

## **Citizen Art: A Creative Mural Project for Community Building**

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# Citizen Art: A Creative Mural Project for Community Building

## Abstract

*Community building is imperative after the COVID-19 pandemic and political division in the US. To identify a community project's role in community building, we conducted a case study of an innovative mural painting project. Through 19 in-depth interviews with three groups of stakeholders (one artist, local borough officials, and residents), we explored their motivations and experiences of organizing and participating in the mural project. Specifically, we investigated how the mural project promotes community identity building and support networks among citizens. Furthermore, we proposed enhancing the community art project with technology-driven innovations, including making the events accessible to diverse participants, providing autonomy and guidance through a community app, and increasing artwork visibility. Ultimately, this study provides valuable insights that could benefit the technology-backed design of local community projects aimed at community building and formation.*

*Keywords: Community art; Mural project; Collaboration; Inclusiveness; Interview; Community Building; Community Identity; Support Network*

## Introduction

Recent years have witnessed the emergence of increasingly innovative methods to mobilize the public for complex endeavors. One such example is community projects that engage citizens in collaborative work to contribute to local places and communities (Bellotti et al., 2014). Its objective is to promote community engagement, cooperation, and social connections by facilitating the exchange of skills and services within a local community. However, when compared to community projects focused on supporting everyday activities, community art projects involve people in more symbolic and emotional endeavors (Langer, 1966). Through artistic practices, individuals can express themselves in novel ways that surpass traditional linguistic expression and presentation (Clarke et al., 2016).

Moreover, engaging in artistic activities can assist individuals with mental health issues in expanding their social networks, improving their confidence and self-esteem (Matarasso, 1997; White & Angus, 2003), fostering inclusiveness and well-being among marginalized groups (Carnwath & Brown, 2014; Galloway, 1995; Fiske, 1999; Nielsen & Sørensen, 2019; Murray & Crummett, 2010), and enhancing civic participation and the sense of community (Williams, 1995). More recent work has focused on how digital art fosters community engagement, like helping people reflect on the relationship between themselves and the larger collective they are part of (Scolere et al., 2016). These positive impacts are particularly crucial in the current context, as

community disengagement has been prevalent due to the recent COVID-19 pandemic (Pantić et al., 2021). However, community project implementation and effectiveness can face various challenges, such as excessive reliance on top-down organizations and innovations (Gooch et al., 2015). There is a need to encourage citizens' ownership of community projects (Light et al., 2013) and investigate strategies to build trust among participants in collaborative community work (Tellioglu et al., 2019).

Despite these challenges and potential solutions, there is a lack of research exploring people's experiences with organizing and participating in community art projects where the citizens, rather than high-level organizations, have more agency and ownership. This study focused on a community mural painting project in the post-pandemic era. The project was initiated by a mural artist, with support from borough staff members for fundraising and publicizing, and it was open to the planning and participation of all residents in the neighborhood. By examining the collaborative efforts between the government, artists, and residents, we aim to shed light on the mural as an innovative approach to community building, employing the community framework (Carroll, 2014).

In addition, when examining prominent community art projects such as the Seeming project (Madyaningrum & Sonn, 2011) in Melbourne and the Closer project in Liverpool (Carey & Sutton, 2004), we note that they are large-scale and longitudinal, lasting from several months to years and involving more than five hundred to one thousand participants. It is, however, unclear if the execution of these large projects could translate to smaller and local community projects, which are organized post-COVID to rekindle community bonds. This shortcoming, in turn, raises the need for in-depth studies on which factors may contribute to the success of a local community project.

Additionally, we are intrigued by the role of technology in managing and sustaining community engagement projects. The role of technology in community building has existed for a long time. Community network studies tend to emphasize the role of technologies in facilitating community-related goals, such as increasing access to community information, engaging community members in activities, or making a difference in public policy decisions (Merkel et al., 2004). For instance, the Blacksburg Electronic Village (Carroll & Rosson, 1996), serving as an example of a web-based community network, had the potential to foster community building. Other interactive technologies, such as photo sharing to enhance community awareness (Taylor & Cheverst, 2012), interactive community boards allowing comments (Churchill et al., 2006), and public displays to stimulate discourse (Wouters et al., 2014), also contribute to community development. Other studies have demonstrated the potential of technology in enhancing cultural heritage (Balestrini et al., 2014; Ciolfi et al., 2015; Echavarria et al., 2022), service delivery (Voida et al., 2014), and democratic decision-making processes (Hosio et al., 2013; Rainey et al., 2020). Building upon prior research, we aim to explore how commonly used light technologies, such as social media platforms, civic engagement websites, and online polling, can contribute to a community engagement project. Through this investigation, we aim to construct some possible design implications for supporting technologies that can amplify the impact of community projects and engage a broader range of community members in the future.

To achieve this goal, our study investigates the role the mural project plays in building community and how lightweight technologies were used to facilitate community engagement. We analyze the project's dynamics and outcomes by drawing on Carroll's conceptual framework of community (Carroll & Rosson, 2013). The following research questions guide our study:

RQ1. How can key community constituencies work together on a local mural project to strengthen and publicly affirm the community?

RQ2. How does the mural project promote community identity and build a support network among participants?

