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Remote Cultural Events: Investigating the Usefulness of Live Streaming for Creating Cultural and Social Engagement in Communities of Older Adults

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Abstract: The rise of the silver economy has drawn a growing interest in understanding the needs and behaviours of older adults, both by academics as well as the business and public sectors. Services promoting wellbeing can have several benefits both on individual and national levels, and social connectedness, as one aspect of wellbeing, has been found to positively impact healthy ageing and quality of life among older adults. The aim of this study was to conduct a first exam of the potentials of a remote cultural event to facilitate social connectedness and well-being in a community of older adults through culture and the arts. This study utilised a qualitative exploratory approach in the form of a co-designed case study set in a Finnish care home. An opera streaming event was planned and organised in co-operation with multiple stakeholders including the residents. The results highlight the role of social interaction as part of a remote cultural experience, prior, during, and post-experience. Partaking in the event resulted in enhanced social connectedness, more positive views on technology and remote experiences, and overall satisfaction for joining. The social aspect, rituals, and etiquette are also present also in watching opera remotely, and emphasising these aspects in designing such services could leverage the potential that digital cultural experiences hold.

Keywords: social sustainability; service design; older adults; remote cultural events; phygital service; social connection; wellbeing; silver economy



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1. Introduction

The relative proportion of the older adult population, defined in this paper as those aged 60 years and older, has grown dramatically in recent decades and, across most developed nations, is expected to reach about two billion by 2050. According to the European Commission, in the EU, the relative proportion of the population above 65 is predicted to rise to 30% by 2060 [1]. The needs of this growing population have caught the attention of researchers and professionals exploring new services and products that better cater for the so-called silver economy [2]. In particular, the specific role of wellbeing as a part of the products and services designed for older adults to promote successful ageing—also known as positive ageing—is growing [3–6].

The concept of successful ageing has traditionally been identified to refer to the absence of physical impairments, cognitive disabilities, or social restrictions, but it has recently been expanded to a broader meaning, including wisdom, emotional stability, rational decision-making, empathy, and compassion [7]. Furthermore, several studies have investigated the role of subjective wellbeing in promoting successful ageing. The results show that elevated levels of subjective wellbeing can influence physical health and

longevity [8–11] and counterbalance the negative consequences of chronic disease and disabilities [4]. Among the several dimensions of wellbeing, recurring themes in the literature include social connection [12–15], mental health [8,13,16], free-time investment [17,18], and physical activity [19–21].

In this paper, we present the findings of a qualitative research project in which a remote cultural event combining both physical and digital (i.e., phygital) elements was co-designed and implemented with a community of older adults in the spring of 2022. The aim of the project was to explore novel ways of engaging older adults with phygital services to increase their social connection and wellbeing using the cultural sector, in this case, opera, as the backdrop for new service developments. In doing so, this paper aims to address the following research question: In what ways can a remote cultural event which combines both physical and digital elements promote social connection and wellbeing in communities of older adults?

1.1. Social Connections, Leisure Activities, and Developing Habits for Older Adults

Social activities can positively affect individuals, including older adults [22,23]. Social activities reduce loneliness [24–26], depression, and stress [27]. Social activities have been found to improve health [28], self-care processes, self-efficacy, self-esteem, and a feeling of attachment [29–31]. Social participation may enhance physical activity and, accordingly, older adults' autonomy in everyday tasks. On a macro level, the benefits gained from social activities among older adults translate into a reduction in mortality rate, an improvement in general health indicators, and consequently, social cohesion, social order, and a reduction in healthcare costs [32–34].

Healthy habits are one of the keys to health and longevity [8]. Nevertheless, the literature studying habit development in older adults seems to primarily focus on nutrition [35–38], mental health [39–41], self-efficacy, and mobility [20,21] rather than habits related to social activities. Even though somewhat under-researched, social activities, such as arts and crafts, volunteering, sports, hobbies, cultural events, etc., are essential predictors of wellbeing [18]. The development of habits around social leisure activities consists of rituals characterised by a number of elements [17], such as bodily co-presence, barriers to outsiders, the mutual focus of attention, and sharing mood. Older adults can engage in these activities autonomously by aligning their interests, achieving self-defined goals, and experiencing positive emotions through social connection and social integration [42]. As a result of successful interaction, shared social rituals result from in-group solidarity, shared symbols, emotional energy, and enhanced social relationships [17]. All these aspects can positively affect older adults' everyday lives and must be a reference point when designing products and services for the silver economy.

1.1.1. The Complexity of Building Social Connections in Older Adults

The potential of social leisure activities to increase the wellbeing of older adults warrants further investigation. Central to social activities are the concepts of social connection and social participation, both of which are complex terms with undefined boundaries. In this context, it is difficult to identify all the aspects involved and develop effective strategies to improve or maintain those connections among older adults. For the purposes of this study, the authors have reorganised the relevant literature into three categories: (1) studies that focus on defining the terms, including different levels of depth and their characteristics; (2) studies focusing on factors that influence social connection among older adults, and (3) studies to enhance the possibility of creating effective and lasting connections and developing habits in the lives of older adults.

Despite the growing research on social participation among older adults, there is no standardised definition for the term. Most of the recent studies [1,22] accept the taxonomy proposed by The International Classification of Functioning, Disability and Health which focuses on involvement in social activities that provide interaction with others in a society or community [43]. Rooting our approach in these studies, we developed a taxonomy

suitable for the specific context of investigation. The resulting taxonomy is synthesised in Table 1.

Table 1. Taxonomy of social activities for the investigated context.

