

## ORIGINAL ARTICLE

# A social network analysis of interorganisational collaboration: Efforts to improve social connectedness

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## Abstract

The Covid-19 pandemic has challenged public health practitioners and clinicians at multiple levels to intentionally consider the impact of social isolation on health outcomes. Many community-based programmes design interventions to address tangible challenges within the social determinants of health, such as asset insecurity or food insecurity, to address health inequities. The growing need to address social isolation within marginalised communities also requires organisations to collaborate and create community partnerships that strengthen their own social integration within the community. The present research reports on the results of a Social Network Analysis (SNA) of community programmes within three southern U.S. cities and their local collaborations to address social isolation. After interviewing representatives of 46 community organisations, it was found that social service organisations that also offer public health services play a central role in community efforts to improve social isolation. The participating organisations primarily collaborate through referrals and information sharing, and report inadequate resources. With a growing recognition that social services and supports play a considerable role in addressing health inequities, this study provides evidence of opportunities for interorganisational collaboration to promote individual and community health.

## KEYWORDS

organisational collaboration, social connection, social determinants, social network analysis

## 1 | INTRODUCTION

The extended time in which communities have spent in varying degrees of isolation, due to the Covid-19 pandemic, has increased attention to the role of social connection within public health. For older adults, social isolation is associated with cognitive decline, depression, decreased immune health and ultimately the quality of life (Landeiro et al., 2017). For example, adults and youth with greater

social support tend to have lower body mass index (Richmond et al., 2014). Social connection—whether in a number of close high-quality relationships, feeling socially connected within the community or both—promotes health in communities and impacts aspects of the social determinants of health (SDOH) (Holt-Lunstad et al., 2017). However, policymakers, community leaders and organisations struggle to address social connection needs due to the ambiguity of the problem (Holt-Lunstad et al., 2017).

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## 1.1 | Background

Programmatic efforts to foster social connection within a community often occur as a by-product of community development interventions that make it easy for programmes to engage with and adapt to local needs (Cattan & Ingold, 2003; Dickens et al., 2011). Organisations that prioritise local involvement, rather than maintain operations nationally, tend to produce more effective interventions (Gardiner et al., 2018). Cross-sector efforts to address social isolation within specific communities are occurring more commonly now than it has historically (Hogg & Varda, 2016). Networks of community organisations that collaborate to serve a common purpose further increase a population's ability to improve social inequities, and subsequently fight social isolation (Hogg & Varda, 2016). Therefore, the mission of addressing social connection in tandem with the SDOH is completed by bringing together diverse groups and resources to address issues that individual groups would be unable to resolve alone (Hogg & Varda, 2016). Understanding the collaborative relationships among non-profit, private and public organisations, and how their efforts are met with success in terms of capacity and provision of community resources, is highly valuable in addressing social connection and the SDOH (Johnson et al., 2010), however, published research offers limited details.

## 1.2 | Purpose

To explore the dynamics of organisational collaboration, including the challenge of improving social connection during a global pandemic, our research team performed a Social Network Analysis (SNA) across a variety of collaborating organisations in several cities. This SNA examined the relationships among organisations interacting in a defined network. This type of analysis also identifies the knowledge and resource exchange between organisations that impacts community effectiveness (Díez-Vial & Montoro-Sánchez, 2014).

Industry–university collaboratives provide one avenue to conduct research across sectors that can expand awareness of community dynamics. A research team from an industry–university collaborative formulated specific questions related to organisational collaboration, social connection and the SDOH to explore activities in three U.S. cities. The research team sought to explore the following:

- What sectors collaborate to address social connection?
- What types of organisations have the strongest node?
- Which organisations display the most centrality?
- What barriers to collaboration exist?

## 2 | MATERIALS & METHODS

### 2.1 | Design

To explore collaborations among organisations, the research team designed a convergent, mixed methods social network study. Data collection occurred through a structured interview, over video or

### What is known about this topic

- The Covid-19 pandemic highlighted how social isolation can impact health
- Community organisations collaborate to address the social determinants of health and typically focus on tangible needs such as food, education or services
- Community organisations are most effective in addressing local needs through collaboration

### What this paper adds

- The most central collaborating organisations provide both public health and social services
- Community organisations struggle to collaborate beyond traditional referral and communication patterns to address social isolation
- A community's history with segregation and competition for funding challenges collaborative efforts

telephone conference, and included both quantitative and qualitative content. Interviewers gathered data points about the network of organisational collaborations. Interviewers also collected qualitative data for contextual detail alongside quantitative questions. The interview questions (see Appendix S1), participant consent form and methodological approach for this study were approved by the University of Louisville Institutional Review Board (IRB) to ensure the protection of human subjects (IRB No. 19.0754).

## 2.2 | Research setting

A large foundation identified five grant recipients in three southern U.S. cities who received funding to address social connections within their local community in 2018. Those five organisations then provided a list of local partners with whom they collaborate to address social connection as either a primary or secondary outcome of their activities. Grantees identified the name of the organisation and a representative's contact information. In cases where the grantee did not provide contact information, research team members identified administrative leadership through web-based searches and began recruitment with those contacts.

## 2.3 | Participants & recruitment

Recruitment of each organisation included sending two invitation emails, followed by two phone calls, and one final recruitment email with approximately 1 to 2 weeks between contact attempts. If an organisational representative suggested contacting another individual within the organisation, the research team began the recruitment cycle over again with the new contact. The research team recruited

and conducted interviews in City A from June through October 2020, in City B from July through November 2020 and in City C from October 2020 to January 2021.

