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Title	Temporary Urbanism as a Catalyst for Social Resilience: Insights from an Urban Living Lab Practice-Based Research
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Il contributo è l'esito della discussione congiunta dei quattro autori che ne hanno condiviso impostazione metodologica e articolazione, ed hanno contribuito ad aspetti diversi del lavoro in base alla loro disciplina; tuttavia, le parti del testo vanno così attribuite: all'autore Robazza la stesura originale dei capitoli 1, 2, 3 e 4; all'autore Priego-Hernandez la revisione dei capitoli 3 e 4; all'autore Caputo la revisione dei capitoli 3 e 4; all'autore Melis la revisione dei capitoli 3 e 4.

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Temporary Urbanism as a Catalyst for Social Resilience: Insights from an Urban Living Lab Practice-Based Research

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Abstract: This research paper investigates the impact of Urban Living Labs (ULLs) on social resilience within urban communities, with a specific focus on the Multicultural City ChatterBox project in Portsmouth, the UK. Drawing on a rich body of literature and empirical data collected through ethnographic research methods, including interviews, focus groups, and participant observations, this study explores how participatory placemaking and co-creation activities foster community resilience. The ChatterBox project, a collaborative effort between the local community and researchers, led to the construction of a temporary timber pavilion in an underutilized urban space, serving as a vibrant hub for social interaction and engagement among diverse community groups. Our findings reveal that ULLs significantly contribute to enhancing social resilience by empowering communities, fostering a sense of belonging, and facilitating the development of social networks. Through the process of co-design and co-creation, participants not only gained a deeper understanding and ownership of their urban environment but also developed valuable skills and knowledge, thus strengthening their capacity to adapt to societal challenges. Furthermore, this study highlights the role of ULLs in bridging gaps between different community groups, thereby promoting inclusivity and social cohesion. The Multicultural City ChatterBox project exemplifies how ULL interventions can serve as catalysts for social innovation, offering flexible and adaptive solutions to urban challenges while simultaneously enriching the social fabric of cities. This paper contributes to the growing discourse on urban resilience, placemaking, and community-led urban development, providing valuable insights for policymakers, urban planners, and community organizers seeking to foster resilient and vibrant urban communities.

Keywords: temporary urbanism; urban living lab; placemaking; social resilience; co-creation; public space

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1. Introduction

In urban environments, disadvantaged residents are increasingly subject to systemic exclusion, poverty, and hardship [1]. Chronic stresses are increasingly common in contemporary societies [2]. These include social isolation, cultural ethnic segregation, political exclusion, economic struggle, uncertainty, and multiple deprivation (e.g., high unemployment, limited safety nets, and tlack of education). In the current context, augmenting resilience in society has become a primary aim for policy makers and urban communities.

The Resilient Cities Network [3] defines urban resilience as 'the capacity of individuals, communities, institutions, businesses, and systems within a city to survive, adapt, and grow no matter what kinds of chronic stresses and acute shocks they experience'.

At the community level, resilience enables local groups to withstand adversities and preserve their social infrastructure [4]. Community resilience is not merely a passive

attribute; it is an active social dynamic emerging from interactions and cohesion within a community. This dynamic requires positive, regular reinforcement of social interactions to effectively prepare for shocks, changes, or chronic inequities [5].

Public spaces can play a pivotal role in facilitating these interactions. Often, however, the use of public spaces is controlled and enforced by restrictive local or city rules or influential private sector entities, leading to a disconnection between citizens and their urban surroundings. Contrary to this, the literature suggests that empowering local communities to take ownership of public spaces can revitalize the public realm [6]. This empowerment can transform citizens into active agents of urban change [7–9], fostering new forms of civic participation, alternative methods of urban regeneration, and social innovation [10]. Moreover, it strengthens social capacity and community cohesion, enabling communities to respond more effectively to the evolving challenges of global crises [11].

This article explores the extent to which Urban Living Labs (ULLs) and the engagement of local disadvantaged groups in co-created placemaking public art activities can become a socially innovative process and contribute to building community resilience. The paper investigates the hypothesis that temporary urbanism can contribute to social resilience by empowering communities and amplifying the voices of citizens, encouraging public participation, and building social cohesion and a sense of belonging. Furthermore, the research aims to enhance city governance by elaborating on the discourse of urban resilience and exploring the potential incorporation of Urban Living Labs (ULLs) within the planning and development framework for sustainable and resilient urban futures.

A substantial body of literature, as highlighted by Lara Hernandez and Melis [12], demonstrates that temporary appropriation activities in public spaces are effective in fostering resilience, defined here as the community's ability to adapt to changes during global crises. While the fields of temporary urbanism and social resilience are often studied separately, there is limited research exploring their intersection. Venable-Thomas [13] establishes a direct causal link between placemaking and resilience but also notes the limitations of using placemaking as a resilience strategy. These limitations include the influential role of intermediaries, the necessity to incorporate cultural placemaking, and the need for interdisciplinarity, participation, and disruptive approaches for more significant outcomes. Baibarac et al. [7] implemented and examined various case studies to understand how agency and empowerment in the governance of urban commons can act as a mechanism for urban resilience. Recent studies by scholars like Afacan [14] and Naumann et al. [15] have established a correlation between Urban Living Labs and urban resilience, demonstrating their broader impact on social innovation. Furthermore, it is posited that Urban Living Labs (ULLs) can be instrumental in developing capabilities that not only enable a community to recover but also energize the social dynamics central to community resilience [16,17]. ULLs are inherently place-based activities, deeply embedded within a specific context and linked to particular groups of people. These practices actively engage individuals in public art activities centred around place, thereby contributing to the transformation and creation of spaces. Consequently, an exploration of ULLs necessitates a thorough examination of placemaking processes.

1.1. Placemaking

'Placemaking is the way all of us as human beings transform the places in which we find ourselves into places in which we live' [18]. Placemaking includes any physical transformations of the built environment. It not only alters the physical environment but also the connections and relationships we build with others in our community [18]. It is the act of transforming a space into a meaningful place, building community, and designing a place for everyone to create meaningful relationships. This process happens through actions that build memories and relationships with others and with place. As it is a community-driven practice it relies on effective community participation [19,20]. Placemaking is transformative only insofar as power is devolved to communities, allowing them to direct all parts of the process [21]. For this reason, co-design and co-creation,

considered the most effective methods to delegate control, are fundamental ways by which meaningful placemaking may co-produce community resilience.