Levels	Description of the Levels of Involvement	Goals of the Activity	Activities for Whom or with Whom
First level	Doing an activity in preparation for connecting with others.	Basic needs-oriented	For oneself
Second level	Being with others (alone but with people around).	Basic needs-oriented	For oneself
Third level	Interacting with others (social contact) without doing a specific activity with them.	Socially oriented	With others
Fourth level	Doing an activity with others (collaborating to reach the same goal).	Task-oriented	With others

Based on the classification above, social interaction implies a paradigm shift from action for the self to action for/with the other. In this context, it is crucial to consider which factors influence individuals' perception within a group, define individuals' roles, and direct their action. In the context of older adults attending group activities, e.g., a remote cultural event, multiple barriers associated with adverse engagement outcomes are identified. To ensure the sustainable and long-term use of digital solutions, it is crucial to consider the users' digital skills, raise awareness of on-site issues, and integrate support into appropriate structures [44]. The barriers are related to participants (e.g., cognitive function), environmental (e.g., light and noise), and group session characteristics, e.g., group activity, content, and group size [45]. Some studies point out the impact of personal characteristics on the preferences for physical, social, cognitive, or affective activities [46,47]. Cohen-Mansfield [47,48] emphasises individualising group activities based on participants' preferences to optimise the impact. The importance of activities is often underestimated, and although the approaches are person-centred, participants are not always provided with personalised programs [49]. Analysing the relationship between personal characteristics and activity preferences could provide scientific evidence for integrating these activities into long-term services for this population [50]. The integration may be possible if future solutions understand older adults as individuals, not as stereotypes [51,52]; emphasise individual strengths; and leverage personal resilience [53]. Environmental settings, group characteristics, and presentation effects have proved to be another influencing factor on group engagement. An observational study on a group of nursing home residents analysed background noise, light, and the number of persons [45]. The results show that moderate sound levels, small groups, and multiple presentations of the same stimulus were perceived as appropriate. According to other studies [54], apathy in long-term care residents could be related to environments, showing that care environments characterised by clear and sufficient stimulation are significantly associated with lower resident apathy levels.

Some approaches to social connections in the context of older adults include psychosocial therapies to improve interpersonal relationships or reduce loneliness and social isolation. For example, the Cognitive-Behavioural Framework for Social Connectedness [15] promotes social, mental, and physical health during social distancing restrictions in older adults. Some strategies focus on creating connections involving intergenerational programs between younger and older generations via ageing-friendly neighbourhoods or communities, e.g., community-based physical group activities [14]. Other efforts [13] focus on quantifying aspects of social connection among long-term care residents focusing on the

association between social connection and mental health outcome, on the association between a modifiable risk factor and social connection, and on intervention studies with social connection as an outcome. This study identifies strategies to build and maintain social connections in this population. The strategies include finding opportunities for creative expression, maintaining religious and cultural practices, using technology to communicate, laugh together, and reminisce about events, people, and places.

1.1.2. Digital Technologies as a Means to Share Culture with Older Adults

Compared to understanding social connections in live experiences, designing interactive digital systems is more challenging [55]. Experience is generally considered a “stream of feelings, thoughts, and action, a continuous commentary on our current state of affairs” [56]. Individuals have emotional, physical, and cognitive experiences when using technology, depending on how it affects them. As discussed by [56], when designing technologies for older adults, the key is to thoroughly understand their experiences with the technology they already own or have used in the past. Folizzi and Battarbee [55] highlight the power of social situations to greatly influence co-experience. Physical or virtual social presence influences how an individual experiences and interprets events. Overall, people gain experiential value from products and services based on extrinsic and intrinsic benefits. Extrinsic benefits related to digital technology are generated by the utility of a product or by how a technology product benefits the user [57].

When it comes to older adults and technology usage, there are additional factors to consider, such as cognitive, perceptual, and psychomotor decline [56]. Challenges and strengths can be leveraged to help future researchers and practitioners design and develop new services, products, and interventions. The COVID-19 pandemic presents an interesting case study, as in this particular historical period, older adults, along with many others, faced the need to use digital technology to stay socially connected, highlighting novel challenges in using digital media for social connection as well as revealing some new strengths. As challenges, the authors of [58] highlight access to technology, scepticism, and physiological limitations. The disparity in digital skills has also been defined [59] as a “second-level” digital divide. On the other hand, strengths include emotional maturity, discretionary time, the tendency for civic engagement, and extensive life experience.

The recent literature illustrates many examples of effective digital cultural interventions that mitigate social isolation and the progression of physical frailty among older adults. In this context, culture and the arts are important for creating stimuli, maintaining rituals, and motivating older adults [1,26,60,61]. Evidence shows that virtual museum tours [62] and other art-based (digital) activities [63] promote wellbeing. For example, music experiences encourage self-connection through awareness, memories, and self-expression [64], while community-based group singing fosters wellbeing among people with dementia [65,66]. Music-listening activities improve memory [67] and reduce sleep disturbances [68]. Furthermore, older adults can actively support civic life participation through radio shows [69,70] and different kinds of hybrid event communities [71].

However, some studies point to limitations related to the lack of theoretical frameworks for designing these types of interventions and naming and communicating the modalities of mechanisms and outcomes [72,73]. The literature has highlighted that improvements and evidence must be accessible to researchers and practitioners for future replication. For example, [72] proposes a dynamic, multidisciplinary model for this purpose, considering humanistic and scientific perspectives. The resulting twelve dimensions in the taxonomy provide a common language to describe, explain, communicate, and simplify unique experiences. The need to design multidisciplinary, multidimensional, or multi-layered intervention [16] is explicit and shared. A well-organised set of multidimensional community services should be provided to older adults when ageing at home [74]. Evidence [75] suggests that interventions are most effective when social support is combined with additional intervention tasks such as art activities.

1.1.3. Opportunities, Limitations, and Literature Gaps

In conclusion, the literature has identified several opportunities and limitations associated with (digital) cultural activities aimed at increasing older adults' wellbeing and social connectedness. Social leisure activities, cultural events, psychosocial therapies, and intergenerational programs may effectively build and maintain social connections. Despite the growing interest in this topic, several gaps in the current literature have been identified. Multiple barriers, including personal, environmental, and group session characteristics, can lead to adverse engagement outcomes. In this context, designing digital technologies for older adults adds new difficulties, such as understanding their experiences with technology, as well as cognitive, perceptual, psychomotor decline, and social presence. Moreover, the literature provides limited evidence of personalised programs for older adults and a need for theoretical frameworks for designing, naming, and communicating cultural experiences for older adults. Addressing these gaps can help improve the efficacy and relevance of interventions to enhance older adults' social wellbeing and participation. Further research is needed to design and develop new services, products, and interventions that address older adults.