## **Literature Review**

### **A Conceptual Framework of Community and the Decline in Community Engagement**

The definition of "community" has been developed extensively in previous years, with over a hundred different meanings (Lyon & Driskell, 2011). For example, "community" may refer to a group of people drawn together by either geography, interaction, or identity (Lee & Newby, 2012). Synthesizing the different strands of community research in sociology, Carroll and Rosson (2013) proposed a conceptual framework of community with three components: (1) community identity, (2) local participation and awareness, and (3) multiplexed support network. Altogether, they provide a lens through which community-based practices and innovations can be examined and evaluated. Community identity develops from "sharing values, episodes, traditions, and experiences of local and world events" (Carroll & Rosson, 2013); within a community, citizens should be able to develop shared emotional connections and a sense of belonging to the place they live in. Local participation emphasizes how local citizens enact a shared identity through participating in community practices or events that are visible to other community members. Multiplexed support networks refer to how the diversity of community members comprises several societal networks and sub-networks, such that each member may play a different role in different networks. For example, a mother might also be an accountant, a service group member, or a resident. Modern communities are rooted in the dense clusters of social ties in social networks (Warren, 1978; Carroll & Rosson, 2013). Community art projects can manifest two types of social capital (bonding and bridging) (Daykin et al., 2021). Social capital is described as the "glue and lubricant of community" (Torrejón & Martin-Matthews, 2022), and it refers to the shared norms, information, belief, or trust that are developed from the networked relationships in our society (Bhandari & Yasunobu, 2009). It has been used to understand the relationships between people in a community (Tahlyan, Stathopoulos, & Maness, 2022). Both bonding and bridging social capital play essential roles in community development, as the existence of either local, embedded (bonding) or external, autonomous (bridging) ties are crucial in contributing to such development (Woolcock, 1998).

In the past half-century, communities in the U.S. have witnessed a decline in citizen participation. Despite a tripling of the count of voluntary organizations, their sizes have

significantly diminished, now accounting for only ten percent of their previous size (Putnam, 2015). This decline in social engagement suggests a waning interest among the general public in community projects or events. However, this reduction in community engagement has become more conspicuous in the past two years. The unprecedented COVID-19 pandemic erupted in 2020 (World Health Organization, 2020), leading to the imposition of physical distancing and self-quarantine policies on citizens.

Consequently, community engagement practices had to shift from physical locations to virtual settings, such as social media or online interactions (Miller-Rushing et al., 2021). In this work, we present a community art project to illustrate how it aims to alleviate the decline in civic participation by engaging citizens, artists, and government staff in a collective artistic endeavor during post-pandemic time. Through participation, we are interested in investigating how community members develop a sense of belonging and strengthen relationships with each other.

### **The Effects of Art on Community Development**

Several studies have investigated different types of art as catalysts for community development, including community theatre (Ebewo, 2009; Rossi et al., 2019), photography (Purcell, 2009), opera (Clements, 2016), and art galleries (Lee & Northcott, 2021). Based on their findings, the social impact of community arts can be considered at both the individual and the societal levels. At the individual level, community arts can help people develop communication and observation skills (Williams, 1997; Matarasso, 1998) and artistic techniques (Jones, 1988). In addition, participants in these art projects became more creative and confident (Matarasso, 1996, 1998, 1997) and felt less isolated (Williams, 1997; Lowe, 2000; Brown & Jeanneret, 2015). At the societal level, community-based art projects helped strengthen community health and well-being via (1) developing viable and sustainable communities (Matarasso, 1996, 1997; Lee & Northcott, 2021; Sung, 2016), (2) promoting culture and history (Lee & Northcott, 2021; Clements, 2016; Purcell, 2009), and (3) facilitating cooperation between and within community groups, such as between the local authority and the residents (Matarasso, 1998; Matarasso & Chell, 1998; Kay & Watt, 2001; Kay, 2000; Clements, 2016). Likewise, community-based art programs contributed to employment prospects and economic growth (Matarasso, 1996; Williams, 1997; Matarasso & Chell, 1998; Kay & Watt, 2001; Phillips, 2004; van der Vaart et al., 2017; Rimmer, 2020). Their positive impacts also extend to an enhanced sense of community and community empowerment (Jones, 1988; Matarasso, 1996, 1997, 1998; Phinney et al., 2014), where dispersed communities were brought together, and participants were keen to be engaged and help more local projects.

This study examines how citizens contribute to community building through their engagement in an innovative mural art project. This project provides a unique opportunity for individuals of diverse ages to express themselves using non-traditional linguistic forms, thereby strengthening community identity and support networks. By exploring the dynamics of this mural

art project, we aim to uncover how artistic practices foster community cohesion and participation.

## **Mural project background**

Murals are paintings or artistic works imprinted on a wall, ceiling, or other permanent substrates, serving as a medium for public expression and a reflection of local culture, politics, and society (Iveson, 2010; Young, 2013; Mendelson-Shwartz & Mualam, 2021). Murals are installed in a wide range of locations and thus greatly vary in size, style, maintenance approach, and legal status (Mendelson-Shwartz & Mualam, 2021). Some murals are promoted and established by municipal agencies as part of urban planning and strategies — such as community builders (Golden et al., 2002; Grodach, 2011; Sieber et al., 2012) and objects of beautification (Halsey & Young, 2002; Schacter, 2016) — while others are operated by grassroots, representing personal or community identities and aspirations (McAuliffe & Iveson, 2011; Bengtson & Arvidsson, 2014). The mural we examine in this work belongs to the former category, as it was organized by the borough staff and carried out by the local community. Before the start of this project, there were twelve murals in the town where this study was conducted. Most of these murals were designed and created by college students, faculty, or artists with experience in artistic production. Therefore, the artist we interviewed in this study, who had been working with the local borough through her previous employment, proposed a new idea for a borough-facilitated and community-led project at a local parklet. After two years of fundraising and a one-year delay due to COVID-19, the project officially kicked off in 2021.

