Published in final edited form as:

J Groups Addict Recover. 2013 April 1; 8(2): 129–148. doi:10.1080/1556035X.2013.764207.

Intimate Strangers? Social Networks in HIV Prevention Groups for Drug Users

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Abstract

Group substance abuse treatment relies for its effectiveness on relationships formed within group sessions, but few studies have explored the importance of these relationships for group HIV prevention interventions for drug users. We survey the literature on group HIV prevention interventions, particularly for men of color, and analyze qualitative data from a pilot intervention for out-of-treatment, drug using men who have sex with men. We find that many participants were acquainted prior to the intervention, and formed relationships which they attempted (often unsuccessfully) to maintain after the intervention was over.

Introduction

At points in their drug use trajectories, drug users usually have strong network ties with other drug users (Shedler & Block, 1990). “Social network ties” here is used broadly, to mean ties of varying strength with drug using associates, sex partners, family, friends and other persons with whom the individual has close contact. Initiation into drug use almost always happens in a social network, among trusted friends (Kandel, 1980), although heavy drug use may deplete this social capital (Lyons & Lurigio, 2010). Many HIV prevention interventions for persons with substance use disorders have made use of social networks. Public opinion leader (Amirkhanian, Kelly, Kabakchieva, McAuliffe, & Vassileva, 2003) and peer outreach models (Latkin, Sherman, & Knowlton, 2003; Weeks et al., 2009) utilize existing networks among members of the targeted group to diffuse HIV prevention education and encourage healthy behavior. Peer outreach, in which the focus is not directly on the participants’ own behavior but on training participants as peer educators within their social networks, has led to positive behavioral changes both among the network members and the peer educators themselves (Latkin, et al., 2003; Weeks et al., 2009).

HIV prevention interventions conducted in small groups over multiple sessions have been shown to be effective in reducing HIV risk behavior (Johnson et al., 2002; Johnson et al., 2005; Herbst et al., 2005; Holtgrave, McGuire, & Milan, 2007; Wohlfeiler & Ellen, 2007). In hard to reach populations, agencies have often recruited participants for these groups through social networks—variously referred to as word of mouth, “chain referral”, “snowball sampling” (in the studies reviewed below) or formal respondent-driven sampling

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(Heckathorn 1997). However, despite the acknowledged importance of network ties in recruitment, little attention has been paid to how social networks are transformed, as well as new network ties formed, during the group intervention sessions, which are presumably a healthier setting for interaction than drug using contexts. Development of ongoing relationships within intervention groups--even those of short duration--might have effects (positive and/or negative) on intervention outcomes. Development of relationships may be particularly important for highly marginalized populations (Cohen 1999) such as stimulant using men of color. The relative neglect of network ties in the literature on group HIV prevention interventions, and group-based health education generally, contrasts with their importance in the literature on treatment and 12 step mutual support groups (e.g., Kaskutas, Bond, & Humphreys 2002).

This paper reviews existing evidence based group HIV prevention interventions for drug users and the theoretical basis for an effect of network ties. We then present preliminary data from a pilot test of a group HIV prevention intervention for men who have sex with men (MSM) who use stimulant drugs. As part of this pilot study, we collected qualitative data on relationships developed during the intervention and participants' efforts to retain these ties after the intervention ended. While not definitive, these qualitative data point to ways in which fostering network ties may increase the effectiveness of group interventions.

Relationship building in group interventions

Rutan & Stone (2001) describe group culture, the forging of sustaining, more deeper and meaningful relationships during and after a group intervention, as resulting from "forces operating that lead to cohesion or lead to dispersal (pp.32-33)." Group cohesion is defined as the shared attraction and sense of belonging to an established or developing culture (Day, 1981). Yalom (1995) identifies group cohesion as one of the essential 11 therapeutic factors in successful group therapy. Johnson and her colleagues (2005) identify group cohesion as one of four key relationship-oriented constructs in group therapy along with group climate, alliance, and empathy. In the realm of health behavior, social cognitive theory explains behavior change in terms of supportive modeling by members of a group, and emphasizes collective agency in pursuit of a shared goal (Bandura, 1999). From this perspective, behavior change does not take place in isolation from one's social networks (Latkin et al., 2003).