The pilot study described in the following sections required significant resources and expertise. It involved various stakeholders, such as guests, staff, and managers of a care home located in Finland, and local small and medium-sized enterprises such as technology providers, event planners, a florist, a hairdresser, and a catering company. Considering the stakeholders involved in this study, a theoretical canvas (Figure 1) was developed from the reformulation of the Taxonomy of Arts Intervention for People with Dementia [72].

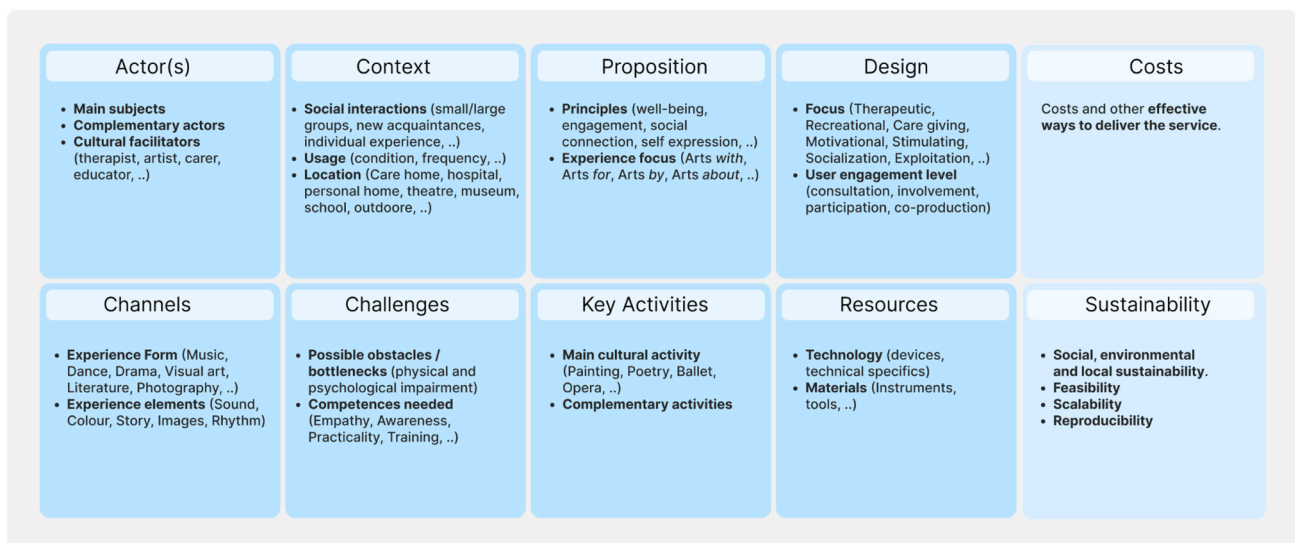


Figure 1. Cultural events model canvas for older adults.

The canvas is significant as a guiding tool for designers and researchers with the purpose of promoting older adults' wellbeing and enabling new business formats.

Against these backdrops, the authors present the results of a qualitative study wherein a remote cultural event was co-designed with older adults and other stakeholders in a real-world care home setting. The aim of the event was to leverage digital technology (live streaming) to create positive change in the care home residents' wellbeing, to increase social connectedness through arts and culture-related rituals, and to increase the overall day-to-day experience of older adults.

2. Methodology

This study presents the findings of a qualitative study conducted in collaboration with university researchers, a care home (including management, staff, and several residents), a

national cultural organisation, and multiple small- and medium-sized enterprises (SMEs). Overall, the project ran from January to May 2022. The aim was to co-design and implement an interactive remote cultural event at the participating care home. Further sub-research questions have been defined starting from the main research question, which is related to the effectiveness of cultural events in stimulating cultural and social engagement in older adults. These questions wish to investigate the desirability of this format, the sustainability and reproducibility of this type of experience, and the meaningfulness derived from the involvement of older adults in the design process.

The event involved a live-streamed premiere show of a new opera, which was displayed on a wide screen at the care home. The researchers ensured that the remote event replicated as many aspects of the in-person opera experience as possible, including ambience, social interaction elements, and rituals [17].

This paper presents the organised event as a pilot study, whereby data collected for this research is only from the remote cultural event itself and an evaluative focus group that followed one week after the event. The analysed data include short pre-event interviews with care home residents ($n = 15$), thematic observation during the event (4 h, three separate observers taking notes), live reactions recorded on paper cards throughout the event ($n = 43$), two 2 h focus group interviews after the event (total participant $n = 9$), as well as data collected in the form of a guest book that was available for care home residents during and two weeks after the event (open feedback).

The primary objective of this study was to assess the feasibility of the design and to extract useful information for subsequent studies. This model represents a significant step forward in understanding the complexities involved in this process.

2.1. The Location of the Remote Cultural Event

The present study describes an event that took place at a private care home facility located in Southern Finland. The facility is home to approximately 300 older adults. Depending on their condition and personal situation, care home residents may choose how much support they would like to receive from the care home staff, ranging from continuous monitoring to cleaning or cooking services. Around one-third of the residents receive 24/7 care, while the rest receive a varying level of support services. The care home consists of half a dozen residential buildings and one central hub area where a restaurant, gym, as well as many other facilities (e.g., recreational room, pool table, swimming pool) are available for residents.

The present study reports on a one-off remote cultural event that was co-designed and held at the care home's restaurant. As recent studies have highlighted, the built environment or experiencescape plays a significant role in wellbeing [54,76]; therefore, the care home's restaurant was reconfigured to resemble a traditional opera house, including stage and auditorium. All of the dining tables were removed, the chairs were arranged to resemble an auditorium, and the overall space was decorated with several accessories and props care home residents associated with the opera, e.g., red carpet, satin drapes, flowers, and several pieces of antique decorations to create an authentic opera-esque experiencescape [76]. The live-streamed opera was broadcasted on a large widescreen (width circa 5 m, height circa 3 m), and audio was played through a tower loudspeaker system broadcasting sound on a 180-degree radius. The organisation of the audience hall was carefully planned in close collaboration with nine care home residents and the care home staff (including operational staff and management), focusing on ensuring accessibility and ease of mobility for those using wheelchairs or other mobility support equipment. Moreover, the audio and video technologies were also carefully tested with care home residents, with particular attention given to those participants with visibility or hearing impairments, to ensure that the audiovisual technology supported the live streaming technology and did not feel invasive [45,77].