Unlike most private local murals, this collaborative project welcomed all residents from various backgrounds to participate in design voting and painting. Various public sources funded the mural, and the borough has a stake in the project. Derived from the borough's mission statement — “enhance the quality of life by fostering a safe, vibrant, diverse and sustainable community” — the artist abstracted the words “welcoming and engaged” and incorporated them into two design candidates. Then, the borough sought community input by distributing the two designs for voting and collecting residents' feedback online and in person at two community events. The final version of the mural design was refined with residents' suggestions and preferences. To recruit participants, the borough sent out online sign-up sheets where people could sign up for a two-hour slot. The painting process was scheduled for two days. During the painting, the borough posted Instagram stories to show step-by-step progress in publicizing the project and keeping the public interested in participation, which made a big push toward getting more volunteers.

## **Methods**

### **Recruitment Procedure**

Our study takes place in a small town in the northeastern U.S. We began by contacting the artist and asking her to collaborate with us on researching her mural project. After obtaining her

approval, two researchers on the team went to observe how the volunteers painted the mural at a local parklet. To ensure that there were enough participants for the study, the two researchers conversed with the volunteers on site, introducing themselves and explaining the aim of this study. If the volunteers expressed interest in participating, the researchers asked for and recorded their contact information, such as their names, pseudonyms, and emails. After the researchers had collected a sufficient sample of contact information, they filed an IRB to interview them formally. Upon the approval of the IRB, one researcher started to recruit participants. The researcher sent interview invitations to potential participants and scheduled online interviews via email. In terms of the recruitment of the artist, the researcher contacted her by email, and she showed interest in attending our interview. Following that, through the artist's recommendation, the same researcher sent emails to the four major borough staff who supported this mural project through collaboration with the artist, and all of them were willing to participate in our interviews. Tables 1 and 2 show the demographics of the volunteers, artists, and borough staff. In the interviews, we did not ask participants for race identity information. However, according to the interviewers' observations in the video interviews, we noticed different races, including white, black, and Asian.

**Table 1: Demographic information of volunteer interviewees**

Participant	Gender	Age	Local community (yr)
V1	F	20-25	1 yr
V2	F	40-45	3yrs
V3	F	65-70	27 yrs
V4	M	75-80	27 yrs
V5	F	50-55	10 yrs
V6	F	35-40	35 yrs
V7	F	30-35	2 yrs
V8	M	25-30	3 yrs
V9	F	25-30	1 yr
V10	M	60-65	22 yrs
V11	F	50-55	24 yrs
V12	M	60-65	17 yrs
V13	F	40-45	19 yrs
V14	F	35-40	9 yrs

**Table 2: Demographic information of the artist and staff working at the local borough**

Organizer	Gender	Roles	Responsibility
Artist	F	Mural	design artist Initiate and design the project
S1	F	Communication	assistant Plan and organize the project
S2	F	Sustainability	Program Officer Plan and organize the project
S3	M	Communication	Specialist Plan and organize the project
S4	F	Communication	engagement Specialist Plan and organize the project

### Interview Design

We designed three versions of semi-structured interview protocols separately for the artist, the borough staff, and the volunteers. The protocol included 17 questions for the artist, 32 for the borough staff, and 21 for the volunteers. All the interviews were conducted on the Zoom platform. The questions aimed to explore participants' experience with supporting or participating in the mural project during the COVID-19 pandemic. We also asked follow-up questions based on participants' answers to clarify details or dive deeper into their experience. At the end of the artist interview, we invited her to provide feedback on the interview protocol designed for the volunteers and incorporated her feedback into the protocol. Each interview lasted from 30 to 40 minutes. Additionally, two focus group interviews were conducted with four borough staff members, with each focus group including two members and taking about 60 to 80 minutes in total, based on the amount of information the participants were willing to disclose. All of the interviews were video recorded with the prior verbal consent of each participant.

When interviewing the artist, our focus was on three major components: 1) understanding her motivation in initiating the art project and her roles and contributions to the project, 2) exploring how the collaboration between the artist and the borough led up to the execution of the project, 3) understanding the challenges that she encountered, and the lessons that she learned from this experience.

With the borough staff, our interview questions hinged on 1) understanding their motivations for supporting the project, as well as the contributions they made, including fund seeking, volunteer recruitment, and project publicization, 2) exploring their collaboration experience with the artist in both the design and execution process, 3) understanding their observation and impression on the volunteer engagement and project outcomes.

Finally, our volunteer interview protocol included inquiries about their motivation, experience, and expectations as they participated in mural painting; when applicable, we additionally probed for their suggestions on the project organization and room for improvement. Besides the focus above, we asked all three groups of people about the role of the mural in the



local place and the effect of the COVID pandemic on their organization or participation in the community project.