When an organisational contact was willing to participate, they scheduled an interview directly using an online scheduling platform. Each participant received a calendar appointment with a Microsoft Teams video conference link for their selected time and date. Recruitment emails included a preamble unsigned consent that was reviewed with each participant at the beginning of their interview.

## 2.4 | Survey development & definitions

To explore how organisations collaborate with others to address social connectedness, the research team developed a survey with quantitative and qualitative questions. The quantitative questions asked about specific modes of collaboration with another pre-named organisation in a dichotomous manner (yes or no). Qualitative questions asked participants to explain their responses further. The developed survey focused on defining the network and evaluating the impact of a network. The survey focused on the areas of (1) membership, (2) structure, (3) operations, (4) network resources and (5) benefits and barriers. The team adjusted the survey based on flow to minimise ambiguities and for interview duration. The finalised survey (Appendix S1) was imported into Qualtrics for researchers to complete while during the interview. Two research team members conducted the interviews; organisational names were pre-populated in Qualtrics.

The team defined, both for the study and interview participants, social connection as a product of participation, sense of belonging and citizenship (Cordier et al., 2017). *Participation* referred to an individual's sense of social connection, ability to participate economically and spiritual connection or meaning (Cordier et al., 2017). *Sense of belonging* referred to a connection with family, friends or a broader community (Cordier et al., 2017). The *citizenship* portion referred to one's sense of importance politically, ability to access community resources, a sense of engagement with their local community or ability to act philanthropically (Cordier et al., 2017). With this framework in mind, interview participants were asked to respond with consideration of whether their organisation collaborated to address or promote social connection. The research team instructed participants to consider whether social connection occurred for their clients as either a primary or secondary outcome of their activities.

## 2.5 | Analysis

This social network analysis began with a bounded (pre-defined) network. Each grantee identified a list of partners within their city that defined the city's network. In City A, grantees identified 12 partner organisations; in City B, grantees identified 23 partner

organisations; and grantees in City C identified 64 partner organisations. For each question with a quantitative dichotomous outcome, or mode of collaboration, the research team created an NxN matrix of responses. For example, if the question was 'Does your organization refer clients to \_\_ organization?' and the interviewee said 'yes', the data were coded as a 1. The same set of collaborative questions was asked of all pre-identified organisations in each city.

The created matrices were entered into UCINET (Borgatti et al., 2002) and symmetrised. Symmetrising matrices mean taking the original data and generating a new dataset where all ties are reciprocated (Borgatti et al., 2018). The analysis symmetrised data to deal with high non-response rates, thus making the assumption that if one organisation reported a tie then that tie was present in both directions. For each city, the team used UCINET to calculate centralisation measures and combine matrices.

To explore the question about which types of organisations have the strongest nodes—meaning the organisational sector(s) that collaborated the most and held central roles—the analysis focused on proportion centralisation and degree centrality. Proportion centralisation is a measure of how much the network depends on a specific node (Borgatti et al., 2018), in this case, a specific organisation. The research team created network figures for the combined matrices by the city in Netdraw (Borgatti, 2002). Each node represents one organisation, and its node size represents its degree of centrality, also known as the sum of the ties within the network (Figures 1–3).

## 3 | RESULTS

The research team invited 99 organisations and 118 individuals across three southern metropolitan cities to participate in this study. Those invitations included 238 emails and 107 phone calls. Overall, the team completed 46 interviews, giving us a 46.5% response rate and each interview averaged 75.6 min (SD = 15.0). Overall, most organisations were non-profit or non-profit and private (90.4%) and provided social services (52.2%). When asked about the social determinants of health that the organisation addressed alongside social connectedness, many reported focusing on all three (i.e. food security, asset security and post-secondary success) (19.6%) or only social connection (30.4%). The research team primarily conducted interviews with an Executive Director (45.6%) or a C-Suite representative (39.1%). Table 1 details the characteristics of the participating organisations by city. Figures 1–3 provide the network diagram for each city's overall network collaborations.

### 3.1 | City A

Based on a list of 12 organisations provided by the grantee in City A, the research team sent 23 emails, made 14 phone calls and