2.2. Description of the Remote Cultural Event

The event started at 4 p.m. and ended at 9.30 p.m., with the actual live-stream of the opera taking place between 7 and 8.30 p.m. The event schedule is presented below (see Figure 2):

- 4.00–6.00 p.m.: Pre-event help with hair and make-up for care home residents; the possibility to have pictures taken by a professional photographer in a custom-made photo booth and with special props provided by an events planning company; lounge music played by a live pianist; pre-event interviews with residents.
- 6.00–6.15 p.m.: Welcome drinks and canapés, welcome words from care home staff and management.
- 6.15–6.30 p.m.: Welcome words from care home residents who took part in co-designing the event.
- 6.30–7.00 p.m.: Start of the live-stream, opera artist interviews at the opera house; live reactions of the audience recorded just before the main opera performance starts through paper cards (see Figure 3).
- 7.00–7.45 p.m.: Part one of the opera performance; live reactions of the audience recorded at the end of part one through paper cards.
- 7.45–8.15 p.m.: Intermission, wine tasting, a meal in the “lobby”; guest book available for residents; live audience reactions recorded at the end of intermission through paper cards.
- 8.15–9.00 p.m.: Part two of the opera performance; live reactions of the audience recorded at the end of part two through paper cards.
- 9.00–9.30 p.m.: End of event, possibility to have pictures taken by a professional photographer; lounge music played by a live pianist; guest book available for residents.

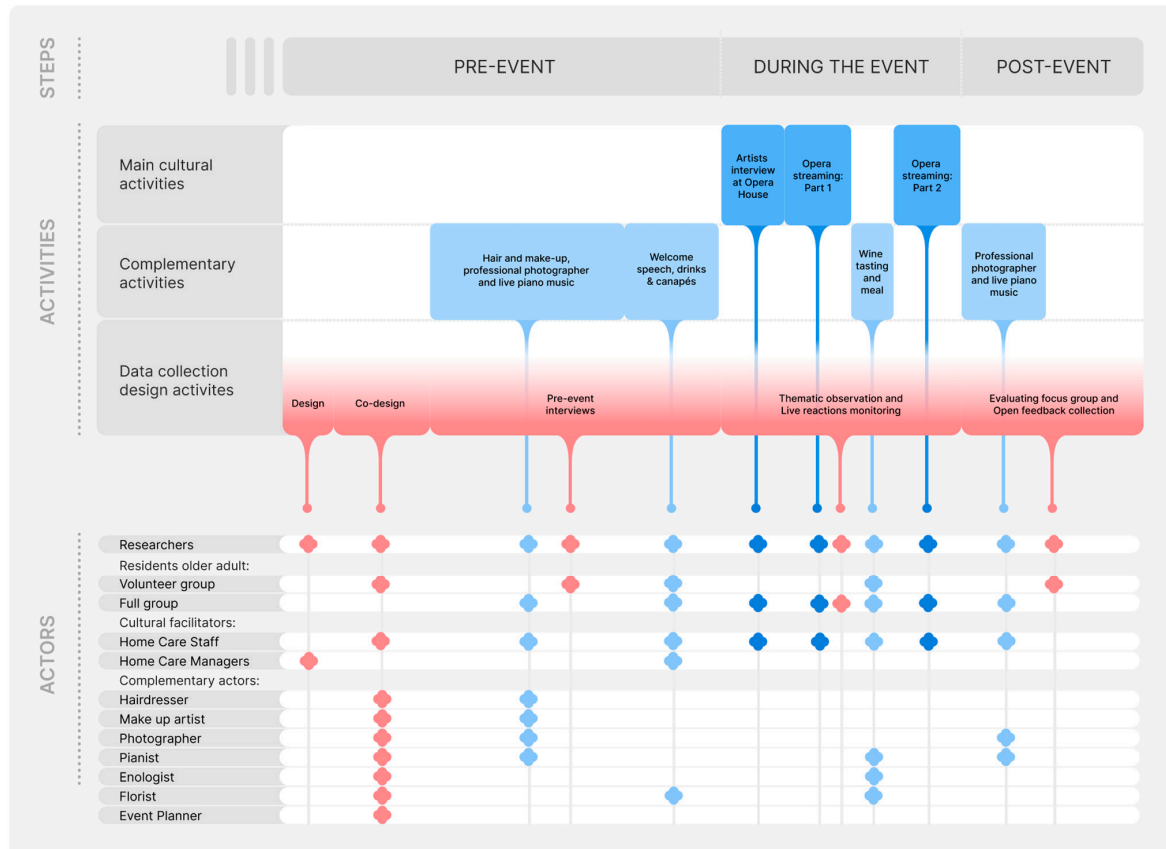


Figure 2. Visual representation of the pilot study components: Steps, activities, and actors.

