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Social network access and growth: Building relational resilience for street crew-involved men through a community-based intervention

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ABSTRACT

Gun violence disproportionately affects New York City's poorest neighborhoods, with gang-related incidents comprising approximately half of the shootings in these communities. Traditional law enforcement approaches have shown limited effectiveness, prompting development of community violence interventions (CVIs) that target high-risk individuals through holistic programming. Project Restore (PR), a 12-month CVI serving 30 men from two rival street crews, achieved notable success with all participants completing the program without new arrests for violent acts and the community experiencing a 28% greater than expected reduction in shooting incidents. This study examines how PR influenced participants' social networks to better understand potential mechanisms underlying these violence reduction outcomes. Using mixed methods, Study 1 employed qualitative content analysis of post-intervention interviews with 25 of the 30 PR participants to examine relationship changes across three Social Brain Hypothesis levels: Support Clique (family), Sympathy Group (peers, mentors), and Active Network (professional connections). Study 2 conducted social network analysis with a purposely selected subset of six participants—three influential crew leaders from each of the two rival groups who engaged in cross-gang collaboration focused on community peacebuilding—examining social network changes pre- and post-intervention. Results demonstrated substantial network expansion and transformation that may help explain PR's previously documented violence reduction success. Study 1's broader sample revealed improved family relationships, enhanced peer communication skills, and expanded community engagement across all participants. The six influential leaders in Study 2 reported an 11.7-fold increase in social connections, with marked growth in mentor relationships and professional connections. Most notably, the six leaders from previously disconnected rival crews became interconnected, indicating successful cross-crew collaboration. These social network transformations may help account for PR's violence reduction success by facilitating prosocial norm diffusion within resistant social structures. Unlike traditional approaches that sever social ties, PR demonstrates how existing gang networks can be leveraged to promote positive change through systematic social network strengthening.

KEYWORDS

Community violence intervention; gang violence; gatekeeping theory; gang violence; gatekeeping theory; positive psychology; social networks

Community gun violence imposes profound costs on historically disadvantaged communities, particularly in areas of concentrated poverty and racial segregation (Bancalari et al., 2022). It harms individuals and exacerbates disparities in health, income, employment, education, and social cohesion, stifling local business growth and employment opportunities. This creates a vicious cycle that further diminishes the social and economic resilience of communities, trapping residents in marginalization and disadvantage (Chasin, 2022). In starkly unequal cities like New York, gun violence is most concentrated in a few deeply disadvantaged neighborhoods. Victims are disproportionately young Black men aged 18–24 who represent only 1% of New York City's population yet face a risk of being shot that is 88 times higher than for white counterparts (Vital City, 2022).

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Neighborhoods with the highest levels of gun violence, poverty and systemic racism push many youth and young adults toward street crews—local, geographically dependent, neighborhood gangs—in search of safety, income, acceptance and identity (Daniels, 2024). Unfortunately, this affiliation can lead to increased violence, incarceration, and death, with gang-related violence accounting for about half of shooting incidents in New York City (Robbins & Schram, 2015). Moreover, the stigma of gang membership leads to social rejection and expulsion from networks that can provide opportunities to pursue healthy paths to adulthood (Lee & Bubolz, 2020).

Traditional law enforcement responses to gang violence, such as gang takedowns, have temporarily reduced violence but at the cost of significant harm to young Black men from historically disadvantaged communities while exacerbating tensions between police and community members (Valasik, & Reid, 2019). Calls for innovative strategies that reduce violence while promoting healthy youth development have led to a shift toward community-based interventions that emphasize preventing violence through proactive intensive investment in the small number of gang-associated youth at highest risk for being both victims and perpetrators of violence (Hureau & Papachristos, Hureau & Papachristos, 2025).

Project Restore (PR) exemplifies this new approach. PR was designed to provide 30 young men from two rival crews with the support and resources to change their life trajectories by constructing a web of relationships that promoted positive change. The program provided participants with 12 months of case management, mentorship, financial support, life skills education, employment and educational internships, and healing circles. Working separately with members of the rival groups (15 from each street crew), PR strategically focused on crew leaders and especially on identifying and investing in those who emerged as leaders likely to support peaceful coexistence. This approach recognized these individuals as gatekeepers within their social networks—following Kurt Lewin's conceptualization of gatekeepers as those who control information flow and possess the power to facilitate or block organizational change (Lewin, 1947). Toward the end of the intervention, six influential leaders from the rival street crews were invited to engage in a cross-gang sit down to discuss creating and maintaining peace within their community, leading to a commitment to work together on long-term peaceful coexistence and community empowerment through the Public Safety Working Group.