In the scope of our study, no new themes emerged with additional interviews; therefore, we reached data saturation (O'reilly & Parker, 2013; Walker, 2012) after fourteen volunteer interviews and four borough staff interviews, in addition to one interview with the artist. After all the interviews concluded, we conducted a thematic analysis of the transcripts, focusing on uncovering the motivation and experience of the three stakeholder groups (the artist, borough staff, and volunteers).

Three researchers were given an equal number of transcripts to read and code using the inductive coding method. This first stage resulted in an initial set of themes, including the role of the mural and the challenges and benefits encountered in organizing or participating in the project. After the first round of data analysis, the three researchers separately read the rest of the transcripts assigned to the others. As a result, each of the three researchers finished coding all transcripts and individually decided on the major themes. To achieve internal reliability (LeCompte & Goetz, 1982), the researchers started to discuss the identified major themes with each other. In the second stage, the researchers started the deductive coding method, utilizing the framework of community identity to organize the codes. Specifically, the themes were categorized into three groups: community identity, participation, and support network. Weekly meetings and discussions were held among the researchers, leading to a consensus on the major codes that would address the research questions.

## **Findings**

The mural project was completed in October 2021. During the two-day duration of the project, around ninety volunteers signed up and participated in painting the mural. The project's overall cost was around 12,000 USD, which was publicly funded, and it covered painting supplies, labor recruitment for wall priming, and mural cloth. The artist and participants all volunteered to paint the mural. The finished mural covers an area of 7 ft wide and 250 ft long in the local parklet (Figure 1). While they played different roles in the planning and executing of the mural project, interviewees from all three stakeholder groups shared their experience of organizing and participation.



Figure 1: The mural site before (left) and after (right) the two-day painting event took place

### **How can key community constituencies work together on large-scale community art projects to strengthen and publicly affirm the community?**

Local participation and awareness play a pivotal role in the framework of community building, highlighting the importance of citizens' active engagement in visible public activities (Carroll & Rosson, 2013). The mural project serves as a catalyst for citizens to congregate and partake in meaningful artistic practices. This collaborative effort fosters connections among individuals, ultimately fostering the development of a cohesive local community.

#### *Motivation*

First, the mural project helps cultivate an art culture with potential engagement and economic value for the community. Our interviewees unanimously agreed that the painted mural would transform the *"dull and boring"* wall into a more aesthetically pleasing sight that beautifies and energizes the local neighborhood. The borough employees, in particular, had a long-term vision of leveraging local talent and space, not just at the mural site but also around town, to raise awareness of art and community spirit:

*"It's not just about attracting and retaining top talent around there. It's really about providing a sense of vibrancy, a sense of pride, a sense of hopefully conversation around arts whenever people view our urban landscape." - S3*

The borough staff also discussed the potential economic benefits of the mural project due to its strategic downtown location. They believe that the mural would increase the energy and livability of the downtown area, thereby attracting more business investment and visitors to the town. This vision, in turn, incentivized them to support the project with fundraising.

*“We just hope that as we kind of encourage and cultivate that art scene that we’re doing so as a way to not only support our community economically and have those economic drivers around in our program but it’s also about quality of life and pride that those that visit our community have.” - S3*

### *Engaging Participants in Painting through Participatory Design*

During the mural design phase, the artist attempted to promote engagement by grounding the design in themes that interest the community members. As her first step, she brainstormed with the borough staff for keywords that came to mind when designing the mural; these keywords were extracted from the borough’s mission statement and centered around a “welcoming and engaging community.” The artist then came up with initial design drafts based on this theme:

*“I took that and abstracted it into these two designs. And, of course, the interpretation is kind of abstract. You know, when I think about ‘welcoming,’ I think about shapes that are like interacting with one another. You know – layered, and then they become something else, like a different color.” - Artist*

Next, the borough staff surveyed local citizens to inquire about their preferences for the artist’s design drafts. In the survey, people could vote for the artwork design they liked and write down why they voted. The survey was designed to be in two forms: digital and paper. The borough sent out the surveys through emails to residents, and at the same time, they set up a table to have people come in and vote in person. Based on insights from the survey, the artist was able to tweak the design accordingly, obtaining a final design that incorporates the contributions of all three stakeholder groups. In particular, while respondents overwhelmingly liked the winning design (Figure 2, left), it had a gray tone that was less preferred than the runner-up’s warm colors (Figure 2, right). Thus, the artist went with the first design while brightening its color to achieve the best of both options.



Figure 2: The winning (left) and runner-up (right) design based on survey responses. The human silhouettes are included to provide perspectives on the mural size and not part of the mural

design. The final mural design incorporates the shape of the winning design and the bright colors of the runner-up design. Image credits belong to the artist [Ann Tarantino].

Besides incorporating the borough staff and the survey respondents' ideas into the mural's design, the artist ensured that the mural is inherently simple and accessible to all citizens, regardless of age or painting experience. She realized this feature by drawing clear painting outlines, which a painter could move their brush along (Figure 3). In this way, anyone could contribute to painting without prior experience. The artist elaborated on her thought process as follows:

*"I wanted people to feel ownership over it. This town has a lot of murals, but they're usually done privately, or somebody just does it on the side of their building, and nobody knows where it came from or made, and so I really wanted people to feel like they were part of it, and that's why it's like big shapes, easy to paint."* – Artist



Figure 2: Volunteers were painting the mural.