1.2. Co-Creation, Co-Design, and Co-Production

The concepts of co-creation and co-design emerged from the concept of participatory design, a concept used in various disciplines since the 1970s. Although originating in northern Europe to improve industrial production [22–24], participatory practices were suddenly diffused around the world, became an important part of design practices worldwide and, by 1980, also had become part of the process of designing places. Co-creation protocols put users at the centre of the design process, making them the designers. Non-experts co-design with expert designers using design innovation tools to convert the design and shift responsibilities [25]. Co-design is a specific instance of co-creation; the latter includes any act of creativity that is shared by two or more people [26], while the former entails collective creativity across the whole design process. In co-design, users play a central role in informing, ideating, and conceptualizing the design product up-front in the early design phases. Although Arnstein [21] does not mention co-creation in the ladder of citizens' participation, other scholars include it at the top of the scale [27]. Following this claim, the strongest approach to co-creation is attained when practitioners are facilitators and participants become designers and own the ideas generated within a design process.

It is relevant to mention that the value of placemaking lies not only in the final outputs of the process but in the process of collective production itself. Placemaking transforms the community in more ways than by granting immediate liveability benefits [28]; it produces social capital throughout the engagement of those directly involved [29]. Placemaking can be recognized not so much by the art produced but more significantly by the skills acquired and connections made throughout the process [30]. As Guinard [31] remarks, public art is not just an aesthetic tool, but a method for generating knowledge based on life in the local community. A recent study that connects placemaking, community, and art practices suggests that 'collaboration, connectivity, creating space and altruism can be potential mechanisms leading to a stronger sense of belonging, social cohesion and inclusion' [32]. If artistic activities are conducted in a group environment, they can facilitate new social interactions [33], especially in groups that are diverse, as artistic activities often involve non-verbal communication [34]. Co-production involves a range of issues regarding belonging, citizenship, and ownership [35], and the 'citizen is the co-implementer' of change [36]. Some scholars and practitioners in the field of urban innovation directly relate co-production to this production of social values, where resilience is the main outcome, rather than to the physical artefact or practices that result [37]. In line with this view, we interpret community-engaged temporary urbanism ultimately as a practice that aims at creating social value as the most important outcome. To effectively investigate the relationship between Urban Living Labs (ULLs) and resilience, it is crucial to delve deeper into the conceptual framing and understanding of resilience itself.

1.3. Community Resilience

In recent decades, scholars have focused on the concepts of resilience in fields such as social-ecological systems, developmental psychology and mental health [38], disaster risk reduction, climate change adaptation, and community development [39], as well as in architecture and urban studies. A resilient city is one that is able to assess, prepare for, and respond to hazards [40] and organize following 'inclusive decision-making processes in the realm of planning, open dialogue, accountability, and collaboration' [41]. Social learning, participatory decision-making, and processes of collective transformation are central aspects of social resilience. The key component of community resilience is reinforced when individuals are well connected to each other and are part of supportive social networks [42]. Community resilience is not a static property but is constituted by the interlinking synergies of different resilience-promoting capacities operating simultaneously [43]. Although it is

relatively easy to define social resilience, understanding the intricate complexities of how it works and how it can be fostered is both complex and demanding.

Our starting point is the understanding that urban resilience is a complex phenomenon that has many causes and is dynamic in structure and uncertain in nature [41]. From the literature, it is clear how social resilience is closely related to the idea of social capacities [44]. These capacities are identified by different scholars as interdependent factors. Berkes and Ross [45] integrate the social–ecological and psychology and mental health bodies of literature in the diagram below (Figure 1) and identify how community resilience is dependent on a range of characteristics that lead to agency and self-organization. These are 'people–place connections; values and beliefs; knowledge, skills and learning; social networks; engaged governance (involving collaborative institutions); a diverse and innovative economy; community infrastructure; leadership; and a positive outlook'.



Figure 1. Community resilience as a function of the strengths or characteristics that have been identified as important, leading to agency and self-organization. Source: Berkes and Ross, 2018 [45].

Similarly, Faulkner et al. [43] characterize the capacity for social resilience as dependent on attachment to place, leadership, community networks, community cohesion and efficacy, knowledge, and learning. They argue that attachment to place is 'instrumental in mobilizing community resilience by providing [the] foundation upon which other capacities for [it] depend' [43]. If local people care about the place where they live and each other, community strength emerges as the capacity for them to unite and act together [46].

There is a shared understanding that 'resilience building can be accomplished by actively developing and engaging the capacity to thrive in an environment characterized by change' [4,47]. It is interesting to observe also that community resilience can be reinforced by the presence of disruption more than by its absence. Khanlou and Wray [48] suggest that adversity itself may have a positive outcome in strengthening and building resilience, triggering purposefulness, connectedness, or even joy. Some aspects of well-being, such as a stronger sense of community, could be positively affected by the collective experience of hardship [43]. Pelling [49] holds that social resilience is 'a product of the degree of planned preparation undertaken in the light of a potential hazard'. Social actors need to develop their anticipatory capacities and pre-hazard preparedness to learn from adverse events. Glavovic et al. [50] push preparedness further, writing that social resilience is 'influenced by [. . .] institutions [. . .] and networks that enable people to access resources, learn from experiences and develop constructive ways of dealing with common problems'.

Placemaking and ULLs may be tools that equip community groups to become resilient by placing them in challenging situations, where they must make decisions that impact others, solve problems, confront unfamiliar issues, and meet unknown people and collabo-

rate closely with them. While not entirely adverse, these conditions can present significant challenges to community members unaccustomed to such scenarios, effectively creating a simulated stress experience. Consequently, capacities such as the ability to network, foster connections between place and people, and build new knowledge can be stimulated and enhanced by placemaking activities and collective creative endeavours in public spaces.

The aim of this research is to implement a ULL practice in the city and study its efficacy in fostering a range of capacities related to social resilience. It further aims to explore the extent to which social resilience can be considered a direct outcome of these practices.

2. Materials and Methods

2.1. Research Context

To evaluate the effectiveness of ULLs in enhancing community resilience, a study was conducted in collaboration with Chat over Chai (CoC), a local Black, Asian, and Minority Ethnic (BAME) community group. This effort led to the construction of a temporary timber pavilion named ChatterBox, located in an underutilized space in the heart of Somerstown, Portsmouth.

In the UK, and particularly in cities like Portsmouth, migrants, refugees, and asylum seekers encounter a range of socio-cultural and political challenges. These challenges are multifaceted, often rooted in socio-economic deprivation, social invisibility, cultural barriers, and stereotyping. Many migrants in the UK are found in low-wage, low-skill sectors, facing employment discrimination and exploitation. In 2014, approximately 16% of all those in low-skilled work were migrants, a figure which underscores their vulnerability in the job market [51]. Politically, the national discourse on immigration and integration policies has often been divisive, affecting public perception and the social integration of these communities. In Portsmouth, a city with a growing diversity owing to its status as a hub for international trade and education, these challenges are amplified. In the city, 'the percentage of people who did not identify with at least one UK national identity increased from 7.45% in 2011 to 10.43% in 2021' [52].