The evaluation of the intensive 12-month phase of PR demonstrated significant decreases in violence at both individual and community levels (Downey et al., 2024). All 30 participants completed the intervention with zero new arrests or indictments for violent acts, while the community experienced a 28% greater than expected decrease in shooting incidents—nearly double the average decrease across New York City—and a 22% reduction in major felonies. PR participants also showed marked employment and educational gains: 33% enrolled in college (significantly higher than the expected college enrollment rate for young Black men disconnected from education and employment and from public housing developments in similar neighborhoods, see Anderson et al., 2019), over 90% completed internships during PR, and 60% engaged in paid skill-building internships after PR ended. These outcomes represent a significant departure from local neighborhood benchmarks where unemployment rates reach 18% and school absenteeism and dropout rates exceed citywide averages (New York City Department of Health, n.d.).

While these outcomes demonstrate PR's transformative impact, they raise important questions about the role and evolution of participants' social networks as a potential mechanism of change. This article reports two studies examining PR participants' perceptions of the intervention's impact on their social relationships, combining qualitative analysis of participants' lived experiences with quantitative social network analysis of structural relationship changes.

Implementing positive psychology within community violence interventions

The design of PR was informed by research demonstrating that the most impactful and sustainable way to reduce violent crime is to invest in preventive, public health approaches to community safety that focus on the needs of those most at risk of gun violence (American Psychological Association, 2013). Effective community violence intervention (CVI) programs such as the Roca Model, Safe Street Baltimore, and Advance Peace share an emphasis on the individual in relation to their communities. The programs recognize that in neighborhoods characterized by economic insecurity, disconnection

from education and employment, and exposure to violence, gang membership can provide security, identity, status, and acceptance (Daniels et al., 2024). For street crew-involved Black men, the belonging and social acceptance that comes with street life often serves as adaptive resilience (Payne, 2011).

These newer CVIs incorporate core concepts from positive psychology by focusing on conditions and processes necessary to enhance participants' agency, meaning, healthy coping skills, and overall quality of life (Gable & Haidt, 2005). This strength-based approach aligns with efforts to bridge positive psychology with community psychology (Neto & Marujo, 2014) and to incorporate collaborative models of empowerment and solidarity (Hogan, 2020). Understanding how CVIs like PR influence participants' social support systems represents a timely endeavor for merging positive psychology concepts with community-based intervention realities.

Social network analysis and relational growth

Given the critical influence social networks have on life trajectories by determining access to resources (Jeon, 2020) and advantages or disadvantages (Perc, 2014), conducting social network analyses for socially and economically marginalized populations is especially valuable. Individuals from communities facing economic scarcity, neighbor distrust, crime fears, and absence of essential services face difficulty cultivating supportive social networks (Sampson, 2019), leading to negative effects on health, well-being, and capacity to cope with challenges (Cattell, 2001; Nishi et al., 2015). Conversely, evidence suggests that once networks move from sparse to densely connected, they become more resilient to overcoming challenges and crises (Aldrich & Meyer, 2015).

While social network analysis has been used to explore gang dynamics, particularly for identifying centrally connected members and those more persuadable to exiting their groups (Roman et al., 2012), evaluating social capital growth following street crew-involved CVIs has rarely been systematically studied. Former influential street crew leaders often function as "credible messengers" whose influence, lived experience, and network centrality make them especially effective conduits for behavioral change and norm diffusion (Butts et al., 2015; Valente, 2012). Their transition from street crew leadership to community stewardship positions them as critical nodes in prosocial norm transmission while providing insight into how identity shifts and structural repositioning occurs within networks.

Building on Kurt Lewin's concept of gatekeepers in organizational change, these influential street crew leaders can be understood as gatekeepers within their social networks who control the flow of information and have the power to either facilitate or block new behavioral norms from moving forward (Lewin, 1947). Developments in gatekeeping theory, particularly Barzilai-Nahon (2008) Network Gatekeeping Theory, have refined our understanding of gatekeepers. This contemporary framework emphasizes that gatekeepers in networked environments not only provide access—they also facilitate connections, link different groups, and engage in complex information control processes including how to frame messaging and who to engage with whom (Barzilai-Nahon, 2008). Like organizational gatekeepers, these street crew leaders possess positional power within their crews, serve as information intermediaries between different social groups, and occupy strategic network positions that allow them to influence whether prosocial innovations receive the support needed to succeed. Their network centrality and influence over group dynamics make them critical determinants of whether violence reduction efforts gain traction within street crew culture. PR's strategic focus on identifying and investing in these gatekeepers—particularly those who emerged as leaders likely to support peaceful coexistence—reflects recognition that technical program merit alone is insufficient without the support of key individuals who can navigate existing social dynamics and facilitate norm change within networks (Barzilai-Nahon, 2009).

The Social Brain Hypothesis (SBH) offers a useful framework for exploring PR's influence on social network growth. SBH networks are organized into multilevel social systems reflecting ecological structures (Bronfenbrenner & Morris, 2006; Buys & Larson, 1979; Sutcliffe et al., 2012). The innermost "Support Clique" consists of intimate emotional relationships such as family members and close partners. The middle "Sympathy Group" consists of supporting relationships such as friends or mentors from the community. The outer "Active Network" consists of broader but weaker social ties such as professional and educational connections (Dunbar, 1998). Strong ties, like those found in the Support

Clique, are characterized by frequent interaction and emotional closeness, while weak ties found in the Active Network serve as bridges to new opportunities and information that might not be accessible through close relationships or community one-to-one connections (Lin, 1999). For street crew members whose social networks were often limited to close family and fellow crew members (Craig et al., 2002), connections with emotionally supportive figures and instrumental ties to resources through weaker ties may be sparse or underdeveloped.