Our interviews revealed that the artist's intention indeed resonated with her audience, with several volunteers appreciating how easy it is to join the project and start painting:

*"It was nice to participate in someone else's project when it was all mapped out, and you know it was just stay in the lines and pick out the right color paint. It was all the work was done for me, but I still got to participate in something that I really enjoy."* -

V9

*"From our standpoint, we continue and try to build as many networks as we can, through our communications platforms, whether it be social media subscribing updates on the website, etc., so that you know, from my standpoint, it's really about*

*utilizing the local media, utilizing social media, utilizing those channels that we have built up and sending out updates and posts.” - S3*

According to S3, the staff also utilized different media channels to participate and engage with the local community during the painting process.

#### *Organizers Diversify Participation and Increasing Visibility in Painting*

From the onset, the mural project was intended to include volunteers from different age groups and ethnic backgrounds: *“It was about not only engaging long-term residents predominantly but engaging all diverse residents and trying to get a real community building, real community engagement type of art project installed there”* (S3). Community members received This goal well, with several volunteers from minority groups contributing their artistic touch. An Asian-American female volunteer commented on the significance of this event:

*“It’s also important that we are the visual representations of underrepresented populations so that the community can see how we are doing community service. That part is important as it’s helpful to see under-represented people doing things that contribute to the community.” - V11*

We also note that the organizers’ decision to survey local community members in the early design phase of the mural project ensured that the mural met all stakeholders’ expectations and increased the visibility of the project, letting participants know that their voices were heard. Furthermore, as the mural art project is a permanent addition to the neighborhood, participants were aware that their contribution would be visible for a long time, not just to themselves but also to future generations. They became more motivated to join the project and leave their marks.

#### *Organizers promote agency and expression of community members*

Once the mural was released to the public, the artist and borough staff sought to empower participants to paint independently without rigid restrictions. As borough staff S2 explained, the artist assigned a paint color to each person or group and *“just let people go at it,”* although volunteers could also pick their colors. There was not much demonstration from the organizers unless any volunteer had questions.

While the loose organization of the painting activity provided volunteers with a high level of agency, it also brought about unanticipated challenges. First, even though the mural painting event lasted two days, volunteers wound up the first-layer painting with an unexpected speed on the first day. Without clear guidance, people joining on the second day perceived no room for contribution, not knowing they could paint the second layer. In turn, this misunderstanding decreased their interest and motivation in painting. Additionally, there needed to be more support for maintaining tools and providing directions to volunteers due to the lack of on-site staff. One of the interviewed volunteers pointed out these flaws:

*“I noticed probably only one or two organizers were there to split the work, and distribute the paints, and there were a lot of dirty brushes, and we must find clean brushes. And probably next time, we can have more people to organize. Since for me, I need to find the brushes by myself, I need to clean the brushes by myself and, I need to go there to find work, and what should I do next, and while I asked the question, I need wait a few minutes to get the response.” - V14*

### *Volunteers’ Collaborative Painting for Group Activities and Individual Purposes*

In addition, the project’s free-style format allows for both individual and team contributions. A high school teacher brought 20 students to the mural site in one instance. As the teacher indicated, the painting activity helped her students connect more closely through collaborative efforts. In another instance, employees painted the mural to promote team bonding outside of work. These participants also interacted with volunteers outside of their team and, through this process, developed stronger friendships with the local community.

*“We have 24 students. There were 14 that are in their first year of the IB experience, and then there are 10 that are in their second year, and I saw it as a opportunity for them to build community and relationships between these two groups, like your two students could kind of break the ice, build relationships, learn names. With the year one students here once you could feel like they are a part of a school group that cares about them and is bigger than just like the classroom. So those are kind of like our two goals.” - V13*

Parent-children working together on an art project is perceived as a rewarding experience, which factored into three parents’ decision to paint with their children (V6, V11, V14). Moreover, participation in the community mural project was regarded as a valuable educational practice that could help children become more social, cultivating their sense of communal connection. As explained by a volunteer with children,

*“In raising kids, I think it is really about setting values about more than themselves, so they are part of a community, and they should be able to contribute to that community [...] so it’s an investment and it’s also part of establishing personal values.” - V6*

### **How Does the Mural Project Act to Enhance Community Identity and Build Support Networks?**

#### *Reconnecting the Community with New In-Person Connections*

Before the mural project, all community members strongly desired connection, fueled by two recent major events. First was the COVID pandemic, which halted normal societal functions, imposing quarantine and work-from-home policies that lasted almost two years (Marroquín,

Vine, & Morgan, 2020). Second, the 2020 U.S. presidential election resulted in significant political polarization and undermined the trust between citizens (Wenzel, 2020). In one senior citizen's words,

*"We've never had a pandemic; we've never had the kind of political tension that exists between the different parts of the different parties... I can honestly say that there has never been in my 77 years, there has never been a time like this, where the community is in danger internally and externally." - V4*

Amid this turbulence, the mural project was a path toward resuming in-person connections. Engaging in the mural project fosters a sense of belonging and connection among participants as they work together towards a common goal, strengthening their bond and reinforcing a collective identity tied to the community. To the artist, the mural is *"a place where a lot of people gather – all different ages, little kids up to older adults."* To the borough staff, the mural was never meant to be *"just a painting on the wall"* but an opportunity to *"engage all residents"* and *"get a real community building."* Likewise, the elderly volunteers wanted to experience *"getting together with the young people"* (V3), and the younger volunteers similarly expressed an interest in connecting to people by saying that *"the place is kind of like my happy place, so I like volunteering there, meeting people, feel more like part of the community."* Several volunteers (V1-V7, V9-V14) were motivated to join the mural painting to establish connections with other community members, especially if they were new to the area.