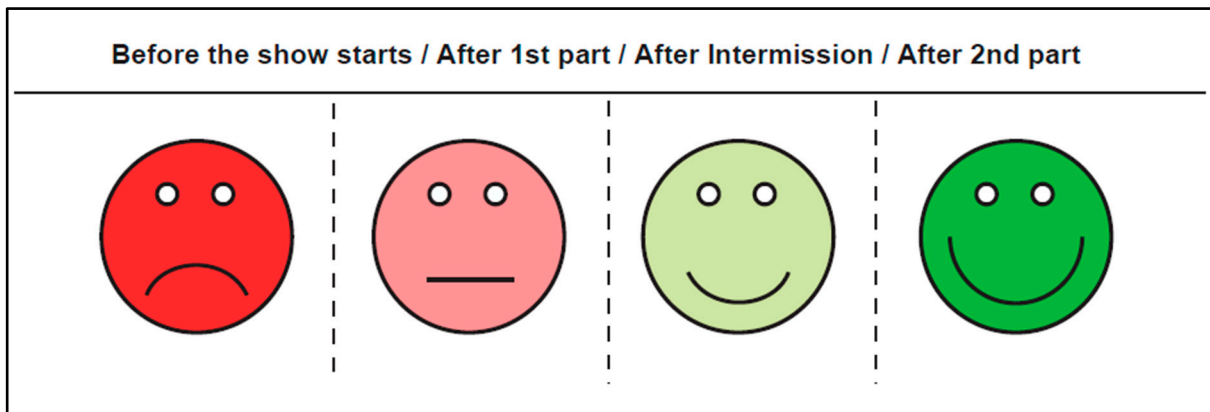


Figure 3. Emotion measurement tool.

2.3. Participant Profile

The present study employed purposive and convenience sampling methods to recruit participants, whereby the care home staff identified nine volunteers who participated in the co-design process. At the same time, a formal invitation letter was circulated by post to all other (circa 300) residents of the remaining care home residential buildings. Participants needed to register with the care home staff to attend, and participation was determined on a first-come-first-served basis. Participation, including all ancillary services, were free and voluntary for participants. The inclusion criteria for participation were limited to an interest in remote cultural experiences and a willingness to attend the remote cultural event. All participants were, therefore, from the same elderly care home community. Altogether, 50 residents registered for the event, of which 43 came to the event; 7 were unwell or did not attend on the day for personal reasons.

Of the overall 43 participants (31 female), 15 residents participated in a short pre-event interview (min. length 5 min, max. length 16 min). The pre-event interview aimed to establish participants' expectations towards the upcoming event, their familiarity and attitudes towards performing arts in general and in the context of opera performances, and their familiarity and attitude towards technology in general and in the specific context of remote cultural experiences. The Technology Acceptance Model [78] was used as a theoretical basis for the pre-event interviews.

Of the 15 residents that participated in the short pre-event interview, nine also participated in a 2 h focus group interview organised at the care home one week after the event. Table 2 presents the general characteristics of participants who participated in pre-and post-event focus group interviews. Table 3 presents descriptive statistics of the overall participants in the remote cultural event.

Table 2. Characteristics of the participants in the interviews and focus group, $n = 15$.

Participant ID	Gender	Age	Pre-Event Interview (A) and/or Post-Event Focus Group (B)
P1	Female	70–74	A, B
P2	Female	65–69	A, B
P3	Female	80–84	A, B
P4	Female	80–84	A, B
P5	Male	80–84	A, B
P6	Female	70–74	A, B
P7	Female	70–74	A, B
P8	Male	85–89	A, B

Table 2. *Cont.*

Participant ID	Gender	Age	Pre-Event Interview (A) and/or Post-Event Focus Group (B)
P9	Female	75–79	A, B
P10	Male	70–74	A
P11	Male	85–89	A
P12	Male	85–89	A
P13	Female	75–79	A
P14	Female	85–89	A
P15	Male	65–69	A

Table 3. Descriptive statistics of participants in the overall event, $n = 43$.

Gender	Age	Familiarity with Digital Cultural Services (High–Low)	Familiarity with Opera (High–Low)	Frequency of Attending Live Cultural Events (High–Low)
Male: 28%	Mean: 77.8	7% high, 93 low	34% high, 66% low	10% high, 90% low
Female: 72%	Mean: 81.2	11% high, 89% low	47% high, 53% low	12% high, 88% low

2.4. Data Collection and Analysis

The interview guides (pre-event interview, post-event focus group interview) and the observation guide (during the event) are attached as Appendix A. In addition, data were collected during the event through an emotion measurement tool (paper cards) at four stages: just before the event started, after part one of the opera, after the intermission, and after part two. The emotion measurement tool is included in Figure 3.

Qualitative data were analysed using thematic analysis; quantitative data were analysed through descriptive statistics (means). The analysis used the Cultural Event Model Canvas, drawing primarily on the Taxonomy of Arts Interventions for People With Dementia [72] and other recent studies focusing on the role of (remote) arts and culture as an intervention for the promotion of social connectedness and wellbeing among older adults [1,26,60,61]. The data were analysed primarily by one author and verified by the rest of the research team. The coding process was three-fold: open coding (reading through the entire corpus of data and jotting down open codes for interesting parts of the data), axial coding (collating all the open codes into a code book, arranging individual codes under abductive themes, forming preliminary hierarchies between codes, and re-visiting the corpus of data between multiple coders and subsequently revising codes and themes), and theoretical coding (testing the coherence of the analysis against the theoretical framework and research questions; drawing links as to how the findings add to the existing literature). Reliability was established through a thick description of the case study contexts as well as three types of triangulation: triangulation of data sources (i.e., pre-event interview, observation, during-experience emotion measurement tool, focus group interview, guest book); triangulation of theory (i.e., technology acceptance, social connection and social participation, the role of culture in wellbeing); and triangulation of investigators.

3. Results

The results of the study are presented in chronological order of data collection: (1) pre-event interviews, (2) observation and emotion measurement during the event, and (3) post-event focus groups and guest book. The given quotations refer to Appendix B.

3.1. Pre-Event Interviews

The pre-event interview involved a cohort of 15 participants, consisting of nine women and six men. Notably, all participants conveyed reduced attendance regarding live cultural events during the COVID-19 pandemic, attributed to the restrictions and individual physical wellbeing. The reasons provided by the participants for this decline can be diverse, as articulated by them. These reasons primarily revolve around the fears and risks associated with social gatherings (P2; P9), the limited accessibility to events due to the imposed restrictions (P9), and the accessibility challenges individuals with various impairments face, such as those using wheelchairs (P12).