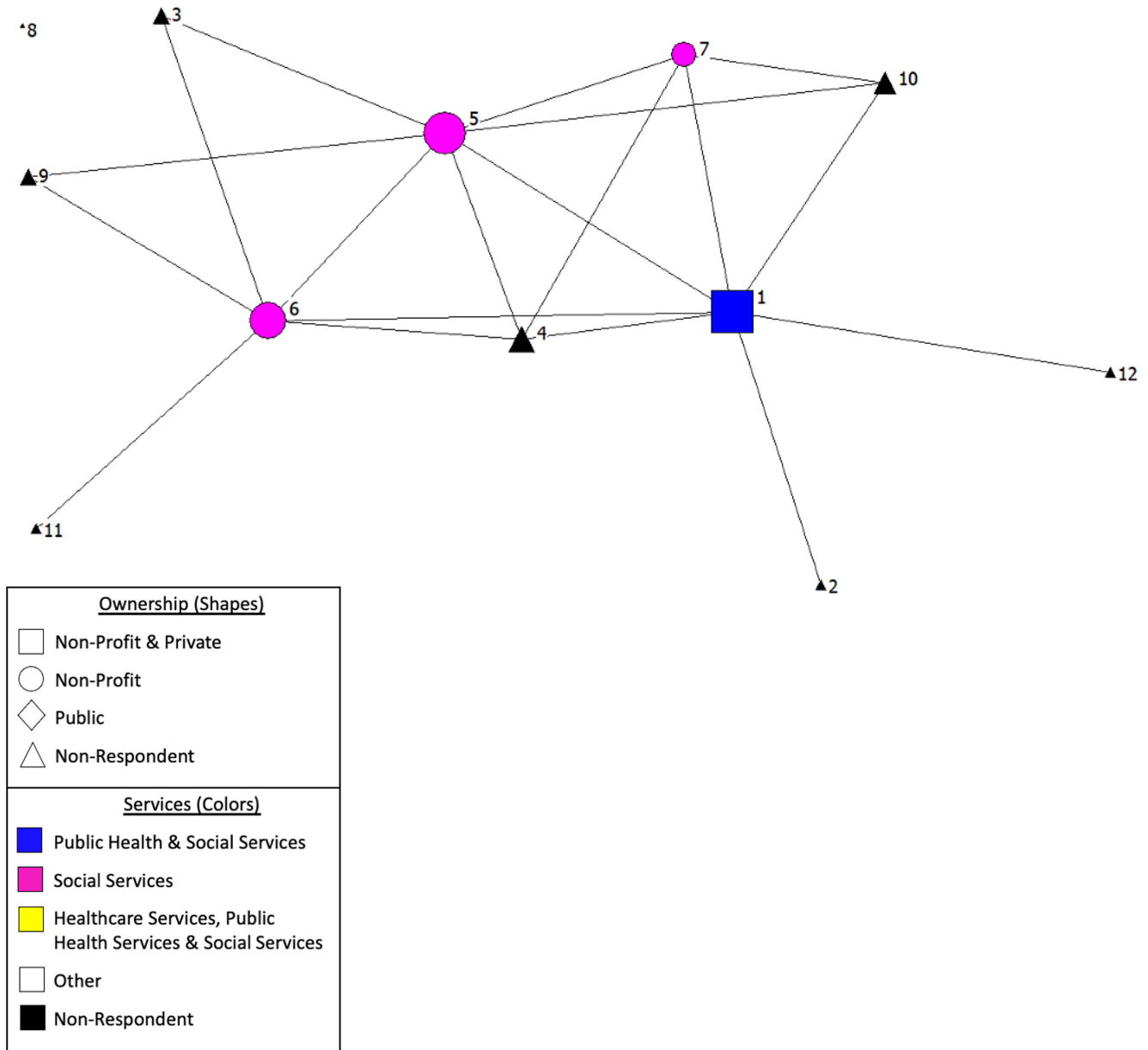


FIGURE 1 City A

conducted four interviews. City A had an overall response rate of 33.3%. Interviews lasted on average 55.5 min (SD = 6.0). Of the four participating organisations, three offered social services locally and one offered a combination of social services and public health services. In City A, the network diagram (Figure 1) shows that organisation 1 had the highest degree of centrality. That is, organisation 1 has the most ties to other organisations in the network. Organisation 5 has the second largest number of ties within the network.

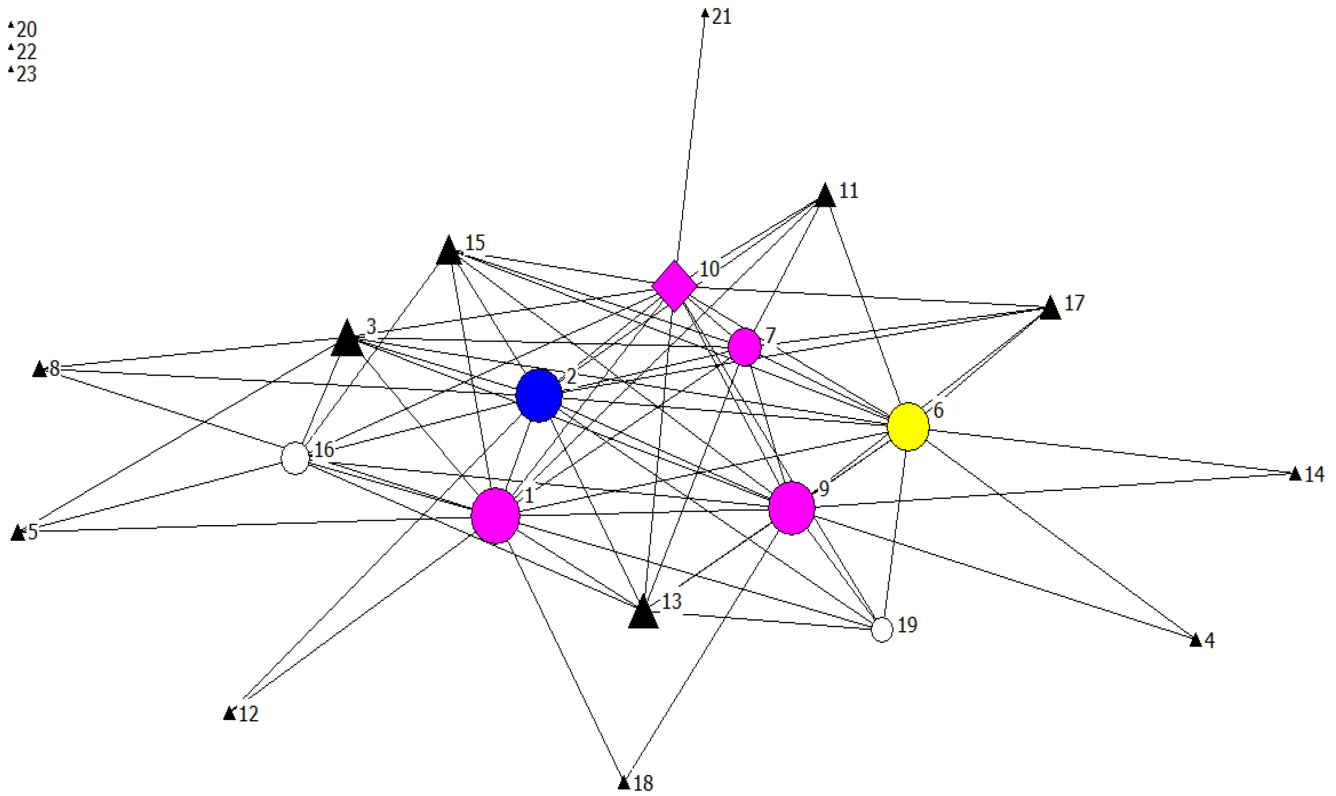
### 3.2 | City B

Based on a network of 23 organisations identified by the grantees in City B, the research team sent 64 emails, made 24 phone calls

and conducted 8 interviews. City B had an overall response rate of 34.7%. Interviews lasted on average 70.0 min (SD = 15.0). All but one organisation identified as a non-profit. Six of the eight organisations offered social services and two of those six additionally provided public health services.