Furthermore, according to a report from the Equality and Human Rights Commission [51], the broader societal perception of migrants in the UK has been tainted by stigma and misconceptions. For instance, widespread beliefs about immigrants 'stealing jobs' or negatively impacting the country have been reported, even among children. Such stigmatization is compounded by sensational and often unbalanced media coverage, which frequently depicts immigrants and ethnic minorities in a prejudicial manner.

CoC consists of approximately 25 people in their fifties, with diverse religious backgrounds and nationalities, including Bangladeshi, Pakistani, and first-generation British, and a majority of women (80%). CoC members' life catalyse around a specific neighbourhood in Portsmouth: Somerstown. Despite several past regeneration initiatives, Somerstown remains within the 10% top deprived areas in England [53], with a high unemployment rate and a large share of residents with low skills and low income. It is a high-density neighbourhood with a general lack of open spaces, which, in the opinion of residents, is detrimental to liveability [54].

The selection of participants was influenced by the existence of a naturally occurring group within the community, which has been supported by the Portsmouth City Council. This group, emerging at the community level, has a history and initial demographic targets—adults over 50 and BAME communities—aiming to be inclusive of 'everyone' who wishes to join. Rather than concentrating on the individual characteristics of the participants, we focused on engaging a group characterized by high 'information power' [55] through convenience sampling. This approach was chosen to capitalize on their experiences as socially active citizens of Portsmouth, facilitating their participation in this project. Participation in the project largely depended on self-selection and consistent attendance at the naturally occurring group and the sessions held specifically for this project. Inclusion was based on convenience, sampling from a naturally occurring group according to availability. The relatively high percentage of women in the group likely reflects ongoing challenges to

gender mainstreaming in policy and implementation at the community level. Despite these efforts, there is still significant work required to incorporate a diversity of voices, especially those of the most oppressed (e.g., socially excluded groups identifying within the same gender), as highlighted by the literature on participation and global development.

The CoC group aims to address loneliness and social isolation and improve access to support services for BAME residents. It organizes events to raise awareness about adult social care services and support individuals actively seeking employment and those who have experienced abuse, have mental health problems, or who are carers. From initial conversations with the group, it was immediately clear that CoC has frequently had a positive impact on group members, giving them access to information about the city, fostering new relationships, and reducing isolation.

2.2. The Methodology

To test the capability of ULLs to strengthen community resilience, the pilot study collected qualitative observational data and subsequently analysed and interpreted it using social science tools. The temporary timber pavilion (ChatterBox) was collaboratively designed and built by Chat over Chai (CoC), a BAME community group, and a team of architectural, social science, and performative arts researchers. The participatory design approach aimed to foster key social capacities that could develop from the integration of CoC members in the city through their involvement in a complex production activity.

The intervention was designed around the consolidated methodology of Urban Living Labs, defined as 'user-centred, open innovation ecosystems based on a systematic user co-creation approach in public–private–people partnerships, integrating research and innovation processes in real life communities and settings' [56–59]. The development of the co-creational pilot follows the Double Diamond innovation framework [60–62], which is structured around four key non-linear phases, discover, define, develop, and deliver, encouraging people to understand the problems and define the challenges (first diamond) and develop answers and test solutions (second diamond). This framework was followed in our pilot, which was highly participatory and iterative and used design tools to visualize ideas. This design framework also suggests a set of design methods, or tools, that are partially derived from the service design processes. As Manzini [25] notes, design tools are fundamental in coordinating the relationship between expert designers and non-expert designers. The social innovation process should establish a conversation between the interested expert and non-expert actors, which has to be supported by various design tools at different stages and with different aims. This approach is grounded in theories of design [63–65] and design-enabled innovation [66] and how these practices are transferred to the urban realm. To explore community urban practice, we used three main design toolkits, a human-centred design by IDEO.org [67], the DIY (development, impact, and you) kit by NESTA [68], and Recipes for Systemic Change by the Helsinki Design Lab [69], which provided frameworks to help people think differently such as the 'Fast Idea Generator' that facilitated the conversation, disrupting existing conventional rules and generating new possibilities in an inclusive manner.

The process brought together many different agents in the city, encouraging the emergence of a dynamic system of relationships based on the common interests between key public organizations, such as academic institutions, city authorities, and the third sector. It is worth noting that the ChatterBox project is the sixth in a series of interventions part of the Co-Creation of Temporary Interventions in Public Space as a Tactic to Build Community Resilience project, aimed at developing a long-term strategy on several sites across the city [70].

2.3. Project Data Generation and Analysis Methods

The objective of the data collection was to assess the project's success in relation to its stated goals and to gauge the significance and perception of the experience within the community. The research strategy encompassed continuous field observation. Data

were collated through field notes, focus groups, structured interviews (filmed), and casual conversations, as detailed in Table 1.

Table 1. Types of research tools used for ethnographic research.

Date	Type	Name	Participants
2 August 2018	Field Notes	Approaching meeting and brief definition	18
11 September 2018	Field Notes	Concept idea development	18
24 January 2019	Field Notes, Focus Group	Jury meeting and design feedback session	18
March 2019	Field Notes, Focus Group	Co-design meetings (3×)	18
16 May 2019	Field Notes, Casual Conversations	Co-creation workshop—making tiles	10
20 September 2019	Field Notes, Casual Conversations	Construction residency week	10
30 September 2019	Focus Group	Debriefing meeting	10
17 October 2019	Structured Interview	Interviews with participants	4

The research was underpinned by a trans-disciplinary collaboration involving academics from social sciences, arts and performance, architecture, and engineering and a team of research assistants.

Approaching conversations explored group engagement and willingness to participate. The co-design meetings were planned as focus groups with around 18 participants as they were a natural environment for creative discussion [71,72]. Field notes and casual conversations aided the data gathering during the co-design meetings and the practical activities. We placed special importance on casual conversations [73] because we realized during the research that the simple but meaningful things said during the time spent together reflected what people felt and thought of the process. Towards the end of the project, focus groups and structured interviews represented opportunities for the researchers to investigate the achievements of the project aims and the impact on the community, exploring the level of community engagement and enjoyment of the process.

All the data were recorded and transcribed. A thematic analysis was conducted for a detailed examination of the materials, following the key procedures suggested by Braun and Clarke [74] and identifying various key codes. The researchers followed a deductive analysis process, which involved a methodical approach establishing categories prior to the analysis. Following this, the analysis focused on determining how the data connected to these specific categories. The researchers analysed together their notes, the transcripts of the focus groups, and casual conversations, identifying the recurring codes that were related to the key research questions. The authors then discussed the coding with collaborators and the codes were re-adjusted and agreed. Ambiguous and difficult codes were examined and thoroughly analysed to avoid confirmation bias [75]. The approach followed a critical realist perspective [76] and aimed to identify, through the language used by participants, the fundamental concepts and perspectives that emerged from the conversations.