Interestingly, when inquiring about their previous exposure to live-streams or recorded opera performances, only a minority of participants acknowledged having had such experiences. The overall expectations were varied. On the one hand, the participants exhibited anticipation and excitement towards remotely witnessing opera in a collective social setting. The participants found the shared experience aspect particularly thrilling, emphasising the value of quality time spent together (P4), the meticulous preparations for self-care (e.g., hairstyling, makeup, outfit) (P4, P10), and the chosen venue (P10). On the other hand, some individuals expressed scepticism regarding the authenticity of the remote experience compared to attending a live performance at the physical opera house (P15). Moreover, concerns were raised about the technological aspects, such as the effectiveness of the sound system and the compatibility with hearing aids (P7).

3.2. During the Event Observation and Emotion Measurement

In total, 43 care home residents participated in the cultural event (opera live stream; 31 women, 12 men). Three researchers observed the event. Two key themes resulted from analysing the observation notes: (1) Verbal and (2) Non-verbal communication.

Regarding verbal communication, several participants were seen chatting with each other (with hushed voices so as not to disturb others) now and then throughout the opera live-stream. The discussed topics covered the show holistically: commenting on the different scenes, the directing, costumes, lighting and sound quality, and different set pieces. The participants sat in small groups of 2–4 people during the intermission, chatting about the show. There was regular movement between different groups, the discussion was lively, and on multiple occasions, laughter was noted. Towards the end of the intermission, the discussions shifted towards more day-to-day topics and general catching up with one another rather than the performance. After the intermission, the bell rang and the participants returned to the “concert hall”, with the majority choosing the same seats they had been using before. However, a few participants changed to a different side of the audience to sit with the group they chatted with during the break.

In terms of non-verbal communication, several spontaneous rituals were observed. When the orchestra entered the stage (on the live-stream), the audience spontaneously started clapping their hands in unison with the live audience. Similarly, after particularly striking parts of the show, the participants started clapping. At the end of part 1 and part 2, the participants applauded the loudest, resulting in a semi-standing ovation at the end of the performance. Besides applauding, the participants were observed physically reacting to the music: tapping their feet, humming quietly to familiar songs, and rhythmically moving their heads. Several participants took out their phones during the show, taking pictures and video recordings of the widescreen.

In addition to participant observation, the positive/negative affect of the audience was measured on a scale of 1–4 using an emotion measurement tool consisting of smiley faces (Figure 3). The emotion measurement tool was distributed to the participants as part of the show’s brochure and handed out to everyone upon entering the “concert hall”. The positive/negative effect of the audience was measured at four points during the event: (1) before the live stream started, (2) after part 1 ended, (3) after the intermission ended, and 4) after part 2 ended. The means of the results were 3.50 (before the event), 3.70 (after

the first part), 3.72 (after the intermission), and 3.85 (after the second part), indicating a slight improvement in the participants' mood from pre- to post-experience.

3.3. Post-Event Focus Groups and Guest Book

Nine participants participated in the post-event focus group interview (seven women, two men). In addition, 17 anonymous comments (open thoughts, greetings, thanks, small drawings) were left in the guest book. Four themes emerged in the thematic analysis of the qualitative data, focusing on social interaction, wellbeing, and rituals:

1. Preparation for the event, i.e., how participants prepared for the remote cultural event during the weeks and days leading to the event, as well as on the event day itself.
2. Social interaction during the event, i.e., participants' narratives about the experience of the remote cultural event together.
3. Event specifics, i.e., comments related to the length, technical execution, overall ambience, and ancillary services.
4. The overall impact of the event on the care home community, i.e., the influence of co-designing and organising a remote cultural event together with multiple stakeholders and the overall evaluation of the impact of this on care home residents' social connectedness and wellbeing.

3.3.1. Preparation for the Event

In terms of preparing for the event, the participants commented on talking about the event with others; choosing appropriate clothes, accessories, and make-up; and receiving help from friends, family, and the care home staff days and weeks before the event. The participants also highlighted the impact of the event on their social activity. They involved their friends and family members in various aspects of the event. This involvement included sharing their expectations about the experience (P2, P4) and seeking direct assistance from some of them in selecting suitable outfits (P2, P9), applying makeup (P3), or managing household affairs in their absence (P2). These actions demonstrated the participants' active engagement with their social networks concerning the event. Additionally, the participants emphasised the impact of the event on their social interactions. The rituals associated with the preparation for the experience conveyed a genuine sense of attending a theatre performance (P2). They provided an opportunity to perceive the home care and the individuals involved (e.g., staff) in a new and different light (P2).

3.3.2. Social Interaction during the Event

Social interaction during the event significantly affected the participants' overall evaluation and remembered stories about the event. The participants mentioned specific interaction touchpoints, such as deciding where and with whom to sit (P6) and rituals, e.g., applauding, and how these moments created serendipitous events and strengthened social ties (P2, P4). The participants emphasised how the event created opportunities for new types of social engagement in the care home community (P6).

3.3.3. Characteristics of the Event

In addition to how the participants described preparing for and interacting with each other during the event, the overall characteristics, e.g., length, sensory elements, decorations, and ancillary services, sparked discussion and reflection around the perceived authenticity of remote cultural events in general and in the context of this case study. The participants provided feedback on the advantages and disadvantages of remote cultural events, highlighting various challenges and opportunities discussed in previous studies [56,58]. Among the positive aspects identified in the interviews, the participants mentioned the authenticity of the experience in terms of the perceived emotions (P2, P6) and the ambience created by contextual elements such as the red carpet, food, and drinks (P4). Some participants acknowledged limitations compared to attending the event in per-

son, particularly concerning some guests of the home care. Concerns were raised regarding factors such as the performance duration (P8).

3.3.4. Overall Impact of the Event on the Care Home Community

Finally, the participants reflected on the event's overall impact on the care home community more broadly. They also commented on the opportunities digital technology offers for providing remote cultural experiences, sparking a personal interest in engaging with technology more closely in other aspects of life too (P2). The co-design project and the resulting remote cultural event caused numerous ripple effects in the host community, from excitement and gratefulness (P5) to scepticism (P1) and to fear of missing out and jealousy (P4).