In Figure 2, organisations 1, 2 and 9 had the largest node sizes. Non-responding organisations (identified with black up-triangles) appear the smallest and on the periphery of the diagram. Most central organisations provide social services or a combination of public health and social services in City B. The network map introduces two sectors that did not appear in City A's network figure, those that provide social services, public health services and healthcare services (yellow; organisation 6) and those reporting "other" services (white; organisations 16 & 19).

\*20  
\*22  
\*23



Ownership (Shapes)	
□	Non-Profit & Private
○	Non-Profit
◇	Public
△	Non-Respondent
Services (Colors)	
■	Public Health & Social Services
■	Social Services
■	Healthcare Services, Public Health Services & Social Services
□	Other
■	Non-Respondent

FIGURE 2 City B

### 3.3 | City C

City C had a pre-defined, bounded network of 64 organisations. The research team contacted 77 people with a total of 151 emails, 69 phone calls and conducted 34 interviews. City C had an overall response rate of 53.1%. Interviews lasted on average 79.4 min (SD = 20.7). Six organisations never responded. A majority of the 34 organisations offered social services (n = 16). Nine of the 34 (26.5%) organisations provided public health and social services.

Figure 3 shows the network diagram for City C. Social service organisations (pink) most frequently appear at the centre of the diagram surrounded by organisations that reported providing social and public health services (blue). Both non-profit (circle) and non-profit/private (square) make up the central portion of the network's activities. Unlike City A and City B, more organisations reported a different combination of services and ownership. For instance, the largest organisation in the network figure (Org 41) is both a non-profit/private entity (square) and reported providing other types of services (white nodes). Organisation 61 provides all three types of services (yellow) and organisation 7