The present research

The present research maps how PR participants describe their social networks before and following the intervention while examining their perspective on network evolution during the intervention. We integrate qualitative and quantitative approaches (Mackey & Bryfonski, 2018) to provide a comprehensive understanding of how participants perceived their personal change (as opposed to analyzing broader markers of community-level or structural change). Study 1 uses thematic qualitative analysis to outline how PR influenced participants' social relationships in their own words. Study 2 employs social network analysis with a subset of six particularly influential participants—those who joined the Public Safety Working Group—to examine structural dynamics within participants' networks.

Research questions

1. How do PR participants describe changes in their social relationships over the course of PR?
2. To what extent do social network analyses reveal growth in the size and composition of positive relationships among influential participants since the intervention's start?

We expect participants to describe how PR influenced their relationships by helping them address previous relational challenges across multiple relationship types, aligning with the SBH levels. We anticipate social network analyses will demonstrate pre-to-post intervention increases in network size, greater relationship diversity, and strengthened connections between influential associates of the two street crews.

Study 1

Study 1 used Qualitative Content Analysis (QCA; Schreier, 2012) to identify the broad relational and social categories discussed by PR participants in post-intervention interviews. Participants described major categories of social relationships including family members, peer networks inside and outside of their street crew involvement, outgroup relationships with rival street crew members and law enforcement, staff and others connected to PR, and broader social networks often geographically coded such as the "Community" and the "Streets"—a term describing the overarching norms and lifestyle associated with street crew membership (Payne, 2011).

Method

Participants

From December 2023 to January 2024, 25 of the 30 PR participants completed end-of-program interviews (4 did not respond to repeated requests for interviews; 1 declined to be interviewed). All participants identified as male, Black/African Americans, ages 21–32 ($M = 25.08$, $SD = 3.80$), with 14 connected to Street Crew A and 11 to Street Crew B. Seven were themselves formerly incarcerated; all had close friends or family currently or previously incarcerated.

Measures

Interview questions emphasized program assessment and evaluation across multiple domains, with several questions concerning relationships (e.g., "Has the program changed your relationship with your family and friends?" "Do you feel like you have positive influences in your life?") and others evoking

relationship discussions (e.g., "How has the program affected your ability to resolve conflict?"). See the OSF link for full study protocols: https://osf.io/6bhpz/?view_only=5874cd14f3224e04b3a667d345e2d443.

Procedure

Interviews were conducted at convenient locations including Columbia University's Center for Justice and a community partner location. Each 35–50 minute interview followed the same protocol.

Data analysis

QCA was used to develop a coding scheme distinguishing among three SBH levels, categorizing relational challenges (e.g., disconnected, conflict-ridden, unstable) versus relational growth (e.g., connected, solution-driven, stable, adaptive) at each level (Roffey, 2017). Family and Close Relationships corresponded with the Support Clique level, Peer Groups, Outgroups and PR Team members corresponded with the Sympathy Group level, and Broader Social Networks corresponded with the Active Network layer. To establish interrater reliability, the second and fifth authors independently coded 10% of the data selected at random (38 out of 380 total codes). Disagreement was resolved by discussion and the scheme adjusted to reflect the new consensus. In a second round of inter-rater reliability analysis, an optimal range of agreement was reached with a *kappa* of .84 (35 of 38 random segments were coded in agreement; see Landis & Koch, 1977, p. 165).

Results

Support clique: family and close relationships

Twenty-four participants referenced family and close relationships (see Table 1). Participants described relationship challenges arising from histories of incarceration and resource scarcity within their families: "And, most people in my house is negative thoughts … When you're in that type of

Table 1. Summary of frequencies and main themes for levels of SBH: Challenges and growth.

	Pre-existing relationship challenges	Relationship growth during PRB
Support clique: family and close partnerships	38 codes from 24 participants. Main themes: –family incarceration history –lack of family material resources –lack of family emotional support	33 codes from 20 participants. Main themes: –greater ability to support family –sense of pride from family –more time to take care of loved ones
Sympathy group: peers	16 codes from 9 participants. Main themes: –peer incarceration history –negative (older) peer influences –lack of positive peer role models	58 codes total from 19 discrete participants. Main themes: –strengthening of communication/honesty –letting go of negative relationships –mutual peer role-modelling
Sympathy group: outgroups	15 codes from 12 participants. Main themes: –perceptions of unsafety –negative law enforcement encounters –disconnect from elders, city leadership	29 codes from 18 participants. Main themes: –safety through conflict resolution –better law enforcement interactions –humanization, perspective-taking with others
Sympathy group: PRB team	9 codes from 6 participants. Main themes: –lack of sustainable, long-term program –more direction, accountability asks –more intention to internship/mentor matching	65 codes from 25 participants. Main themes: –genuine, consistent staff care and connection, –mentorship with credibility and specific individuals –encouraging and positive advice/guidance
Active network:	40 codes from 23 participants. Main themes: –lack of opportunities and material resources –lack of positive community role models or support –pull of street culture for survival and safety –perception of being "the problem"	77 codes from 23 participants. Main themes: –joining new social networks across city and world (e.g., Columbia University) –new community engagement leading to connections and support/acceptance –motivations to create community change through new activities and ambitions (e.g., starting a community center) –professional networks and opportunities expanding