In the results and discussion, the method involved synthesizing key codes derived from the interviews, focus groups, and casual conversations transcripts—meticulously processed using NVivo 20 software—by strategically aligning them with the resilience capacities identified in the existing literature and then critically reflecting on these alignments through a combination of field observations and the researchers' subjective interpretations, which attempted to remain unbiased, ensuring a comprehensive and methodologically sound analysis.

2.4. The Process

The co-production project, spanning a year, exemplified a collaborative effort integrating community members, researchers, and architecture students (as researchers). It was structured into four distinct phases, strategic definition, design development, fabrication, and wrap-up, adhering to more conventional architectural design processes. The project's meetings took place at community gatherings, and construction utilized university and out-

door spaces, with around 18 participants consistently involved, though numbers dropped during the construction phase.

In the initial phase, the project was introduced to the community, laying out the aims, roles, and timeline, with a strong emphasis on transparency. The community's input on public space and urban perceptions was gathered, encouraging them to frame the design challenge and envision themselves as decision makers. Inspired by Dorothy Heathcote's [77] concept of role playing, participants were invited to assume the role of the expert so they gained confidence in design and problem solving [78]. Architecture students provided technical guidance, transforming community ideas into practical design proposals. Several brainstorming conversations took place to define a collective brief.

With a full brief from the community, architecture students were invited to prepare a set of design concepts. The community participants, in a jury decision meeting, decided which one would be taken forward to the design development stage to be built. This was a key moment that transferred the decision-making power to the group. The prospect of a range of concept designs prepared by the students and presented visually steered the participants' initial ideas into feasible design outputs. This constituted the basis for a more in-depth and creative co-design conversation.

During the design development phase, several co-design and hands-on co-creation workshops [79] were conducted to refine the pavilion's detailed design, incorporating feedback through an iterative process.

A 1:10 scale model was used to visualize the structure, enhancing the participatory design process. The model was essential to deepen the participants' understanding and make their contribution to the design more meaningful. Manzini [25] defines these tools as 'experience enablers' because they describe 'what the world could be like if. . .' and are tools that enable a more fluid conversation between expert and non-expert designers. This phase focused on the pavilion's spatial layout and the integration of visual elements, facilitating a deeper engagement with the project's aesthetic and functional aspects.

A workshop introduced community members to the fabrication phase of the project, involving them in the creation of graphic artwork for the pavilion. This session, held at the Eldon Production Centre, allowed participants to contribute personally and collectively to the pavilion's visual identity, symbolized by a teapot motif representative of the group's identity. The artwork, including images of local landmarks and teapots, was destined for inclusion in the final structure.

A 5-day construction residency workshop engaged the students and CoC members in a week of intense co-construction. This phase was meticulously planned to accommodate diverse activities and mixed teams, fostering a collaborative atmosphere among the participants. The construction process was designed to be inclusive, with multiple types of activities, ensuring that each participant could contribute meaningfully.

The culmination of the project was marked by an unveiling event, celebrated with refreshments, musical performances, and speeches. This event, attended by approximately 120 people, including community members, university representatives, and local officials, celebrated the collective achievement and the pavilion's contribution to the community's public space.

Throughout the project, the emphasis was on co-creation, participatory design, and community empowerment. From the initial concept discussions to the final unveiling, the process exemplified a model of collaborative urban development, with the pavilion serving as a tangible outcome of the community's active engagement and creativity (Figure 2). This approach not only resulted in a physical structure but also fostered a sense of ownership and pride among the participants, highlighting the potential of collaborative design to enhance community resilience and cohesion.



Figure 2. Co-design meetings, co-creation workshops, residency week, and unveiling event that show participants preparing their artwork, engaging with tools at the university workshop spaces, getting on site to assemble the pavilion, and celebrating their achievements.

3. Results and Discussion

We identified two major significant findings of our research. These findings can be summarized as follows:

The ChatterBox Pavilion has proven to be effective in enhancing community resilience capacities, which was the primary objective of our research. We have substantiated this claim with qualitative responses, gathered through focus groups, interviews, and field observations. These findings align with indicators of community resilience that have been previously identified in the existing literature.

It is important to note that there is a lack of prior research on the use of qualitative research methods in public spaces, particularly in the context of practice-based research and Urban Living Labs, especially in a setting similar to Portsmouth and involving participatory approaches with disadvantaged communities. One of the significant outcomes of our research, as discussed in 'Architectural Research Methods' by Linda Groat and David Wang [80], is that the ChatterBox Pavilion emerges as an exemplary case study suitable for further investigation. By comparing multiple case studies and examining emblematic instances, scholars can identify common patterns, shared characteristics, and unique aspects within the field of architectural adaptation. This involves selecting works that share common features like collaborative and multi-dimensional design approaches, co-creation, the consideration of ecological factors, and fabrication processes.

This section discusses in detail the finding related to social resilience and to what degree any of the resilience-promoting capacities identified in our literature review have emerged in conversations with the participants and as a result of the ULL undertaken. The conversations from the focus groups and interviews have been transcribed and coded. These codes were also compared to the key considerations from field observations and ultimately associated with key social resilience capacities in discussions with the team of researchers. The most significant quotes have been extracted and used to support the reflections discussed below. The key codes that emerged through the thematic analysis are shown in Figure 3.

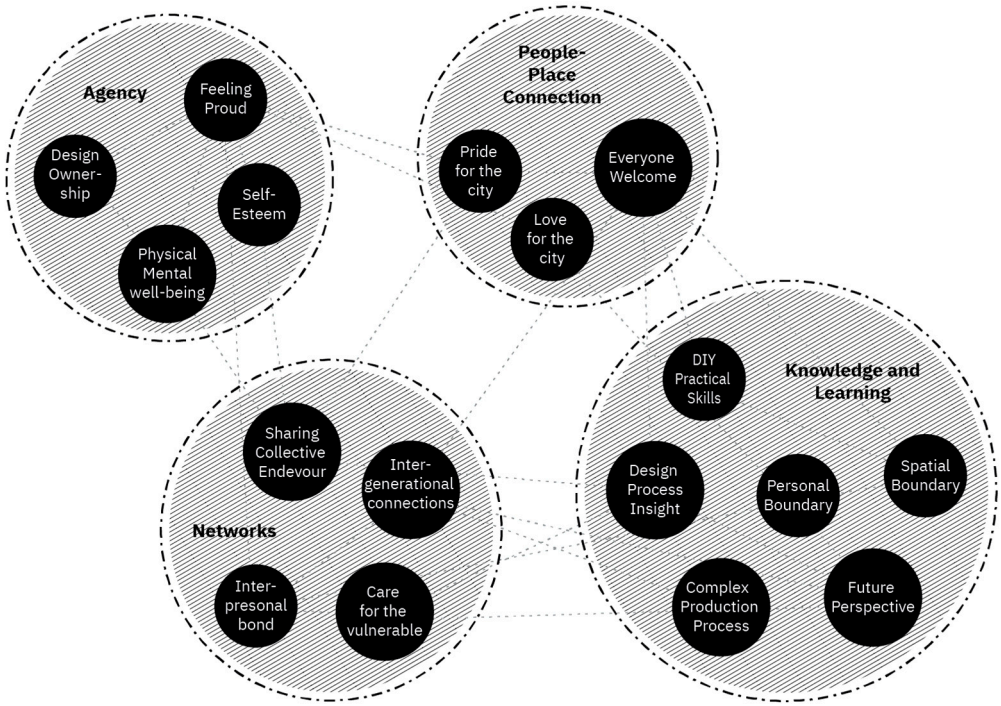


Figure 3. Diagrammatic representation of the codes (black circles) emerged as part of the analysis of the focus groups, casual conversations, and structured interviews, grouped by resilience related capacities (grey circles).

