse cultural and organisational contexts. Support and flexibility for local implementers, such as translating training resources into local languages and terminologies, along with investing additional resources in volunteer training, can enhance interventions like HAIRE's toolkit. In this study, we showed how allowing volunteers, who were the primary implementers, the freedom to adapt toolkit materials based on their usage experiences, enables the creation of context-specific tools. These context-specific tools are fundamental for SIs to be realised that are relevant to communities and the societal challenges that they experience, such as ageing.

The process of cognitive participation, or the engagement of participants with an intervention, can be enhanced through clear communication and the establishment of a two-way dialogue between co-ordinators (in HAIRE's case this was the academics that co-ordinate the intervention's co-design processes) and implementers, for example, local volunteers. In cases where volunteers received consistent support and dialogue, the use of the toolkit was more effective and did not necessitate additional financial resources for sustainability. The domain of collective action highlighted how the

development of collaborations across different sectors and cultural contexts can lead to diverse solutions (SIs).

Despite challenges, like the COVID-19 pandemic, which affected face-to-face interactions, approachable leadership (by the project's lead partner) and flexible working arrangements allowed for adaptive responses to emerge in each study site. Hence, reflexive monitoring, through regular feedback mechanisms, facilitates ongoing learning and improvement, ensuring an intervention's objectives are met effectively during both the planning and implementation phases.

Finally, to our knowledge, this is the first study that has used NPT to analyse the implementation process of an intervention for healthy ageing across different cultural and organisation contexts. We would welcome the development of the understanding that we have achieved through further studies that adopt NPT as an evaluative framework for healthy ageing-related interventions. Significantly, NPT focuses on viewing implementation as a demonstration of agency by, predominantly, framing this agency within the realm of whom implements an intervention. In HAIRE's case, this was the volunteers and partners that supported its implantation. Our work can be built on by considering the perspectives of the recipients of interventions like HAIRE. Thus, we call for the further exploration of how NPT's central ideas might be applied to understand the impact of the agency of both intervention participants (i.e. older adults) and non-participants (as in this study) on the integration and sustainability of interventions across diverse cultures.

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Appendices

Appendix 1: HAIRE Toolkit link

The HAIRE toolkit is available via a Creative Commons License and can be viewed via the following link: https://projectenportfolio.nl/wiki/index.php/LC_00810

Appendix 2: interview guide

Interview Guide

(Use prompts to probe e.g. Why, What ways, How, how you felt, Give me an example)

- Your experience of getting involve in HAIRE project.
- Understanding about HAIRE toolkit
- Your views on training you received to implement the toolkit.
- What helped – in what ways? Why you think that was helpful?
- What hinders – in what ways? Why you think that hinder
- What others thought about HAIRE toolkit?
- Working with others for implementation of HAIRE toolkit
- HAIRE toolkit impact – Journey of social innovation development in your local context
- Explore transferability, sustainability, embeddedness of HAIRE toolkit – in other geographic and organisational contexts (challenges, barriers, facilitators).
- Suggestions for further improvement of HAIRE toolkit and its implementation.
- Any other thoughts you would like to share on the topic.