Table organizes participant experiences into "Pre-Existing Relationship Challenges" and "Relationship Growth During PRB." The table is divided into the three Social Brain Hypothesis levels: Family and Close Partnerships, Sympathy Group comprising three types of relationships (Peers, Outgroups, PRBTeam), and Active Networks (institutions and their representatives beyond the immediate community). Each cell lists the number of codes and participants contributing to these codes. The codes quantify segments of data linked to specific experiences.

environment, it's tricky" (Participant B9). Several voiced disconnection caused by family members being unsupportive: "Some of my family members looked at me like I wasn't going to be nothing. I was going to follow up my brothers and my uncles and all of that" (Participant A7). Twenty participants described relationship growth, including new motivations and capacity to build healthier, more connected family relationships. Personal and professional achievements during PR elicited support and pride from family members:

> Well, I'm showing my father and grandmother, ever since I told them what I've been doing a lot, the whole relationship's changed. It's way better now. I wake up every morning, my grandmother is like, 'Yo, where you going? Ah, you going here? Ah, don't just be going outside. Make sure you go in here, make sure you're doing this.' So it's like they're happy for me. I told them today I was going to Columbia. They was like, 'Oh word. You've been telling me that you were supposed to go back up there.' They're happy for me. (Participant A10)

Sympathy group: peers

Nine participants described challenges finding positive peer role models within their community, instead finding models of repressive behavior: "Just being tough. Not showing vulnerability, not showing feelings" (Participant A1). Participants felt pressured by negative peer influences emphasizing cynicism and short-term opportunism: "… there's not very a lot of positive role models in my neighborhood. So nine times out of 10 you're following somebody, you're not following the right person" (Participant B4).

Nineteen participants reported peer relationship growth, with PR providing skills to engage with networks using authentic and vulnerable language. They described increased capacity to be peer role models:

> Our relationship got better for me and my team as one, because now we all know how to talk instead of just reacting to each other, arguing, not knowing how to talk. Now we can come to each other and tell each other like, 'Nah, bro, that's not cool, like, that's not it, bro.' … the majority of us, we're good, communicating good (Participant A11).

Sympathy group: outgroups

Outgroup challenges indicated by twelve participants largely involved fraught relationships with law enforcement, consistently described as antagonistic: "The police is my obstacle at the moment because no matter how I travel, I would be harassed by them. I could be walking out the block, they stop me. I could be driving the car, they stop me. Waiting for the bus, they stop me" (Participant B1). Participants felt excluded from NYC decision-makers, resulting in cynicism: "Why do you think they invite two rivals to the DA's office? Because they want people to spaz out" (Participant A2).

Eighteen participants described outgroup growth characterized by adaptive interactions as they gained opportunities to develop meaningful relationships with rival crew members, supported by conflict-resolution skills and increased empathy:

> After sitting down with some of them [oppositional street crew members], I think we could do anything. I don't view them. as people that are against me no more. Those are people who got the same struggle as us. Our problems lay with how systematically oppressed that both our projects is, to have our minds thinking that we going against each other and we only a block away (Participant A3).

Sympathy group: PR team

Six participants expressed concerns about the sustainability of supportive relationships with the PR team:

> And to be truthful, I don't know how it's going to take effect on my neighborhood to have someone show that they love you and then take them away. It's like it'll be big. So that's basically, that's the only thing I got bad to say. That's the only thing I wish I could change is make it permanent in my neighborhood and the other neighborhood that it's in, and other neighborhoods to come (Participant A14).

However, all 25 participants reflected relational growth in describing the powerful influence of consistent, credible, and genuine mentorship from the PR team:

> This is the first time in my life where I had somebody that I was working with, or just around, and they tell me they see something in me that I'm going to be able to be doing such-and-such within whatever timeframe, and that actually happened. He [PR Mentor] literally told me back in, what is it, May or June, 'Yeah. By September, you should be in school. By January, you should be doing this, leading sessions.' And all of that came to happen, exactly how he said it, even through my fuck-ups, through everything. He told me what he see in me and let me know that I'm capable of certain shit. And I'm naturally confident. I'm a Leo. But to have that extra oomph, it made me feel like damn-near unstoppable. Right now, I really feel like I can change the world. I really have that. I have that drive. (Participant B9)

The PR team members were overwhelmingly recognized for creating safe spaces for honest communication and fostering positive motivation: "Ya'll supported me a lot … Like I said, y'all pushed me to do things I didn't think I would have been able to do" (Participant B7).