3.1. Agency

According to an extensive and robust body of literature, which is foundational for the present article, community resilience can be assessed through agency indicators associated with the utilization of public spaces across various categories such as leisure, sports, rituals, religious practices, commerce, and social interactions [12,81,82]. In the following section, we elucidate the methodology we devised to facilitate the emergence of these forms of agency. Moreover, we substantiate how these agency indicators have contributed to the sense of ownership over both public spaces and creative endeavours. Our argument is supported by excerpts from focus groups, interviews, and field observations, providing empirical evidence for the development of indicators indicative of community resilience, as expounded upon earlier in the methodology section. This analysis underscores the significance of community resilience through insights gleaned from interview extracts.

The endeavour in question sought to endow the Chat over Chai (CoC) with agency, as defined by its ability to pursue whatever goals one wishes to [83] or the capacity of individuals to act independently [84]. Its overarching objective lay in conferring upon a specific group the authority to make determinations concerning the public domain. As previously expounded upon, the attainment of this objective, if realized, would serve as compelling evidence and a demonstrative parameter of community resilience. To achieve this aim, an equilibrium had to be found during the design process among the various groups of actors involved. The researchers embraced the role of initiators and supervisors, and the students engaged in design support and were technical advisors, helping the community participants to express their ideas through the novel medium of design. The participants were the designers, and it was they who held the power to decide what would be created.

This entire design process was a collective one. The participants appreciated the ability of the researchers to listen and act on their views. This helped to establish the direction of the project and participants to feel that their voice was heard. One participant said:

You have taken into account the things that we said. One of the reasons we chose you [a students' team] in the first place was because you adapted your original design.

The participants saw their idea fully materialized in the finished pavilion, including the idea that it must be open and represent the city and that they had made something for the city. They believed that the final output was the result of their input, their ideas, their reflections, and their constructions and craftwork. This was very significant for the co-creation process and for improving their degree of empowerment, agency, and ownership of the design.

The co-creation methodologies employed played an important role in empowering the CoC members and deepening their appropriation and ownership of the final product, which several referred to as 'their own design'. The participants fully engaged in the role of being designers, aiming for a design that was open, low maintenance, interactive, informative, and useful for chatting, and they found all these features in the final output. Negotiation over some of the ideas was unavoidable but this was conducted and moderated transparently. Overall, in a focus group, the participants explicitly praised the researchers for listening to their brief and translating into physical designs their ideas:

You listened. You listened to what we were wanting, and you came back and forwards till you got a bit more from us and a bit more. I think that was really positive [. . .]. You didn't just go 'Oh we've decided now, we're doing it'. You came back to us to make sure we were happy.

Successful listening determines the quality of the participation and its meaningfulness. Effective civic participation can happen only when participants' voices are truly heard [18]. The feeling of ownership was mainly connected to the degree to which participants contributed. The workshops and the residency activities contributed to building this sense of ownership of the process and its outcomes through involvement in the constructing and craft activities, allowing participants to make an artistic contribution to the process and to build a meaningful personal connection with the outcome. Participants expressed clear ownership regarding the artwork, specifically regarding the tiles, the benches, and the final overall installation produced. Some of them said

This belong to us, literally, this is mine. Not that is just for me, but this is the best project we made.

This bench is mine. I will come back tomorrow to sand it. No one should ruin it.

Although the construction part of it was daunting and worrying because it required time, engagement, and the use of unfamiliar skills, ultimately, participants were proud of the result. Although some people were not interested in the hand-on creative activities, others thoroughly embraced them and enjoyed their 'therapeutic' effect:

It helps your well-being also, you know. You focus on the picture and you forget about your worries and whatever you're going through. And it helps mental health. I think that's important.

Everyone finds working with your hands very therapeutic.

From the analysis, a distinct sense of ownership among participants emerged, primarily fostered by (a) their structural inclusion in the decision-making process and (b) the creative efforts undertaken during the workshops. Nevertheless, it remains uncertain whether this has led to any long-term impact on community agency beyond the scope of the process itself.

In conclusion, the study of agency has effectively demonstrated that the employed methodology successfully facilitated the development of a sense of ownership over co-creation processes and engendered participatory authorship, both of which serve as self-evident indicators of community resilience. According to insights gleaned from interviews, participants not only expressed a profound sense of involvement but also articulated a heightened sense of self-actualization. While the latter aspect falls beyond the immediate

scope of this research, it suggests the potential for expanding our investigation beyond the domains of urban design and social sciences into the realm of urban psychology. This extension opens avenues for future research strands.

Regarding the alignment with the community resilience categories initially outlined, it is essential to acknowledge a certain level of uncertainty. Specifically, the manifestation of agency as a form of community resilience in this context primarily pertains to collective acts of creativity as a means of appropriating public spaces. However, it remains a limitation of our study that a comprehensive literature review does not definitively establish whether the domain of arts, particularly performative arts, can be neatly categorized within the realms of leisure or sports. Alternatively, it raises the possibility that our discourse on the ChatterBox Pavilion may serve as an opportunity to expand the taxonomies of community resilience, introducing a more nuanced understanding of agency that extends beyond the simplified categories of sport, leisure, and commerce.

3.2. Knowledge and Learning

In the realm of the social sciences, it is a well-established practice to acknowledge the potent influence of serendipity alongside deterministic methodologies in research endeavours [85]. Our current investigation is no exception to this tradition. While our primary inquiry revolves around the concept of community resilience, it is noteworthy that the outcomes of this study may yield supplementary revelations concerning the efficacy of the methodologies employed. These serendipitous discoveries have the potential to enhance the utility and encourage further exploration of these methodologies within the domain of practice-based research, particularly within the dynamic context of the Urban Living Lab.