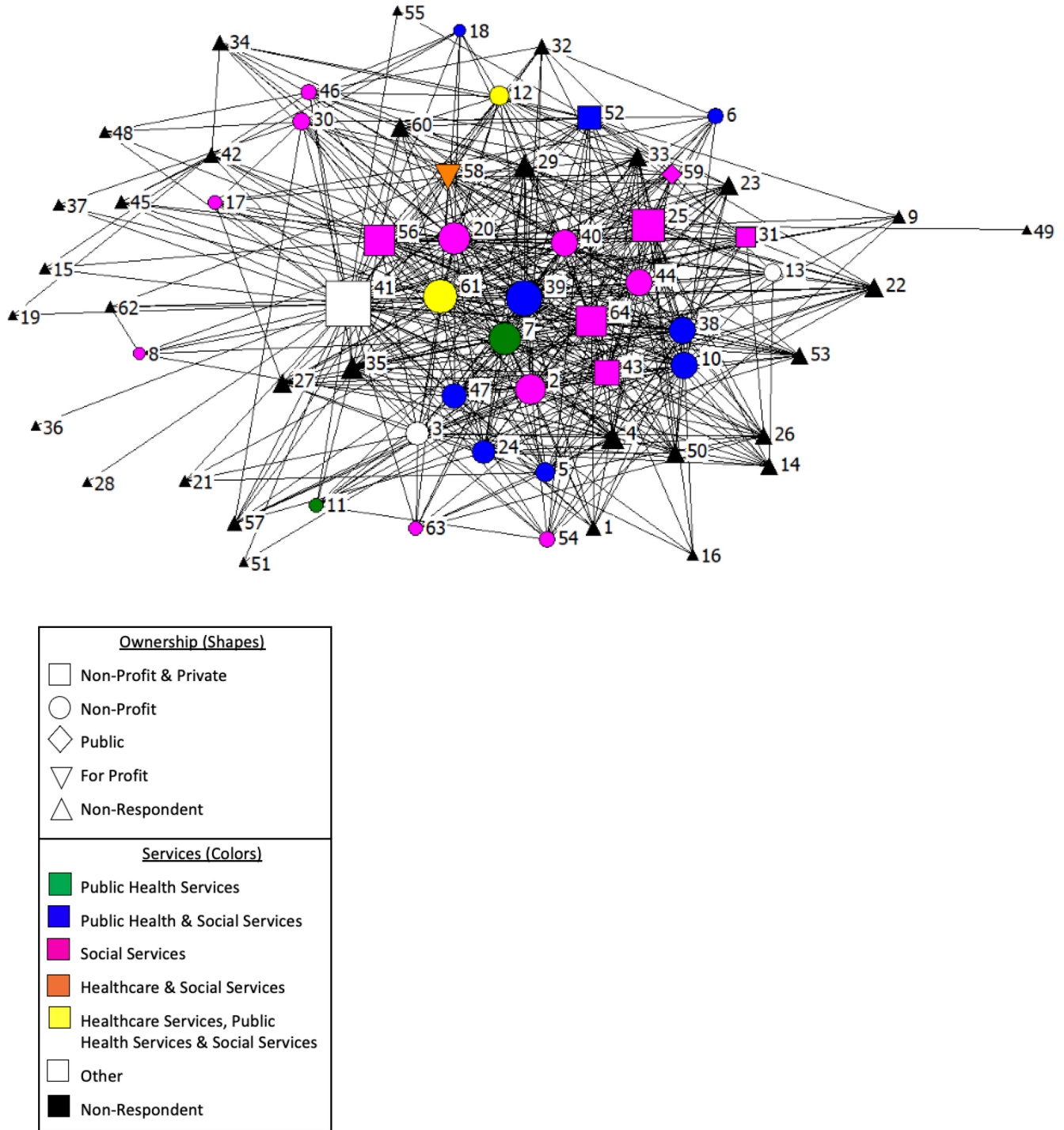


FIGURE 3 City C

provides public health services (green nodes). Organisation 8, uniquely identified as a for-profit organisation (orange node), reported providing a mix of healthcare / social services (upside-down triangle).

### 3.4 | Across all three cities

Although no generalisations can be made from one city to the next, all three network diagrams highlighted the central role of social service and

social service/public health organisations in collaborative activities. Social service and public health organisations had the strongest nodes according to their centrality and frequency of collaborative efforts. Across all three cities, referring clients was one of the top two collaborative activities in terms of centralisation (see Table 2). Collaborating and sharing funding to address social connection received the lowest proportion centralisation measures across all three cities. In other words, organisations collaborated frequently and with more partners in terms of referrals and less frequently with regards to funding. Joint service delivery and

TABLE 1 Characteristics of participating organisations

	City A	City B	City C	Total
	N (%)	N (%)	N (%)	N (%)
Participating organisations	4 (8.7)	8 (17.4)	34 (73.9)	46 (100)
<b>Ownership</b>				
Non-profit	3 (75.0)	7 (87.5)	25 (73.5)	35 (76.1)
Non-profit & private	1 (25.0)		7 (20.6)	8 (14.3)
Public		1 (12.5)	1 (2.9)	2 (4.3)
For profit			1 (2.9)	1 (2.2)
<b>Service type</b>				
Social services (SS)	3 (75.0)	4 (50.0)	17 (50.0)	24 (52.2)
Public health services (PHS)			2 (5.9)	2 (4.3)
Healthcare services (HCS)				
SS+PHS	1 (25.0)	1 (12.5)	9 (26.5)	11 (23.9)
SS+PHS+HCS		1 (12.5)	2 (5.9)	3 (6.5)
SS+HCS			1 (2.9)	1 (2.2)
Other		2 (25.0)	3 (8.8)	5 (10.9)
<b>SDH<sup>a</sup> areas</b>				
Asset security (AS)			5 (14.7)	5 (10.9)
Food security (FS)	1 (25.0)	2 (25.0)	3 (8.8)	6 (13.0)
Post-secondary success (PSS)			3 (8.8)	3 (6.5)
AS+FS		3 (37.5)		3 (6.5)
AS+PSS	1 (25.0)		2 (5.9)	3 (6.5)
FS+PSS			3 (8.8)	3 (6.5)
All Three	1 (25.0)		8 (23.5)	9 (19.6)
Nothing additional	1 (25.0)	3 (37.5)	10 (29.4)	14 (30.4)
<b>Interviewee position</b>				
CEO/COO/CPO <sup>b</sup>	1 (25.0)	4 (50.0)	13 (38.2)	18 (39.1)
Vice president	1 (25.0)		1 (2.9)	2 (4.3)
Executive director	2 (50.0)	3 (37.5)	16 (47.1)	21 (45.6)
Other		1 (12.5)	3 (8.8)	4 (8.7)

<sup>a</sup>Social Determinants of Health.<sup>b</sup>Chief Executive Office/Chief Operating Officer/Chief Privacy Officer.

TABLE 2 Centralisation measures by city

	City A		City B		City C	
	Most central organisation	Proportion centralisation	Most central organisation	Proportion centralisation	Most central organisation	Proportion centralisation
Organisational collaboration	1	0.40	1, 10	0.23	41	0.65
Receiving referrals	1	0.47	2	0.50	39	0.46
Referring clients	1	0.42	2	0.64	39	0.71
Sharing information	1, 4	0.26	1, 2, 9	0.41	41	0.69
Delivering services	1	0.40	2, 9	0.50	61	0.33
Collaborating outside service delivery	1, 4	0.15	6	0.50	39	0.58
Providing funding			9	0.21	41	0.67
Receiving funding	1	0.27	9, 10	0.18	41	0.33
Joint funding	–	–	2	0.23	7	0.22
Perceptions of stability			1	0.68	39	0.67

collaborations outside service delivery also received less affirmation than referrals or information sharing (with the exception of City A).

Qualitative data for network collaborations, network resources and barriers to collaboration were examined across all three cities. *Network collaborations* covers the qualitative data from within the Structure / Operations portion of the survey. *Network resources* captures the themes across cities with regards to their resources, while *Barriers* focuses on the identified obstacles discussed within the last section of the survey.

### 3.4.1 | Network collaborations

Participants in each city also described their perceptions of network collaborations and what worked well (Table 3). Interviewers asked participants how well the organisations communicated, how well shared events/meetings went and about the level of collaboration among organisational leadership. Although 89.1% reported that overall the organisations in their city collaborated well together, network communication seemed to challenge them the most. For example, one participant shared the following:

It is hard to stay connected when we are all trying to survive and provide our services on a day-to-day basis. Org 6, City A.

Several organisations identified that the Covid-19 pandemic exacerbated the existing challenges with communication. They further emphasised the struggle to maintain efficient daily operations and communication with other organisations. For example, one person suggested the following:

We need to do a better job of cross-tracking participants among agencies and communicating about what we are providing from one agency to the next, because as of right now, we cannot tell what the long-term impact is. Org 25, City C.