Active networks

Twenty-three participants described challenges forming broad, healthy social networks, reflecting on resource inequities and being stuck within the "streets" lifestyle:

> The biggest challenge in the neighborhood is leaving the neighborhood. That's the biggest challenge. It's trying to forget about it. That's the hard part. Just trying to go out there and do better, but you still too stuck in the hood. You too comfortable with the hood. You scared something might happen to you if you go somewhere or you make them feel uncomfortable. (Participant A8)

By PR's end, 23 participants expressed pride in stepping into new community roles:

> At first, I cared about community. Well, I was saying I cared. I said I cared. I said I cared about a lot of stuff, but I find myself doing more now than I did ever. Besides, I don't even get paid for half the stuff I do for real. Seriously. I go places, I speak to kids, I do stuff (Participant B2).

Participants described gaining access to previously unfathomable networks with government representatives and organizational leadership:

> I learned how to work inside of spaces where I don't feel comfortable … A lot of stuff did change. Now I have connections inside of Columbia. I have you guys to call. I get to explore more, so a lot of stuff did change because I get to be in some different areas (Participant A2).

Discussion

Study 1 provides evidence that PR participants perceived positive impact across the three SBH relationship levels. Whereas participants consistently described relational challenges before PR, they saw the program as providing new avenues for relational transformation and growth. They reported positive changes in close relationships as their PR engagement changed family members' perceptions of them, access to relatable mentors and role models resulting in robust Sympathy Group expansion, and growth in Active Networks both within their community and throughout New York City through greater educational and professional connections.

Study 2

Drawing on social network analysis methodology (Chung et al., 2005; Marsden, 2014; Perry et al., 2018), Study 2 examined PR's influence on the social networks of six individuals from the original sample who had emerged as highly influential credible messengers during PR participation and remained active in peacebuilding community efforts through the Public Safety Working Group. These participants represent gatekeepers within their street crew networks—individuals whose positional power, information control, and network centrality positioned them to either facilitate or block the adoption of prosocial norms within their communities. Contemporary gatekeeping theory emphasizes that such gatekeepers in networked environments engage in complex information control processes and serve as crucial facilitators who connect and link different groups rather than simply controlling access

(Barzilai-Nahon, 2008). This approach allows examination of structural changes in network size, diversity, and interconnection among participants who bridge social groups and strengthen understanding of network and behavior-based change (Burt, 2004; Decker et al., 2013).

Method

Participants

In August 2024, six participants (three from each street crew) documented their social networks. All identified as Black men ages 21–31 ($M = 26.17$, $SD = 4.17$). Participants were compensated $75.

Materials and procedure

Individual 60–120 minute interviews were conducted at Columbia University's Center for Justice. Participants were given a definition of social networks as "people who you regularly interacted with or considered part of your community." Pretesting showed that participants did not view people with whom they had negative relationships as part of their social network, so reported connections should be considered positive. Participants retrospectively listed first names of individuals who were important parts of their social networks prior to engaging in PR (January 2023), then identified relationship categories/types in an open-ended manner. This process was replicated for current social networks.

Data analysis

Participants' degree of centrality—the count of connections between each participant and individuals in their social network—was calculated. Each reported relationship was categorized according to the SBH multilevel framework. Egocentric and sociocentric network mapping, along with community detection via the Walktrap Algorithm, were conducted using RStudio Version 2024.04.1 + 748. The egocentric network mapping captured changes over time for each participant's total number of direct connections (Barranco et al., 2019). The sociocentric network mapping compiled all participants' egocentric networks to visualize the overall structure of where connections between different individuals overlapped or intersected (Smith, 2012). The Fruchterman–Reingold layout algorithm was used to visualize both measures (Smiley et al., 2024). To identify cohesive subgroups within the network, the Walktrap algorithm was used—a community detection method based on the assumption that short random walks are more likely to stay within the same community (Pons & Latapy, 2005). By simulating walks and comparing the resulting transition probabilities, the algorithm groups structurally similar nodes using an agglomerative hierarchical clustering approach, making it particularly effective for uncovering community structures and patterns of affiliation.

Results

Descriptive analysis of relationship types

Pre-PR, participants described 35 connections across 14 relationship types. Post-intervention, they described 411 connections across 32 types—an 11.7-fold increase (see Figure 1). Pre-intervention connections consisted of 20 Support Clique, 13 Sympathy Group (10 friends, 2 mentors), and 2 Active Network connections. Post-intervention: 58 Support Clique, 189 Sympathy Group (83 friends including former rivals, 62 mentors), and 163 Active Network connections (42 institutional, 111 professional). Participants developed ties to valued mentors as well as "weak ties" to powerful social institutions that can scaffold social mobility.