By working together towards a common goal, participants can connect and build relationships with others they may not have interacted with otherwise. This diversification of connections expands the support network, providing access to a broader range of resources, knowledge, and perspectives.

### *Granting Members' Legacy and Reminiscence*

Another way in which this mural project enhances community identity is through a shared legacy and reminiscence. Seven volunteers mentioned that leaving a personal mark on the *"permanent"* wall for a long time would be memorable and meaningful. For senior citizens like V3, the mural is *"kind of a legacy"* that attests to their contributions *"once we are gone."* Meanwhile, the younger volunteers enjoyed the prospect of revisiting the mural in the future and reminiscing about their painting experience. As V11, a mother with two children, explained,

*"So my daughter likes art, so I thought it would be really fun for her to be able to help with something that was in the community or do any kind of art, but then the fact that it was out there and people would see it, and she could go back and see it, I thought was fun." - V11*

### *Leveraging Technology-mediated Communication to Expand Community Network*

Besides, the interviews with volunteers confirmed the critical role of social media and government email lists in communicating community-related information. Some participants heard about the project information by signing up for the local community engagement email list on the government website and other social platforms like Facebook. In contrast, the rest of the participants received the information through word of mouth or personal connections to the artist and organizers.

Combining technology use with in-person connections compensates for the weaknesses of relying entirely on social media to engage community members. However, technology use may also raise concerns regarding reaching senior citizens needing help using social media or online platforms. To reach a wider circle of residents, the borough also posted the project information in newspapers to accommodate the needs of elderly participants who were not used to technology. Two of our interviewees (V3, V4), aged over 65 and 70, signed up for the community project after seeing the project advertisement in the newspaper, *“I read the paper every day, so I’m pretty sure it was from the paper that we found out to the project was going on, and then we contacted them, and they contacted us.”*

The government used the online website to optimize digital interactions between residents and the government. For example, to obtain and integrate residents’ feedback on the two designs of the mural, the borough used an online platform called “Civicplus” to obtain digital votes from community members. In addition, the borough also distributed an online survey to residents where they could voice their preference for the two designs and the reasons for their options.

*“For the mural project, we used an existing service called civic optimize that’s integrated into our website platform (Civicplus). This service allowed community members to digitally vote for their favorite design. We also gave individuals to write in their vote during a tabling event.” - S2*

Moving forward, to improve the interactions between the government and the residents further, the borough started to build a new engagement platform where the public could give feedback and leave comments about community projects in the future. One of the borough employees commented that,

*“We have a new engagement platform now specifically for projects like the community mural, but unfortunately, we didn’t have it up and running at the time. We hope to use this platform for future community feedback (not sure if this information is helpful for your paper or not.” - S4*



## Discussion

In this study, we investigate factors that contribute to the success of local community projects, particularly in the context of the post-pandemic and politically divided society. We examine the strategies employed by different stakeholders to build support networks during the planning and painting process.

### **Mural as a Collaborative Painting to Facilitate Community Building**

#### *Promoting Community Identity by Culturalizing and Engaging Community Members*

The organizers (the borough and artist) contributed to community building by engaging citizens in painting murals, thereby cultivating an art culture in the local place. Besides, through collaborative painting, community members strengthened their relationships with the local community and one another. However, collective activities alone do not ensure the development of a shared community identity due to a lack of shared belonging, connectedness, and neighborly togetherness (Mosconi et al., 2017). The mural addresses this by involving local citizens in contributing to a familiar and well-loved locale where they have shared memories and emotional attachments. Compared with other projects where the outcome of community work lasted for a short time and was less visible to the public (Carey & Sutton, 2004), the unique “permanent” nature of the mural means that the participants could leave a long-lasting trace on the wall, which they regarded as a “legacy” that further reinforced their emotional attachment to the place.

Additionally, community projects were moved to online settings due to the COVID-19 pandemic (Tajvidi & Tajvidi, 2021; Jo et al., 2022). While virtual meetings have become essential for connecting people (Ingram & Drachen, 2022), they could not transfer identity commitments to publicly visible activities (Carroll & Rosson, 2013), such as “being out in public, socializing and deliberating with neighbors, and volunteering in community projects, etc.” (Putnam et al., 2000). The mural project, as an in-person community event, played a crucial role in allowing people to hang out and commit to the local community, strengthening their ties and improving their communication skills.

Furthermore, art creation serves a distinct purpose, catering to our imagination and offering a valuable endeavor, different from projects primarily focusing on fulfilling basic needs (Engelbutzeder et al., 2020; Knearem et al., 2021). By producing artistic objects in public spaces, art becomes a visible presence accompanying people as they traverse their daily routines. Aligned with previous work indicating that community projects can facilitate cooperation between and within community groups, such as between the local authority and the residents (Matarasso, 1998; Matarasso & Chell, 1998; Kay & Watt, 2001; Kay, 2000; Clements, 2016), this mural project also facilitated two types of cooperation. First, it promoted collaboration among residents of all ages and backgrounds through an accessible mural design. Second, it fostered collaboration

between residents, the local authority, and the artist by involving all stakeholders in the decision-making process.