4. Discussion

The qualitative pilot study conducted at the care home yielded significant theoretical insights, underscoring the paramount potential of designing multi-layered experiences through a co-design approach that considers the level of technology acceptance and its impact on the perceived social connection of older adults. Co-designing remote cultural events in communities of older adults poses several practical implications for care home managers and developers, healthcare professionals, policymakers, experience designers and technology developers, and cultural organisations to consider when developing future products and services for the silver economy [2]. Despite the limits of the qualitative study reported in this paper, the research provides meaningful theoretical and practical insights.

Implications

In line with the literature, this study does not limit itself to the design of the streaming moment of the performance, building instead a multi-layered [16] and multidimensional [74] experience. In this study, the experience of going to the opera has been expanded to include key moments of social interaction that precede and follow the actual event, thus broadening the range of actors involved. The participants themselves report having experienced well-defined emotions during the pre, during, and post-experience phases, ranging from the agitation and impatience of the days and moments before to the excitement and curiosity during the event to the melancholy once the event is over.

Crafting cultural activity with a co-design approach reinforces the findings of previous studies [79,80]. Specifically, the cultural experience proposed in this study aims to be attentive not to impose top-down solutions based on a stereotypical view of older adults. Instead, it proposes a model for tailored solutions based on the needs and interests of a specific community [51,52], born from the community itself. The participation of a restricted group (nine volunteers) of older adults in the design phase and during the event has revealed direct benefits, especially for the subjects actively involved. They have stated to feel a strong attachment to the project and perceived widespread gratitude from their companions for contributing to realising the activity.

Regarding the evaluation of technology acceptance, a change in opinion and attitude was noted before and after the experience. During the preliminary interviews, the participants mentioned the possible hindering factors highlighted by [56] related to cognitive, perceptual, and psychomotor decline in older adults. Similarly, some older adults were sceptical about the event and, more specifically, the live-streaming technology. However, the feedback collected through the post-event focus group and the guestbook (made available throughout the event) shows how people changed their minds by participating in the event and overcoming concerns and prejudices. Our inference is that sharing a technology-based communal activity may have positively influenced the participants' perceptions. As highlighted by [55], social, physical, or digital situations can strongly influence how individuals construct their experiences and give them meaning. The negative or doubtful feelings expressed by the participants towards technology did not compromise the experience. However, it is also important to consider that, as suggested by [77], the best way to

achieve technology acceptance is to take advantage of existing technology and highlight its usefulness by gathering continuous user feedback on how to modify and adapt the technology to the new use context. In parallel with collecting feedback through interviews and focus groups, recording non-verbal communication, such as applause and standing ovations, can also be interpreted as a positive signal of immersion.

The Involvement of numerous stakeholders in the co-design of the event has also favoured a rich experience, not only based on passive distance listening to the performance transmitted via streaming. The entire ecosystem, made possible by the different actors, enriched the experience, creating a memorable event that made residents feel part of the performance. In line with [17], bodily co-presence, the mutual focus of attention, and shared mood significantly contributed to the success of the experience and to stimulating social interaction among nursing home residents and staff. Among the most favourable results, it is reported that, during the event, cases of overcoming the condition of a familiar stranger [79] were recorded, which involves breaking down social barriers that prevent people from chatting with the strangers they meet daily. The participants report that the event sparked a stronger sense of community and provided opportunities for meaningful social interactions, extending to known and previously unknown individuals.

In terms of design principles stemming from our study, it is suggested that care home professionals and experience designers may capitalise on rituals when designing remote cultural events. As discussed by [17], leveraging rituals as part of social interaction may improve group solidarity and social relationships among older adults. In the context of older adults, the role of memories in creating and maintaining rituals is crucial, whereby paying attention to the care home environment to enhance and recreate familiar sensory experiences is suggested to improve wellbeing. Algase, Specht and Williams [54] highlight the role of the environment in reducing apathy in care home settings. However, leveraging rituals and memory should go beyond the built environment or experiencescape [76] and include situations and structures for reminiscing and finding opportunities for creative expression [13]. Some participants stated that they appreciated wearing clothes or accessories that had not been worn for years or decades or rekindling interest in hobbies that reminded them of pre-care home times.

For cultural organisations, social interaction and purposefully designed rituals in remote cultural events may offer novel ways for rethinking audience outreach programmes, i.e., finding ways to integrate remote social interaction and rituals (e.g., applauding at a widescreen, leaving comments about the show in a physical guest book) with the live in-person cultural event. Technology may act as a bridge in connecting cultural organisations and remote audiences. However, as discussed by [56], the key to designing technologies for older adults is thoroughly understanding their experience and using context to elicit technology adoption [78].

5. Conclusions, Limitations, and Future Research

Spurred by COVID-19, cultural organisations have been exploring new ways of connecting with their audiences remotely. Older adults represent a key consumer segment for classical arts, e.g., opera. Partaking in cultural activities with others has been linked to positive wellbeing outcomes, e.g., increased social connectedness and reduced stress [24,27]. Remote cultural events offer novel opportunities for enabling access to cultural content for communities of older adults otherwise excluded from it, e.g., care homes. To that end, this paper sought to explore how a remote cultural event combining physical and digital elements can promote social connection and wellbeing in communities of older adults. Based on our qualitative study, three key takeaways are drawn.

First, the importance of rituals when designing remote cultural events must be considered. As illustrated here, the experiencescape and the different touch points along the experience journey present opportunities for enhancing rituals, particularly by capitalising on memories. Second, remote cultural events enable the introduction of holistic co-designed experiences that enhance social connectedness in communities of older adults.

The framing of the event and co-design process around a common theme, e.g., opera, facilitates the alignment of multiple stakeholders, e.g., care home residents, management, local entrepreneurs, cultural organisations, and technology providers. Third, the co-design approach that involved many stakeholders in the design process facilitated the inclusion of different stakeholders' values and needs. It resulted in a rich and satisfying experience that further gratified the older adults participating in the co-design activity.