This pertains notably to the learning process, which was initially conceived as a means to cultivate a heightened sense of belonging and community involvement and subsequently evolved into an opportunity for leveraging creative work as an educational instrument. Esteemed works such as 'Research by design: A research strategy' by Hauberg [86], along with *Practice-Based Design Research* authored by Vaughan [87], corroborate that instances akin to ChatterBox proffer valuable insights encompassing diverse approaches, methodologies, and case studies. These contributions occur within the overarching framework regarding the built environment as a crucible for both experimentation and pedagogical enrichment.

The participants were exposed to the process of designing an architectural installation, learning about the design process, and reflecting on the political and sociological implications of the role of public realms in the city. By reflecting on these issues, they learned new facts about the place they live in and how to navigate complex management processes. This knowledge may be useful in future situations in which they will have to balance different options and their feasibility, and take executive decisions.

For example, it was very interesting to note how some conversations during the co-design phase centred on what kind of sociability the new public space should accommodate. It was discussed how the structure had to be interactive and inspiring and generate useful interactions, such as when charging a phone, and also that it should have a 'no-Wi-Fi zone' to encourage users to 'sit and communicate with each other' and possibly learn something new about the city. The information displayed was intended to serve as a conversation starter, coupled with considerable reflection on the idea that the more interactive the structure was, the more engagement it would generate from the public. It was also hoped that this would make the structure more accepted by the wider community, which could deter possible acts of vandalism. The group playing with the model engaged in deep thought about the openness and porosity of the space as they wanted to balance privacy with providing space to gather people together, without making it too enclosed. The 1:10 scale model was very useful for the participants to understand and visualize the space and to discuss its qualities for gathering people together. Using the model, the participants suggested increasing the space in the centre. They discussed the entrance and the way the space could be used and went on to discuss its accessibility and child-friendliness.

The issue of disability and the need to be mindful of people who lack mobility or have a disability emerged frequently in these conversations. All these reflections around the design enhanced participant knowledge on the design process and the skills involved.

In this learning process, two polar attitudes were expressed: a strongly idealistic projection towards the future versus a pragmatic and practical attitude. Some participants started dreaming about possibilities, how they could be helping others and how they could represent the city of Portsmouth. There was a general level of enjoyment and excitement when discussing design options, particularly the design of the tiles, and brainstorming ideas. At other times, participants remained very pragmatic, carefully analysing the practicalities of the design and their ideas. When the conversation moved to making a specific piece of art, members started considering how to realize the artwork, what materials to use, whether it could be waterproof, what colours to use, and how to produce it. Furthermore, concerns about health and safety, security, vandalism, accessibility, cost, and maintenance were all part of the decisions. One area where the weaknesses in their original thinking was exposed was when they considered looking after and maintaining the structure. Although, for example, they wanted to have green elements like plants, this idea was discarded because the group did not feel committed to watering them. In some cases, the researchers had to moderate the participants' ideas because they were either unpractical or technically unfeasible.

CoC participants valued learning the 'how it is done' and said that observing how the design process worked had alerted them to new perspectives. In the same way, understanding the process of collaboration in a design process helped to enlarge their knowledge of collaboration, management, and production. Two participants during the interviews observed the following:

> *The positive thing was the start and the finish, so we saw the project right through and you [do] not always have the opportunity to see something from the beginning, you know, and the end result [. . .] was really exciting.*

> *And all of it, I think, from the beginning, from the planning, from using the ideas and scrapping the ideas and changing the ideas. I love changing. Lovely to be creative. The story, I think, is fascinating. How it's changed.*

This process may have stimulated in participants various ideas, intentions, desires, and aspirations for the future. Two people expressed the aspiration to promote further urban actions in the surrounding areas, such as painting a big mural in a massive adjacent wall or promoting a similar placemaking activity in another derelict urban area. Another had a more personal potential response. Perhaps a simple sentence like '*I want to be a student! Can I just come in a lecture next week?*' could be interpreted as an emerging desire, a push to the horizons that the process had opened up to individuals.

Learning DIY skills was also valued. Debriefing on the construction process and the 'making' aspect generated euphoric reactions. The members of the group were excited about learning new hands-on craftsmanship skills. Actively using large machinery and drills and the advanced equipment available in the Architecture School workshop made them feel more confident about their manual skills. They considered the activity of drilling, sawing, and assembling timber elements in the university workshop particularly useful and important. One of them said the following:

> *I love to see a lot of the other women using them [who] had never used drills before. I did actually [get] on with some drilling and I got [on] with some of the assembly . . . but it was great to see women [who] have never drilled before [doing it]. And now they know [about] drilling. . . . I think everybody should know how to drill something.*

It is worthwhile to consider the aspect of learning in this discussion. Learning often involves expanding our own boundaries, whether personal (mental or physical) or relational. A recurring theme in the conversations was that the project initially instilled some anxiety in participants regarding the challenges and situations it presented. However, it was also noted that these anxieties diminished towards the project's conclusion. Participation in

the project, in some manner, contributed to expanding the usual life boundaries of the participants and mitigating their initial fears.

Exploring new territories such as the university spaces and environment and workshops was also valuable. This pushed the CoC participants into visiting new places, gaining a relationship with hitherto unknown experiences, and vaulting some of the socioeconomic boundaries that had existed prior to this experience:

> *I [went] down every single day and I've enjoyed working with the students [and going into] the university [and] the workshop. [I enjoyed] the drills the equipment and I think . . . [that] some people [in our group who went to] the university [had] never set foot into a [university workshop before].*

On one hand, a participant remarked on the visible socio-geographical barrier between the local community and the university in Portsmouth, while on the other hand, another praised the project dynamics because this barrier was fading as a result:

> *So, I think the more you can bring the community into the university, like this project does, [the better].*

Some members of the group also had to deal with personal self-esteem and sociability issues or their anxieties in engaging with the project or being accepted by students. One clearly remarked:

> *I was soo nervous before I met [the students]. 'Oh [how] are they going to react to me?' And all of that—oooh. And then I came in and I was . . . 'Oh yeah, they're fine'. They were really lovely—and I got on really well with a couple of them.*

The participants boundaries were also enlarged by the engagement with various activities outside their comfort zone. The challenge of creating artwork as well as using the drills and technical machineries had a significant impact, clearly evidenced by this statement:

> *I was [. . .] terrified when I saw all [that] big machinery there, but [. . .] I said to myself 'No, I've just got to get on and get into it'. And once I started working with a group of students, I mean, my fears [. . .] went away and I was [. . .] excited to do something.*

Undoubtfully, the production of new knowledge and learning of new skills by the participants has taken place during the process. This concluding statement stands as one of the most serendipitous discoveries arising from our research. The transition from an initial state of preoccupation to a gradual emergence of understanding and appropriation is particularly enlightening within the framework of teaching threshold theories [88]. This transitional space highlights the realization that genuine discoveries can only be achieved through a profound comprehension of the broader implications of teaching and learning, extending beyond the mere transmission of knowledge.