Organisations struggled to operate with adequate communication prior to the pandemic, such as for activities like client tracking, which worsened as they changed operational practices for the pandemic.

### 3.4.2 | Network resources

Although the perceptions of collaboration often yielded positive responses, the report on the availability of resources to collaborate to address social connection highlighted greater challenges (Table 3). Respondents frequently (84.5%) reported insufficient financial resources, insufficient staffing (69.6%) and technological resources (69.6%). Participants explained that financial resources were insufficient to support organisational collaboration and that they struggled with the competition when seeking external funding. Some suggested that the competition disadvantaged the smaller organisations:

**TABLE 3** Perceptions of network collaborative efforts and resource availability

	City A	City B	City C	Totals
<b>N</b>	<b>4 (8.7)</b>	<b>8 (17.4)</b>	<b>34 (73.9)</b>	<b>46 (100)</b>
<b>Perceptions of collaborative efforts</b>				
<b>Overall collaboration</b>				
Strong	4 (100)	7 (87.5)	30 (88.2)	41 (89.1)
Weak		1 (12.5)	4 (11.8)	5 (10.9)
Unsure				
<b>Communication</b>				
Strong	1 (25)	7 (87.5)	22 (64.7)	30 (65.2)
Weak	3 (75)	1 (12.5)	12 (35.3)	16 (34.8)
Unsure				
<b>Shared events</b>				
Strong	2 (50)	6 (75.0)	26 (76.5)	36 (78.3)
Weak	2 (50)	1 (12.5)	7 (20.6)	10 (21.7)
Unsure		1 (12.5)	1 (2.9)	2 (4.3)
<b>Organisational leadership</b>				
Strong	3 (75)	6 (75.0)	25 (73.5)	34 (73.9)
Weak	1 (25)	1 (12.5)	8 (23.5)	10 (21.7)
Unsure		1 (12.5)	1 (2.9)	2 (4.3)
<b>Availability of network resources</b>				
<b>Financial resources</b>				
Sufficient		1 (12.5)	4 (11.8)	5 (10.9)
Insufficient	3 (75)	6 (75.0)	30 (88.2)	39 (84.8)
Unsure	1 (25)	1 (12.5)		2 (4.3)
<b>Physical facilities</b>				
Sufficient	2 (50)	6 (75.0)	23 (67.6)	31 (67.4)
Insufficient	1 (25)	1 (12.5)	11 (32.3)	13 (28.3)
Unsure	1 (25)	1 (12.5)		2 (4.3)
<b>Technological resources</b>				
Sufficient		2 (25.0)	11 (32.3)	13 (28.3)
Insufficient	4 (100)	5 (62.5)	23 (67.6)	32 (69.6)
Unsure		1 (12.5)		1 (2.2)
<b>Tangible resources</b>				
Sufficient	2 (50)	3 (60.0)	18 (52.9)	23 (0.50)
Insufficient	1 (25)	4 (50.0)	15 (44.1)	20 (43.5)
Unsure	1 (25)	1 (12.5)	1 (2.9)	3 (6.5)
<b>Allocation of staff</b>				
Sufficient	1 (25)	2 (25.0)	8 (23.5)	11 (23.9)
Insufficient	2 (50)	5 (62.5)	25 (73.5)	32 (69.6)
Unsure	1 (25)	1 (12.5)	1 (2.9)	3 (6.5)

There is too much competition among collaborators and partners for funding. Funding opportunities are too large and may need to be subdivided into smaller chunks to help smaller organisations. Org 5, City A.



Within City A, none of the participating organisations reported receiving or providing funding to any of their collaborative partners. A participant in City C suggested that funders could help minimise the competition by prioritising joint applications or requests for funding designed around collaborative efforts:

More funding is obviously needed, but also creating a new focus on funding the types of specific collaborations that organisations are partnering in that collectively serve the community. This could alleviate some of these challenges. Funding specifically to these types of collaborations would help a lot because these organisations would be able to fill different needs in the pipeline. Org 3, City C.

Another organisation suggested that the lack of sufficient financial resources evolved out of a lack of emphasis on the importance of social connection:

We need buy-in on a larger/systems level. If social connectedness was viewed in the same way we want to see improvements in other areas, for example, disease areas, then we would have larger buy-in and more financial resources. Org 2, City B.

Multiple organisations suggested that the financial insufficiencies could be alleviated by more investment at the state or federal level as well. Further, some participants who represented smaller grassroots organisations reported that funding often exists for new efforts or innovative programme designs, but that most often they struggle with paying for administrative costs, funds for daily operations and staffing. They report that large philanthropic organisations do not often intentionally fund those areas.

The Covid-19 pandemic starkly emphasised most organisations' insufficient technological resources. Organisations reported a range of technological resources prior to the pandemic, but ultimately, they found they were ill-equipped to pivot to more extensive digital operations. For instance, one participant shared:

Prior to Covid, we would have said we had sufficient technological resources, but now we have to do everything via distance learning or virtually. Our ability to connect with our clients is limited without our technological abilities. Org 1, City A.

Other organisations noted that as much as the organisation may not have sufficient technological resources, their clients struggled to connect virtually even more. In City B, one participant discussed that problem:

In light of the pandemic, we need more technology to connect people to services. However, many communities lack the technology and connectivity to do

basic virtual connections. The lack of broadband is a widespread problem. Org 10.

Several participants reported that the technological issues are exacerbated by the lack of technological literacy in communities, but that there is not enough funding or staff to address it. Respondents suggested that lacking technological resources meant lacking WIFI, computers and IT personnel.