Network structure changes

A key goal of PR was fostering healthy connections between the two rival crews. Prior to PR, there was no overlap between networks of street crews A and B. By August 2024, all participants had become interconnected, resulting in overlapping networks between leaders of the two street crews (see Figure 2).

The Walktrap Algorithm identified five separate community groupings in 2022 across the six participants' networks, reflecting disconnection between street crews with only two participants (A14 and A1)

Figure 1. Participants' (A1, A3, A14, B1, B2 and B9) egocentric networks show the connections of each individual participant. Participants are represented as an orange square. Each connection is someone participants identify as part of their social networks. Connections are represented as a green circle. In 2022 (pre-PRB) Participant A14 (top left) had 6 connections; in 2024 (post-PRB) he had 109 connections. Participant A3 (top middle): 2022 = 11 connections, 2024 = 121 connections. Participant A1 (top right): 2022 = 4 connections, 2024 = 48 connections. Participant B2 (bottom left): 2022 = 7 connections, 2024 = 39 connections. Participant B1 (bottom middle): 2022 = 4, 2024 = 48 connections. Participant B9 (bottom right): 2022 = 3 connections, 2024 = 56 connections. Participants' networks increased 11.5 fold from before PRB (2022) to after the PRB (2024).

sharing one intersecting community. By 2024, the network consolidated into three communities (Community 1: participants B9 and A14; Community 2: participants B1, B2, and A1; Community 3: participant A3), each exhibiting significant overlap across original street crew affiliations and newly formed ties (see Figure 3).

Discussion

Study 2 confirmed expectations that influential participants' positive social networks would increase in size and diversity following PR participation. Networks expanded to include substantially more Sympathy Group relationships (particularly mentors rather than peers) and new Active Network relationships with powerful professionals and institutions. There was also a 3-fold increase in the Support Clique, consistent with Study 1 accounts of how PR participation positively changed family members' perceptions. The networks of members from oppositional crews connected with overall consolidation and overlapping of once polarized communities, suggesting that PR not only expanded individual networks but also disrupted prior patterns of isolation and segmentation. This transformation demonstrates how investing in gatekeepers—those with the positional power and network centrality to influence group dynamics—may possibly create cascading effects that extend beyond individual change to broader network restructuring and norm diffusion across previously antagonistic groups.

General discussion

Our two studies provide preliminary evidence that the PR intervention strengthened social networks of street crew-involved young adults, achieving its goal of providing scaffolding for personal and network transformation. Study 1 identified relationship challenges participants faced before PR across all SBH levels, including personal barriers (anger management), social barriers (low expectations), and structural