In a broader context, this alignment resonates with the observations made by Cousin [88] regarding the prevalent academic tendency to impart copious amounts of knowledge, often with the expectation that students will passively absorb and reproduce it. However, the notion of expanding teaching thresholds, as exemplified by the ChatterBox project, introduces a transformative and ontological realm where knowledge becomes intrinsic to one's identity. In this light, it envisions a series of dynamic and stimulating workshops reminiscent of the collaborative Renaissance workshops, fostering a teacher–student relationship (where everyone, including stakeholders and participants, becomes both students and teachers) that embraces unconventional educational experiences. This approach draws inspiration from individuals and groups who adopted a personal and less structured approach to the observation of reality.

By creating an immersive and experiential educational environment, the pavilion successfully strikes a harmonious balance between nurturing creativity and imparting knowledge, a fact attested to by the participants. This reaffirms Cousin's assertion that challenging intuitive understandings, while potentially uncomfortable, is essential for the acquisition of knowledge that transcends conventional approaches. Such approaches may

no longer be adequate to meet the evolving needs of future generations, particularly in the context of environmental challenges. Consequently, it becomes increasingly pertinent within the realms of arts and architecture to embrace a more radical and exploratory pedagogical approach that fosters associative thinking and creativity.

In contrast to the puritan and top–down model of public interventions [89], ChatterBox has demonstrated a critical stance toward a prevailing tendency in architectural practice. This tendency prioritizes maintaining established positions over exploring ecologically sustainable architectural forms. Pedagogically, the primary aim of a traditional design workflow is often to transmit knowledge while equating it with upholding the authority and prestige of the designer at any cost. This mindset has been reinforced by outdated practices that fail to provide effective tools to address current global challenges. The ChatterBox Pavilion attempted to explore a more innovative and radical pedagogical model by involving several stakeholders as active members of the design team, unleashing their creative energy in diverse forms.

3.3. People–Place Connection

In the preceding section, we addressed how an installation, exemplified by ChatterBox, aligns with the objectives of practice-based research as an educational tool. Extant literature consistently associates the learning process with a profound sense of belonging, a fact that, as previously discussed in relation to agency, signifies growth in community resilience. Notably, the concept of belonging is inherently intertwined with creative arts within the public domain. For instance, research in the global south [90] has also offered evidence that the intrinsic capability to engender awareness and facilitate valuable learning experiences, as exemplified by the ChatterBox case, concurrently nurtures a profound sense of belonging. However, the thematic analysis of the conversations did not reveal clear evidence of attachment to place. The CoC group was already strongly rooted in the city and attached to it.

Nevertheless, it is important to observe that during the design process, several ideas emerged, such as that the pavilion should send a clear message welcoming others and promoting multicultural integration. The participants decided that the structure should provide information about the city of Portsmouth and celebrate the diversity and the beauty of the city.

Welcoming others, intended as greeting them, is a key concept embodied in the entire design process. CoC participants continually expressed pride in their city and said that welcoming other people in the city and creating something useful towards integration and inclusiveness was their most important goal. They considered this intervention as instrumental in that goal. This sentence by a participant embodies the group's views:

> *Our community hope is for the city in Portsmouth, we want to invite people want to make it a space where people can be happy to come in.*

Although this genuine love of Portsmouth was the starting point, the process of actively creating something for the city has without doubt tightened the bond between the community and the place itself. Their pride and sense of purpose and caring for others emerged from the idea that they had created something for all city residents, projecting the explicit inclusive message that 'everyone is welcome'. Their pride reinforced their sense of place, belonging, and attachment because it was related to the place where they live. It is sensible to argue that the more that people care for their surroundings, the more they become attached to it. The care for the space contributed to reinforce the group's love for the city.

In summary, the notion of belonging manifests within the ChatterBox project as a collective sense, or an extended form of agency, pertaining to the appropriation of public space through creative endeavours. This creative activity mirrors the multifaceted community engagement akin to activities observed in historic centres, thereby affirming the positive impact of a certain level of participant diversity. This finding resonates with contemporary researchers in the field and aligns with seminal works in this area.

3.4. Networks

Resilience-promoting capacities entail building networks, via placemaking activities, as well described by Schneekloth et al.: 'Placemaking is not just about the relationship of people to their places; it also creates relationships among people in places' [18].

Group art practices can provide opportunities for bonding among members of the same community and may also lead to collaborations between different communities and networks. Gilchrist [42] argues that community development's role is to facilitate interaction between different networks, called 'meta-networking' or 'networking the networks'.

The ChatterBox intervention connected CoC members with other communities. Researchers observed genuine altruism and care for others throughout the process. This caring attitude manifested through discussions about more vulnerable residents, such as people with disabilities, those experiencing homelessness and children, and also in deciding on a design aiming to welcome and share knowledge with others. Sharing knowledge was a central feature of this altruism.

During the design process, the participants demonstrated their willingness to collaborate with others and involve other local groups, demonstrating a desire to embed themselves in the socioeconomic context of the city to work out ways to improve their experience and tapping into local resources. They considered approaching local companies to donate materials and engaging other community groups who could have benefited from the project.

Most participants were positively affected by the intergenerational collaboration process. They found working with students to be an enriching experience, developing teamwork and dialogues with some of them. This helped establish a network of personal social connections, bonding, and meaningful exchanges. During the interviews, participants observed the following:

> *I thought that was really good, because I could listen to his [student] perspective and he could listen to mine, you know. I thought that that whole relationship is really, really good.*

> *It's really nice—she's in her twenties and it was just nice to have the different age groups working together.*

The researchers are not aware if any of these relationships actually continued after the intervention ended. Indeed, if they had, this would be a strong basis for arguing that our method of work contributed to building long-term community interactions. Future research should address this key aspect and monitor it in the long term, and its concomitant ethical dimensions.

Certainly, during the project, the sharing of a complex and, at times, difficult task during the construction week was particularly effective in creating intense bonds between students, researchers, and participants, thanks to the collaborative environment and sharing of tasks, goals, and sense of achievement at overcoming the barriers and challenges presented to them. Collaborating with a common goal and sharing a purpose enabled people to get closer faster and more intensively, giving a sense and meaning to their working and being together in a task that could be competed only with collaboration and teamwork. This interview sentence encapsulate this perspective:

> *We've had something in common. I think that's the whole point is having something that you're sharing. You've a shared interest of some sort.*

The project also created a few opportunities to connect with other local action groups and public representatives in the city, such as the Makers' Guild, as well as meeting the local MPs, national politicians, and City Council officers, to whom they could explain their project and personal efforts. The unveiling event provided a great opportunity for the group to be at the centre of the celebration and fostered connections with other people and groups, allowing the group members meet each other, meet other groups, and celebrate with the students.