Several respondents also shared that the unequal distribution of staff across the network results from limited financial resources, especially for smaller organisations. One organisation shared the following:

All non-profits have to stretch. Smaller ones have to stretch and [employees]play many roles within the organisation. Our IT guy also does our accounting. Ideally, we have additional people and provide better service. Org 6, City A.

Participants stated that with more funding available they could also train more staff to provide more efficient resources and services to the community. Yet, how funding agencies prioritise funds for programmes further limits an organisation's ability to address administrative and personnel needs:

We need 30% more allocated for payroll, increasing staffing count, and improving pay. This would improve morale in staff, decrease staff turnover, and improve outcomes for our clients because we would have better trained staff and we would run more efficiently. Org 52, City C.

Although all of these resources play a vital role in the network's ability to improve social connection in each city, participants rarely directly discussed the impact on social connection.

### 3.4.3 | Barriers to address social connection

Respondents attributed stable relationships to an alignment of missions and overlap in organisational activities. However, respondents discussed how whole networks could benefit from improved overlap and expanding intentional collaborative efforts. Further, across cities, organisational representatives noted the continued influence of history on their ability to create strong collaborative partnerships. For instance, in City A:

We want to raise leaders in the community, but often community members aren't ready for that...which can hinder the progress. The history of segregation within our community challenges progress we hope to make, and the existing social inequities and systemic barriers make our work more challenging. Our community has complex social dynamics. Org 6, City A.

In another city, the participant also named a history of segregation and systemic racism that impacts the structure of funding streams and ultimately organisational efforts:

Segregation is the biggest issue to collaboration. It prevents a lot of efforts from moving forward and is an issue everywhere in the non-profit world, but we really need to have a more intentional conversation about systemic racism here. I also think that the way funding happens, and the nature of funding streams occur are toxic. And those come from outside the non-profit world into the non-profit world. I think it works best when organisations share funding streams. Funders ultimately create the competition to benefit them and the bigger the corporation the bigger the problem. Org 40, City C.

However, many acknowledged that the complexity of the challenges faced by their clients ultimately impacts the gains they can make to improve social connection. For instance, one participant noted the following:

We ask clients about social connection intentionally and try to connect them with opportunities, but often our clients do not have the time, energy, or the money to actually get connected. Our clients are often in survival mode and social connection is low on the priority list. Org 52, City C.

Multiple organisations, across cities, also discussed the complexity of social isolation alongside the other social determinants. Organisations can offer programmes, but ultimately the topic warranted further conversation and collaboration:

[Social connectedness] is a complex issue. Reaching people who are hard to reach is a big challenge and people who are socially disconnected are inherently hard to reach. It's hard to decide on tactics to reach those who are really disconnected. Org 1, City B.

Even with those barriers, organisational representatives emphasised their hopes for the people in the community. Social isolation is a difficult challenge and became even more so during the pandemic year.

## 4 | DISCUSSION

Fostering social connectedness has become an increasingly relevant task as methods of communication and connection in the United States shift due to advances in technology, increased collaboration on population health and the SDOH, and the Covid-19 pandemic. Promoting organisational collaboration within communities,

with the outcome of addressing the SDOH and social connection, can combat these issues (Hogg & Varda, 2016). This study sought to identify how community organisations collaborated, during the Covid-19 pandemic, to address social connectedness and other social determinants. After interviewing representatives of 46 community organisations across three southern U.S. cities, the study highlighted that social service organisations that also offer public health services play a primary role within these communities, organisations primarily collaborate through referrals and information sharing and inadequate resources continue to plague the optimisation of organisational operations.

As mentioned above, the SNA suggested that social service agencies that also provide public health services tend to fall at the centre of network collaborations. Research suggests that effective organisational coalitions tend to include a diverse body of organisations (Zakocs & Edwards, 2006). Such findings seem to both contrast and connect with published research. In contrast, public health organisations reported feeling underrepresented and community organisations (and their corresponding sector) reported feeling siloed in collaborative efforts (McCullough et al., 2020). In support of our findings, the top five most requested supports among Missouri organisations represented both social needs (i.e. food, financial help and legal assistance) and health needs (i.e. mental health and health insurance) suggesting that organisations offering this combination can tackle multiple needs for residents in one location (Kreuter et al., 2020). Although organisations that provide this combination of services may play a central role in collaborations due to their multisectoral focus, the limited capacity of these organisations hinders success (McCullough et al., 2020).

Respondents repeatedly shared their challenges with limited resources, inclusive of funding, staffing and tangible resources. Many participating organisations stated that they received grant funds primarily for programming, rather than for operational items such as staffing, equipment, new computers or software and administrative overhead (Jansen, 2013). Further, they suggested that dispersion of and competition for funding interfered with collaboration goals to further address social connection. Organisational leaders believed that funding would have more of an impact if the option of collective and joint funding applications were prioritised over individual organisation applications. They also believed that such grant-funding efforts may yield an even greater positive impact on their local communities. Additionally, prioritising joint and collective applications may address personnel challenges that smaller organisations face when seeking funds (i.e. the staff to secure and implement grant requirements). One study suggested that the level of an organisation's collaboration, however, may depend on the source of the funding (Jang & Feiock, 2007). Specifically, the greater dependence an organisation has on public funding (rather than private) is associated with the extent of an organisation's formal collaborations (Jang & Feiock, 2007). Other research reinforces the fact that limitations of organisational utilisation of grant funding or funding priorities based on historical priorities hinder interorganisational collaboration (McCullough et al., 2020). At the same time, those organisations

need to be able to communicate how funding those aspects of their operations ultimately impacts the community in measurable ways (Hepburn et al., 2007). Having sufficient staff to pursue such tasks, however, suggests a cyclical problem that may reinforce existing inequities.