Despite its success, this study has limitations that should be considered. As the event described herein was the pilot study of such co-designed remote cultural events, the generalisability of the results is limited. The narrow format is intentionally aimed at designing cultural experiences in circumscribed and local realities. However, there is a need to repeat the experience in other contexts and with other content. The study presented here only looked at one community of older adults in a particular context and circumstance. In addition, the venue of the event was a private care home as opposed to a public facility, which brings additional consideration for the replicability of the event in a public care home setting. One exciting avenue for future research may therefore be to extend the work presented here to other types of communities of older adults, e.g., public care homes, persons suffering from memory disorders or other types of special requirements, or residents under continuous medical supervision and long-term care. Other critical issues include a possible change in the desirability factor when repeating the same experience. The emotionality and impact of the event may have been heightened by the novelty factor brought by the event both in terms of experience and content, whereby the event organised in this study was a one-off event, first of its kind at the care home. Future investigations should establish a more longitudinal view, analysing a community of older adults where such social interaction interventions are a regular, well-established part of day-to-day activities. The appropriateness of the format concerning different content still needs to be discovered, too. The canvas aims to be an exhaustive theoretical reference for designing a wide range of artistic and cultural activities for older adults, but it has only been effectively tested with opera. Future research could explore the extendibility of a co-designed event to other forms of culture beyond opera, e.g., remote theatre broadcasts, sports, or other events.

The conclusions that can be drawn regarding the validity of the proposed study refer to two main aspects. First, the completeness of the parameters that designers and researchers should consider during each step. The proposed parameters and their respective subgroups have been completed but have yet to be exhaustive, as it is possible to further explore certain topics, e.g., challenges and resources. Second, the ability of the referenced theoretical canvas to support documentation, evaluation, and assessment by providing a clear and organised summary of the design process and outcomes.

In conclusion, this pilot study proved feasible, desirable, reproducible, and improvable results that highlight the usefulness of live-streamed remote cultural events for creating cultural and social engagement in communities of older adults. The last two points should be the critical aspects that will guide all future studies, aiming to design an experience format for older adults that can positively impact the quality of social connections and, more generally, the quality of life.

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Appendix A. Interview and Observation Guides

Pre-Event Interview Guide

- Please describe your relationship with cultural experiences.
- How often do you take part in cultural experiences in general?
- How often do you go see opera performance, if at all?
- Have you watched live-streamed opera performances before? If not, why?
- Please describe your expectations for this evening's remote cultural event.

Observation Guide

- Non-verbal communication.
- Verbal communication.
- Rituals.
- Environment.
- Critical incidents.

Post-Event Interview Guide

- Please describe how the co-design process has impacted your day-to-day life.
- Please describe how your relationship with technology and cultural experiences has changed, if at all, during the co-design process.
- What kinds of changes, if any, to day-to-day social interaction have you noticed, as a result of the remote cultural experience?
- Social interaction with residents who took part in the co-design process.
- Social interaction with other residents.
- Social interaction with care home staff.
- Social interaction with others, e.g., loved ones.
- How would you compare the remote cultural experience with the experience of going to the opera in person?
- How would you compare the remote cultural experience with the experience of watching the same show on your own at home?
- Please describe how, if at all, the co-design process has impacted your wellbeing.

Appendix B. Interviews Extract

Pre-event interviews

"Usually, I go to the opera regularly, but now I have not gone that much. It's been difficult to get tickets [due to restrictions on capacity], and the whole idea of having hundreds of people in one hall has seemed scary" (P2, 65–69, female).

"I would love to go more, but my health doesn't allow as much as before. I have to take it easy more often" (P9, female, 75–79).

"It's too difficult to get around in a wheelchair" (P12, male, 85–89).

"The remote experience is nothing compared to the live experience. The atmosphere is so different" (P15, male, 65–69).

"I'm looking forward to experiencing opera together with everyone, to get to spend a nice time with others. It's starting to feel quite festive, with everyone dressed up. I spent so much time doing my hair, too" (P4, female, 80–84).

"I'm a bit worried about my hearing aid. How will it react with the sound system" (P7, female, 70–74).

"It will be fun to see what everyone is wearing. The venue seems nice, too. Nothing like our usual hall and restaurant area." (P10, male, 70–74).

Preparation for the event

"I asked my friend for an opinion about two dresses the night before. On the day, my daughter came to help with the dog, to dog sit. It felt exactly like I was going out, out to the theatre." (P2, female, 65–69).

"I talked about the show on the phone with my sister, before and after" (P4, female, 80–84).

"I have only one dress, it's 35 years old. Nowadays it's so rare that I get to wear these types of clothes" (P9, female, 75–79).

"For me, my granddaughter came over with a giant bag of makeup. It was exciting to wait for the event to start" (P3, female, 80–84).

"The staff really supported us throughout this project. I feel like I got to know them too, a new side of them" (P2, female, 65–69).

Social interaction during the event

"When entering the room, I looked for a seat in the middle of the hall to have a nice view of the screen. I didn't know the people next to me. Not really know, I mean, I've seen them but never talked to them" (P6, female, 70–74).

"The feeling of community was strong. It was wonderful to greet and get to know people I hadn't previously properly met" (P2, female, 65–69).

"Applauding together at the end of the performance was a fantastic feeling" (P4, female, 80–84).

Characteristics of the event

"I know some [of the residents] were worried about how long the show is and did not come because of that" (P8, male, 85–89).

"When going to the live performance, you can experience more with all of your senses. But this was pretty close, I think. I got the same kinds of goosebumps" (P6, female, 70–74).

"The red carpet and all the other decorations and food and drinks really made the evening" (P4, female, 80–84).

"I used to go to the opera all the time before. I still attend a lot of cultural events. So for me, this event was not that special. But I was surprised by the experience. It felt authentic in an interesting way" (P2, female, 65–69).

Overall impact of the event on the care home community

"This experience made me realise how the technology has developed. It's interesting to me. [...] Some of the other residents even came to thank me after the show for working on the project. It felt nice" (P2, female, 65–69).

"Some of the residents here, I think they had some doubts about this whole thing. Like would it be a success or not? And even prejudice towards the event. They were skeptical, to say the least" (P1, female, 70–74).

"Some said that they don't really like opera, but then after the event said they wished they had come" (P4, female, 80–84).

“I got the feeling that it would be nice to experience this again” (P5, male, 80–84).

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