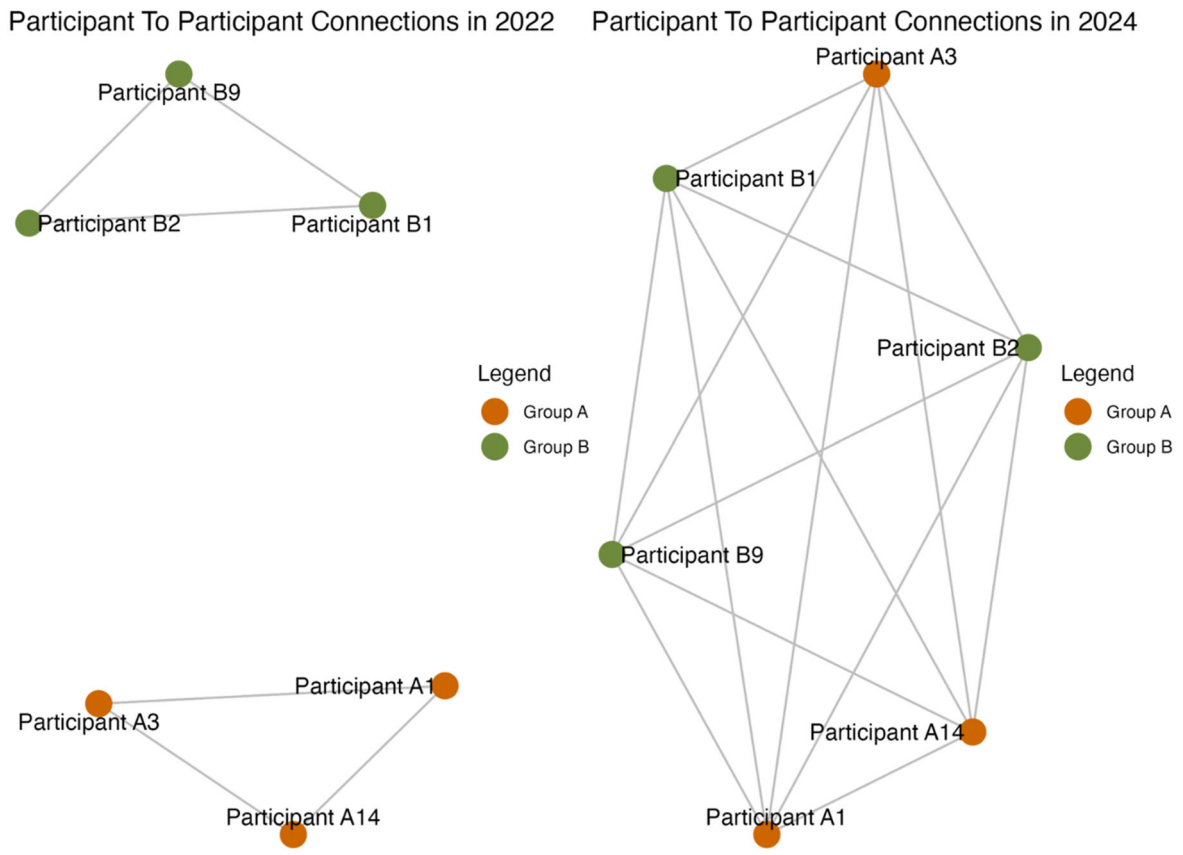

Figure 2. Participants' (B1, B2, B9, A1, A3, A14) sociocentric networks consisting of connections between participants, capturing how each participant is connected only to each other. Participants are represented in the shape of a circle, colored either orange representing group A (street crew A) or red representing group B (street crew B). The participant-to-participant connections are for before PRB 2022 (left image) and after PRB 2024 (right image). These maps show that before PRB 2022 participants were only connected to other participants within their respective street crews, and after PRB 2024 participants are interconnected across street crews.

barriers (family incarceration histories). Following PR, participants expressed relationship growth drawing on positive psychology concepts (healthier coping, stronger interpersonal skills) and community psychology principles (civic engagement, community belonging, social justice solidarity).

Study 2's social network analysis of six influential leaders structurally confirmed these qualitative findings. Networks expanded dramatically in size and diversity, with particularly notable increases in mentor relationships (from 2 to 62) and Active Network connections to powerful professionals and institutions (from 2 to 163). The reduction from five community clusters to three demonstrated how participants' networks began overlapping across previously oppositional street crews, creating interconnection that provides support for PR's capacity to broaden individual networks while fostering community solidarity.

Theoretical contributions

These findings underscore the importance of broadening positive psychology measurements beyond close relationships to include community structures and networks contributing to material success and well-being. Strong community ties and social networks enhance individual resilience and positive psychological outcomes (Jetten et al., 2017; Maton, 2008; Putnam, 2000). Unlike previous gang intervention approaches emphasizing disruption through community extraction or breaking social ties, our work demonstrates that severing ties can be unnecessary. Gang structures and social ties can instead be harnessed to provide healthy networks (Dumornay et al., 2022).

The networks also demonstrate PR's effectiveness in expanding participants' connections to members of powerful institutions while preparing them to leverage these connections for personal growth and community advocacy. This approach aligns with research showing that focusing on individuals who bridge