#### *Diversifying Participation with Inclusive Design Consideration to Facilitate Local Participation*

An issue noticed in previous community art projects was that they tended to attract the same group of committed members (Carey & Sutton, 2004). Besides, some community projects (Little et al., 2016; Gupta et al., 2022) required a higher level of specific expertise from community members, improving the threshold for participation. Compared with previous studies, the mural design aimed for inclusivity and encouraged participation from all citizens, regardless of age or skill level. Such inclusivity also encouraged cross-generational collaboration as it involves people from a broad spectrum of ages (20-75 years old).

#### *Stakeholder Collaboration as a Network with Different Roles and Responsibilities to Facilitate the Participation Process*

Volunteers held diverse social roles, such as community members, mothers, accountants, and residents. This multiplicity of ties is crucial in promoting social capital flows during community events (Warren, 1978; Carroll & Rosson, 2013). Unlike online communities, where members are connected through one or a few ties (Chen et al., 2010; Preece, 2000), neighborhood communities form connections through multiplexed ties. For example, the complex ties between the artist, borough, and citizens were essential to the initiation and execution of the mural project. Beforehand, the borough and artist worked together to secure funding and recruit volunteers, and later involved citizens in the design and development phases to incorporate their input. During the painting process, both the artist and citizens collaborated to complete the mural, further reinforcing their social connections. Besides, citizens across diverse backgrounds could be connected through working and collaborating in the same community project, promoting social cohesion and mutual trust.

### **Organizers Leveraging Communication Infrastructure to Build Inclusive Local Communities**

Building inclusive local communities necessitates effectively integrating both online and offline communication infrastructures. The recent mural project exemplifies how such integration can be successfully achieved, underscoring the significance of in-person interactions while employing various technological tools to facilitate the event's stages: pre-event planning, in-event communication, and post-event feedback collection.

During planning, staff and artists utilized digital surveys to gather community feedback and share design ideas. This approach ensured that the mural's design reflected the community's preferences and fostered a sense of collective ownership. Digital platforms enabled efficient data collection and idea sharing, making the planning process more inclusive and interactive. The event required substantial human labor to coordinate activities, communicate effectively, and engage the community. This phase highlighted the crucial role of face-to-face interactions in

fostering community spirit. Additionally, a blend of traditional media (e.g., local newspapers) and social media platforms was employed to keep the community informed and involved. This multi-channel communication strategy ensured broad reach and real-time updates, catering to different community segments. After the event, organizers sought feedback through various channels. The official website was updated to allow voting and collecting thoughts on future events. This digital approach made it easy for community members to provide input at their convenience, enhancing participatory engagement.

The event's success can be attributed to the strategic combination of digital platforms and traditional communication methods, different from other emergency contexts like COVID-19 reporting by local governments who avoid using social media to engage with the community (Farinosi et al., 2022). On the one hand, local government effectively used digital tools, such as official website updates and social media channels, to reach a broad audience; on the other hand, it utilized traditional media and word-of-mouth to reach out to minority groups to ensure inclusivity. Prior work has shown that the local government's increased usage of social media might exclude citizens with low digital literacy and access to new technologies (Zheng & Walsham, 2021). The local government used a hybrid approach to balance the familiarity and accessibility of these technologies and traditional channels to make the event successful, as indicated by the positive experience from community members. Therefore, traditional communication channels should not be overlooked when aiming to maximize community engagement and inclusivity.

Despite the success, several challenges were noted, particularly in coordinating the event within a short timeframe and managing the human labor required. These challenges point to potential opportunities for further supporting community events with digital technology. Future efforts could focus on developing digital tools that streamline coordination and reduce the burden on human resources, thereby enhancing the efficiency and scalability of community engagement initiatives.

### **Design Implications: Technology-enhanced Community Events**

#### *Providing Volunteers with Strategic Autonomy and Appropriate Guidance to Facilitate Participation*

Consistent with prior work that stresses the importance of providing strategic autonomy to engage and motivate people (Han, 2014), we found that the volunteers in this project were also given a large degree of creative freedom. This design feature yielded a relaxing experience, in which participants could paint to their liking, but also promoted inclusiveness, allowing volunteers from any background to participate. However, the lack of instructions has shortcomings, as some participants were concerned about making mistakes. In contrast, others were unclear on how to contribute, especially when the first mural layer had been fully painted. Similar issues have been reported in previous work on agency and provision of choices (Han, 2014); generally, the consensus is that agency should be accompanied by autonomy-supportive

features to promote self-determination and intrinsic motivation (Reeve, Nix, & Hamm, 2003). In the context of the mural art project, providing volunteers with demonstration videos, navigation plans, or hands-on tutorials could familiarize them with the scope of the work and the different ways they could contribute to painting. Besides, in the future, we suggest local governments build a community app to engage citizens in public activities. The app could integrate features allowing community members to create groups, collaborate with organizers and other volunteers on community projects, which contributes to information/resource sharing critical to engaging less-integrated members (Knearem et al., 2019).