3.5. Limitation of the Study

As delineated in Section 3, our study has delimited its inquiry to capacities that were more prominently discernible through thematic analysis, encompassing agency, knowledge and learning, people-place connections, and community networks. It is important to acknowledge that certain resilience-promoting capacities beyond this scope did not prominently surface in this project. This can be attributed to the specific design of the co-creation activity, which did not anticipate their emergence during conversations with the participants. Consequently, more systematic research is requisite to comprehensively investigate the impact of temporary urbanism on capacities such as leadership, community infrastructure, and values and beliefs. These elements, in part, eluded examination due to the absence of suitable measurement mechanisms. Additionally, it is pertinent to note that the assessment of a diverse and innovative economy lay entirely beyond the purview of this intervention.

Another notable limitation of this study pertains to the inherent trade-offs in the process of inclusion and exclusion: the inclusion of certain individuals or groups often implies the inadvertent exclusion of others [18]. In the context of Urban Living Labs (ULLs), there exists an inherent constraint wherein only a limited number of local individuals can actively participate. On occasion, these participants may already constitute a cohesive group, thereby inadvertently excluding other local citizens who do not partake in the project.

Furthermore, during the phases of co-design and creative activities, variations in participation levels among individuals became evident. Some individuals naturally assumed more active roles, while others gradually distanced themselves from the process. This divergence may have occurred either because they did not feel adequately included or because they simply chose not to participate actively. In a few instances, participants exhibited a gradual disengagement, eventually ceasing their involvement in the project altogether.

This dynamic also gave rise to a discernible sense of ownership over both the public space and the installation itself. While there was indeed a palpable sense of ownership, primarily attributed to (a) their active participation in decision making and (b) the creative endeavours undertaken during the workshops, the question arises as to whether this newfound sense of ownership has translated into any enduring influence on community agency beyond the immediate scope of the process.

In this regard, it remains challenging to ascertain how this newly acquired knowledge can be subsequently applied in real-world situations. Furthermore, the extent to which this knowledge has effectively contributed to enhancing long-term resilience within the community remains uncertain.

4. Conclusions

The findings have shown that co-creation made a strong contribution to place-making and also that ULL interventions such as Multicultural City ChatterBox offer adaptive and flexible responses to evolving social and environmental conditions. Even when the social conditions change and pose threats to individuals and groups in terms of cultural segregation and economic or social deprivation, ULLs such as the ChatterBox project continue to provide support to the community and help to adapt to these transformations.

Collaborative and creative placemaking stimulates a range of community capacities, including the capacity to build networks, to enlarge and set new boundaries, to learn new skills and knowledge, to foster a sense of belonging, and to generate new aspirations. The CoC community group had the opportunity to discover new places (the university), meet new people in their city (the researchers and students), share a purpose with this new community, and build a bond with its members. Their public outlook was also publicly presented as caring for their city and playing a new social role in the community, bringing them visibility. Throughout the process, the group was exposed to unfamiliar activities and spaces that became familiar, and by fighting and overcoming fears, they pushed some of their personal and psychological boundaries. They learned from witnessing the full process of creating and constructing a pavilion in a public space, ranging from

legal impediments to their gratification upon achieving their goal. They learned from co-designing an architectural installation and how great ideas need to find practical solutions. They were surprised and excited at using drills and big lab machinery. The process of caring for and acting on a public space nurtured their love and knowledge of the city and fostered a connection between people and place, consolidating the socio-geographical territory of this group. Enlarging boundaries by exploring new activities and spaces and meeting younger people seeded new aspirations and opened new and different perspectives to them.

The achievement of these outcomes is highly dependent on the methodology used in the process. The participatory design, via co-creation and co-design, must effectively transfer full decision-making powers and responsibilities to the participants, making the environment safe and playful. The early transfer of power and authorship to the participants, is paramount in creating a sense of ownership of the process. Engaging the participants in making art and crafts is a key dimension for exploring new skills, learning new things, enlarging one's personal boundaries, and building relationships. Potentially, if they are sustained over time, and are not seen as the means to achieving another goal, collective art practices can also have a therapeutic impact on participants' mental and physical well-being. Every participant needs to feel included and offered a range of activities that allow each one to find their own place in the creative activity. Finally, the process should involve other groups, aiming to create a network of networks and help the community to become well connected [42].

There is clear evidence that the temporary activation of public spaces through community-led placemaking possesses transformative potential and can effect positive change within local communities for the duration of these activities. Throughout the intervention, a range of social capacities were stimulated and developed. ULLs help to increase the capacities of the social system, reduce fragilities, and decrease isolation and therefore fosters, nurtures, and supports vulnerable members of a community (and therefore the urban system). This demonstrates the significant value of ULLs in their role within cities as safe, experimental, and transitory training grounds for enhancing social capacities closely linked to resilience. However, further research is necessary to evaluate the production of resilience engendered by ULLs in the long term.

According to the analysis section, an additional aspect that enhances the research's transferability is the distinctive and original value of ChatterBox as a case study that can be originally linked to the extensive body of literature on practice-based research (PBR) and Urban Living Labs (ULL). According to principles describes in 'Urban living laboratories: Conducting the experimental city?' by Bulkeley et al. [56] and 'The role of urban living labs in a smart city' by Baccarne et al. [91], ChatterBox has been described as a ULL paradigm, delineating its principles, methodologies, and applications in the realms of urban research and design.

It underscores, as the intervention design workflow has shown, the active engagement of architects and designers in the generation of novel knowledge and insights through their design practice. This knowledge can subsequently be shared with the broader community. As ChatterBox demonstrated, through their involvement in practice-based research, architects effectively bridge the gap between theoretical concepts and practical implementation, thus facilitating the creation of innovative design solutions.

This approach has been supported within the context of ChatterBox also through the active involvement of stakeholders, encompassing residents, users, and community members. These participants have played a pivotal role in understanding and enhancing the architectural and urban environments. The ULL framework, concurrently, has fostered a culture of collaboration, co-creation, and participatory design methods. These elements have proven invaluable in addressing real-world challenges and cultivating knowledge tailored to the specific context. ChatterBox's methodology offers potential for transferability, as per qualitative research scholarship [92,93].

Furthermore, our examination of the methodological rigour of the best practices and comparative case studies has not only underscored the alignment of ChatterBox's methods

and outcomes with the existing literature but has also accentuated the project's unique multidisciplinary approach. This affirmation further solidifies its status as an exemplary best practice. These findings underscore the vital role of practice-based research and the ground-breaking differentiation between architectural cases and Urban Living Labs (ULLs) within the realm of architectural studies. According to the definition of ULLs, ChatterBox has emerged as a valuable contributor to the field of architectural studies, effectively bridging the divide between theory and practice while promoting innovation and knowledge generation, as attested to by the experiences of its participants.

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