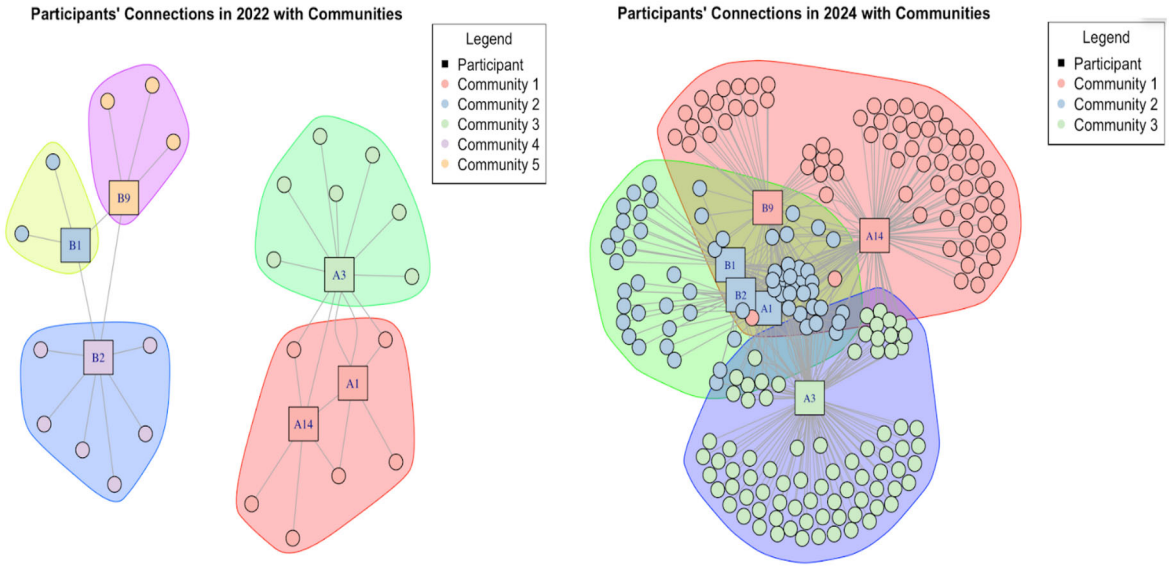

Figure 3. The sociocentric networks include all participants (B1, B2, B9, A1, A3, A14), and their connections. These networks capture each participant's individual connections as well as the intersections where participants are linked to one another. Participants are represented with a square and connections are represented with circles. The colors represent the defined communities by the WalkTrap algorithm. This algorithm finds groups by starting with each participant separately and gradually merging them with their strong connections, aiming to keep the grouping as tight as possible to form communities. The image on the left is from before PRB (2022) and the image on the right is after PRB (2024). These community maps show that before PRB participants were only connected to other participants within their respective street crews consisting of 5 total communities with a clear polarization between group a and group B. After PRB (2024) participants' communities merged to 3 total communities, with interconnectedness across street crews; community 1: participant B9 and A14, community 2: participants B1, B2, and A1, and community 3: participant A3.

social groups strengthens understanding of network and behavior-based change (Burt, 2004; Decker et al., 2013; Burrows et al. 2023). PR's strategic investment in gatekeepers—those with positional power within street crew hierarchies and the network centrality to influence group norms—enabled these individuals to become conduits for prosocial change. The dramatic expansion of their networks, particularly in mentorship and institutional connections, arguably positioned them to facilitate norm diffusion and organizational change within their communities, demonstrating how contemporary gatekeeping theory applies beyond formal organizational settings to informal social networks where structural change is needed.

Practical and policy implications

This work emphasizes considering social network dynamics in understanding street crews and how CVI interventions can positively change these dynamics. While previous research used social network analysis to help law enforcement target gang relationships (Bright et al., 2022), CVIs can also use social network analysis to build diverse, interconnected supportive networks. CVIs should prioritize fostering social network growth at all three SBH levels during implementation.

Using outcome measurements connecting social network growth features to participant success (educational and professional progress, civic engagement) would allow CVIs to demonstrate evidence-based value while shifting policy conversations from individual success/failure toward relational, community-resource frameworks (Downey et al., 2024). Integrating positive and community psychology approaches into CVIs moves beyond deficit-based perspectives, fostering sustainable, community-wide change through individual well-being and collective empowerment.

Limitations and future research directions

Both Study 1 and Study 2 relied on participant recall (of perceived relational changes at the end of the PR intervention as well as pre-PR networks, respectively) rather than true pre-post comparison,

potentially introducing recall bias. In addition, the unique sample from the intervention allow for potential selection bias: Study 1 does not include the five intervention participants who dropped out before being interviewed whereas Study 2 was limited to limited to identified leaders who may not represent all PR participants, though it offers valuable insight into possibilities when intensive investment supports gatekeepers who act as credible messengers. Future research should use pre-post designs with (in the case of Study 2) as many participants as possible to reduce reporting bias and provide comprehensive understanding.

Together, both studies provide a window into social relationship changes associated with a holistic intervention intended to reduce community violence. However, the causal role of relationship changes in the substantial reduction in community gun violence since PR began cannot be conclusively established: Future research into similar interventions using random assignment may help to better establish causal inferences as it relates to relational growth. In addition, future research could explore who connects participants to hard-to-reach network connections, identifying individuals and institutions fostering network growth. Understanding how participants utilize expanded networks, particularly mentor and Active Network connections, represents another important direction. One Study 2 participant exemplified network resilience when his employment unexpectedly ended—unlike previous job losses, he had connections to reach out to, avoiding negative spirals. Another example: PR's liaison to the NYPD linked college-interested graduates to his alma mater, leading to a college initiative through which several participants have completed their first year.

The concept of street crews as peer groups traveling together through life resonates with Kahn and Antonucci (1980) social convoy idea, where group members follow leaders as groups progress through their lives. PR's goal was not to break up groups but to provide leadership with new, healthy paths and relatable role models connected to valued institutions. In ongoing follow-up interviews, the Study 2 crew leaders report they are now being asked by other PR participants to provide job references and other forms of positive assistance, including mediating with city institutions. Local politicians, government agency leaders and law enforcement also seek their input, and media outlets call on them to represent the voices of city youth.

Conclusion

The PR intervention successfully expanded and strengthened social networks of street crew-involved participants. The findings argue for continued investigations into CVI impacts on social networks and their consequences for participant and community outcomes. While CVIs aim to change participants' social relationships to improve individual and community well-being, few studies systematically examine whether and how they do so. Our work provides groundwork for measuring CVI impacts on community violence and well-being through strengthening healthy social relationships, demonstrating that working with existing social structures rather than disrupting them offers a promising path for personal and community transformation.

Author contributions

CRediT: **Ava Kamdem**: Conceptualization, Data curation, Methodology, Visualization, Writing – original draft; **Brooke Burrows**: Conceptualization, Data curation, Formal analysis, Methodology, Project administration, Supervision, Writing – original draft; **Jason Bostic**: Conceptualization, Data curation, Writing – review & editing; **Geraldine Downey**: Conceptualization, Supervision, Writing – review & editing.

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