### *Improving the Participation and Visibility of Artwork to Amplify Community Identity*

This project could be significantly enhanced by incorporating digital techniques. Although the borough attempted to use in-person and online methods to recruit participants, future efforts should focus more on digital strategies to broaden the project's reach. Moreover, digital technologies are changing how art is created and consumed (Massi, Vecco, & Lin, 2020). While the current mural project did use technology during the participatory design and the subsequent publication, there is a lack of technologies that could expand the influence of the community artwork and preserve the personal memories of members in the local neighborhood (Balestrini et al., 2014). For example, QR codes are increasingly used to conveniently disseminate information about new artwork for users in museums and libraries (Schultz, 2013). They might also provide resources on the mural's background, manage registration, and record volunteer participation, all of which are possible with a quick phone scan. Having a record of the volunteers' contact information would also allow the organizers to reach out to them afterward with a personal thank-you note, further enhancing their sense of recognition.

## **Conclusion**

In this study, we explore how a multi-stakeholder collaborative approach to public art initiatives can engender profound communal connections and significantly enhance the socio-cultural landscape. Murals play important roles in solidifying a shared community identity and fostering robust social ties among members, thereby enriching the community informatics literature with empirical evidence on the utility of visual art as a medium for communal expression and interaction. Furthermore, we invite ongoing exploration into the potential synergies between technology-supported solutions and community art projects. Future studies can empirically validate the proposed technological interventions aimed at elevating the visibility and impact of community art initiatives. It also underscores the necessity of broadening the scope of research to include the perceptions of those outside the immediate circle of project participants, thereby enriching our understanding of community art's broader impacts.

In this manner, we advocate for the integration of technology in fostering community engagement and development through the arts. By highlighting these connections and contributions, we hope to inspire further research that bridges community informatics and public art initiatives, thereby leveraging the power of technology to enhance the communal and individual benefits derived from such projects.

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## Appendix A: Interview Questions for Organizers

1. Could you tell us when you started this mural project?
2. Could you tell us what the whole process looked like? How did you organize the whole project? What activities did you do?
3. Could you share with us who the other organizers were? How did you recruit them? What did they do for this project?
4. Could you share with us what other supporters were involved in this mural project? How did they support this project?
5. Could you tell us how you coordinated communication with other people in the process?
6. Could you let us know how you recruit the participants for the painting? What channels did you use? I notice that there are a lot of high school students, how did you connect to them?
7. Could you show us the two designs of the mural? Could you tell us how you designed the two mural designs? Why did you design them in this style?
8. Could you tell us why you want to initiate this project? What motivated you to do this?
9. We noticed that you divided the participants into different groups to paint, could you tell us why you did this?
10. During the two days when people engaged in painting, how did you feel about their participation in the mural painting?
11. Did you notice any differences/similarities between the participants who engaged in the painting? If yes, what you noticed?
12. Could you share with us what impressed you most when you noticed people are engaged in the painting? Why did you feel that?
13. Could you tell us how a mural that the public participates in (like this mural) is different from the mural painted by a single person? Why do you think so?
14. Before the mural was painted, what kind of community participation did you expect to have? Do you think your expectation was met? Why or why not?
15. After the mural was finished, how did you feel about the final product created by the public? Why did you feel that?
16. Could you share with us how you think this mural would contribute to the community in the longer term?
17. Could you tell us what is rewarding in a way you did not expect in the process of organizing and doing this project?
18. If you have, could you share with us what is the most challenging part in the process of organizing and doing this public mural project? Why was it challenging? How did you overcome the challenge(s)?
19. Because there is COVID-19 pandemic, do you think this will influence people's willingness to participate in the project? Do you think there are differences if there were no COVID?

20. If in the future, if you have another opportunity to organize a mural project like this, what features, activities or initiatives do you want to add?
21. Finally, do you have other things you want to share with us?

## **Appendix B: Interview Questions for Participants**

1. How did you know about this art project?
2. When did you start participating in the community art project?
3. Did you go there with other people or just yourself?
4. Did you participate in the decision which of the two designs would be developed?
5. Why did you select this one (mural design) instead of the other one? What features of the mural design you picked attracted you?
6. Why did you want to participate in this project? What motivated you to do?
7. Why do you particularly participate in this mural community project rather than other similar ones?
8. Before participating in this mural project, what did you expect to gain from this project? What did you expect to contribute to this project?
9. Could you describe how you engaged in the project? What did you do in the mural project?
10. Before painting, did you pick a color? Which color did you use? Why did you want to pick this color? Do you like it?
11. Were you assigned to work in a group with other people? How did you work with other people?
12. How did you feel after participating in the mural project? Could you tell me one thing you enjoyed most in the process, and one thing you dislike most?
13. Were your expectations fulfilled from the project participation? Why or why not?
14. Did you participate in a local community project before? If so, could you describe it?
15. (If you ever participated in similar local projects before, how is the current one different from the previous ones you participated in?)
16. Do you think the COVID-19 crisis influenced your participation in community projects? What kind of influences? Would you participate more in community projects if there were no pandemic?
17. What benefits did you get from participating in the local community project?
18. What benefits did the community get?
19. Are there any other things you want to tell me?
20. Do you have any questions for me?
21. Could you tell us about yourself?