Respondents also cited their limited access to broadband and internet services as a barrier to further organisational efforts to improve social connection. The pandemic has highlighted how various technologies can offer avenues for connection previously underutilised. These resources, however, require basic internet connectivity that is unavailable in many communities. Rural communities still struggle to obtain high-speed internet connections that enable wider social participation (Vogels, 2021). The lack of access to broadband or other internet services further isolates and marginalises those communities (LaRose et al., 2011; Whitacre et al., 2014). Some researchers even suggest that for rural communities of colour, the combined digital and financial divide creates a digital redlining that reinforces systemic inequities (Friedline et al., 2020). As the Biden administration advocates for improvements to infrastructure throughout the United States, the present research emphasises the need to intentionally include internet and broadband access among the traditional access priorities such as bridges and roadways.

Organisational representatives discussed that the history of systemic racism and organisational practices in their communities continue to hinder progress in their efforts. The history of inequitable practices appears to interfere with further collaborative efforts due to challenges at the policy, organisational and personal levels. When engaging with foundation representatives, researchers found that those representatives agree that structural and institutional racism hinder their own efforts at social change (Jansen, 2013). However, they struggled to acknowledge the disconnect between their work and their community involvement (Jansen, 2013). Other research suggests that one's perception of a community's challenges and support may impact the sense of empowerment and thus collaboration (McMillan et al., 1995). However, little peer-reviewed research acknowledges how a community's history may directly influence organisational collaboration. As part of the Black Lives Matter movement, one community-based organisation decided to tackle these challenges directly by establishing a long-term funding stream that would support political and economic interventions (Kline & Quiroga, 2021). Efforts included a pathway that would promote black community leaders (Kline & Quiroga, 2021). Previous programmatic and collaborative efforts with private funders identified the need for those funding groups to see community and organisational leaders as full partners in order to see substantial and equitable change (Wolff et al., 2016).

#### 4.1 | Study limitations

Limitations apply to the present study. First, since the challenge of non-response bias is present throughout the study. Even though participating organisations identified their partners a priori, the low

response rate from those other organisations limits the knowledge gathered for each city. Recruiting during an international pandemic complicated these efforts. Each organisational representative participated at a different time and since events with the pandemic unfolded rapidly, this may have impacted respondents' participation. Low response rates could mean the study underestimates meaningful collaborations between organisations (Borgatti et al., 2018, pp. 42–44). Second, the present study lacks characteristics of all organisations (even those that did not participate). The grantee organisations identified their partners in name only; often these organisations did not have websites or detailed websites with such information. Third, the networks for each city are not generalisable to an entire city/community and potential collaborations among all existing organisations. The aims, instead, focused on networks around these predetermined organisations. Fourth, although the team provided specific definitions for respondents to ensure consistency in responses, variation in respondents' interpretation may exist. Finally, cities with larger network sizes (more organisations identified a priori) meant respondents underwent lengthier interviews, which often challenged respondents and may have impacted the qualitative responses provided.

#### 4.2 | Future research

Many possibilities exist for future research that explores social connection and community organisations' collaborations. Interviews highlighted that future research should explore how targeted and place-based initiatives, such as focusing on specific neighbourhoods, may influence social connection rather than broad or city-based initiatives. Further, researchers could partner with funding organisations or community organisations to explore how joint funding applications may address organisational resource barriers and limited collaboration. These partnerships could also help identify what activities community-based organisations consider vital for social connectedness rather than pre-defined (as done here). Lastly, further research on the systematic issues challenging local organisations would greatly impact those aiming to contribute to social connection and the SDOH in their communities. Many collaborating organisations experienced systematic issues and challenges, so further exploration, discussion and the monitoring of grantees' awareness of local community history and existing social inequities will only yield positive benefits. Further research of this type may also result in research and action on advocating for organisational efforts that address the systemic issues rather than reinforce existing disparities.

### 5 | CONCLUSION

Social relationships remain missing from the lists of currently accepted determinants of health for the majority of U.S. government agencies, healthcare providers and healthcare funders (Holt-Lunstad et al., 2017). The CDC identifies 'winnable battles' as public health

priorities with large-scale impact on health and known effective strategies to address them (Holt-Lunstad et al., 2017). A public health focus on the social connection has the potential to make the CDC's winnable battles even more achievable as social connections and relationships provide a context for many important health behaviours, including other recognised health determinants (Holt-Lunstad et al., 2017). The present research identified how community-based organisations collaborate to improve social connections in three southern U.S. cities. The results suggest that collaborative efforts occur through referrals and information sharing; however, resource scarcity challenges the ability of these organisations to expand collaborations and develop innovative solutions to social isolation. In addition, the history of systemic racism within each city complicates collaborative efforts. With limited resources and a growing need for organisations to collaborate as communities work to address complex social needs, community and organisational leaders can consider meaningful opportunities to build partnerships and leverage existing cross-collaboration across local networks. Policymakers and funders could consider resourcing local organisations such that these types of partnerships are incentivised financially, thus prioritising collaboration itself as a mechanism for promoting community health.

#### AUTHOR CONTRIBUTIONS

Kelsey B. White and Zoë Resmondo collected the data and analysed the data. They worked with J'Aime C. Jennings and Liza M. Creel for further analysis and manuscript preparation. The entire team, Kelsey, Zoë, J'Aime, Liza and Brandy, designed the study and finalised the manuscript.

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#### CONFLICT OF INTEREST

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#### DATA AVAILABILITY STATEMENT

The data are not shared due to third-party and privacy restrictions.

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## SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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