In the case of the African Americans (who made up the majority of pilot study participants), ethnicity may also affect the way that relationships are formed and transformed in groups. African Americans generally possess more of a communalist, collectivist, group referent orientation (Constantine, Gainor, Ahluwalia & Berkel, 2003; Jagers & Mock, 1995; Mattis, Hearn, & Jagers, 2002). This communalistic orientation is manifest in attitudes like interconnectedness, interdependence, and a concern for the well-being of the community in addition to the individual. HIV prevention and substance abuse treatment interventions that celebrate this cherished and culturally-specific way of being will likely lead to better outcomes. These strategies have been applied to HIV prevention interventions like Many Men Many Voices (M3V) (Wilton et al., 2009) and MPowerment (Kegeles, Hays, & Coates, 1996). A recent study of African American women in a group HIV prevention intervention highlighted the value of tapping into the impact of perceived group support, demonstrating a significant positive correlation of pro-health behaviors and perceived group support (Belgrave, Corneille, Hood, Foster-Woodson, & Fitzgerald, 2010).

Groh and his colleagues (2009) argue that perceived social desirability impacts how substance abusers in treatment self-report their drug use and move through treatment. In this perspective, social support, whether encouraging abstinence or on the contrary encouraging

drug use, is intertwined with social desirability needs among group participants. In many cases, the mere suggestion or perception of communalism or an accountability to the community as a socially desirable cultural norm can have a lasting impact on the relevance, recall, and utility of substance abuse and HIV prevention strategies (Groh, Ferrari, & Jason, 2009).

Other treatment interventions have made direct use of existing social networks. Network therapy (Galanter et al., 2004), for instance, enlists members of the client's social network to support him/her in changing behavior, sometimes in group meetings that include the patient and his/her network members. Network therapy has demonstrated effectiveness in reducing drug and alcohol use (Copello, Orforda, Hodgsonc, Toberd, & Barrett, 2002; Galanter et al., 2004). Family network therapy goes further, recognizing that natural ties between members of a family can be a powerful assistance to healing (Attneave, 1979). This modality, in which family members participate with the drug using client in groups, was found to be effective in Native American communities with traditional extended family structures.

In contrast, health promotion groups, including group based HIV prevention, are usually presumed to involve unrelated adults. Even those that rely on social networks for their effectiveness, such as peer outreach models (Latkin et al., 2003; Weeks et al., 2009), do not necessarily attempt to foster group cohesion within the intervention sessions. These interventions also vary considerably in the amount of free interaction they allow among participants. A few interventions explicitly encourage social interaction, for instance with a meal prior to the sessions (e.g., Diaz, 1998) or social activities (Hershberger, Wood, & Fisher, 2002). More commonly, however, interventions are scripted and specify activities for the participants throughout the session, partly to ensure uniformity but possibly limiting interactions. Nonetheless, it is possible that participants will form ties of varying strength during the intervention, even in interventions that do not promote them. These new relationships are unlikely to be measured by investigators, since they are not part of study outcomes. And with some exceptions such as M3V and Mpowerment cited above, most health promotion groups do not build on social desirability or a pre-existing communalist orientation as a cultural norm among their participants. For these reasons, the impact of relationships formed within HIV prevention interventions and other group-based health promotion requires further investigation.

Prior Network Relationships

The pre-eminent theoretician of group therapy, Irving Yalom, assumed that “initially the patients are strangers to one another and know only the therapist, who serves as a transitional object...” (Yalom, 1975). But in community based groups with highly networked populations such as drug users, attendees may not in fact be “strangers” to one another. The Center for Disease Control and Prevention (CDC) Directory of Evidence Based Interventions lists sixteen group HIV prevention interventions for adults (CDC, 2011), which are listed in Table 1.

As shown in the table, nearly all interventions rely on participant recruitment, but only three of the research reports mention pre-existing networks in the intervention groups. The MPowerment Project (Kegeles et al. 1996) relied on a “Core Group” from among the target population, who presumably knew each other prior to the intervention and who assisted with recruitment and outreach. More recently, Diallo and colleagues (2010) have developed a single session HIV prevention workshop for black women designed to be implemented in pre-existing groups of women (sororities, churches and friendship circles). A group intervention has been developed for African American couples that did not rely on participant based recruitment (NIMH Multisite HIV/STD Prevention Trial for African

American Couples Group, 2008). The only other report listed in the table that recognizes the importance of prior social network ties, the M3V intervention for African American men, does so to exclude them: “eligible participants were required to...be willing to attend an intervention retreat without their primary partner or boyfriend” (Wilton et al., 2009). Hence, within the canon of evidence-based group interventions for HIV prevention, the possible impact of prior relationships among participants cannot easily be evaluated. While below we present preliminary evidence that prior relationships may have an impact on outcomes, this was not the primary focus of our empirical research and clearly much remains to be investigated.

The data presented below are based on a pilot study of a group-based intervention for out of treatment MSM who use stimulant drugs, which we called C-TALK (roughly standing for “cocaine talk”, “crystal meth talk” and/or “cock talk”, i.e., sex talk). As described below, observations for the pilot study were limited to the group sessions themselves and to followup interviews about sexual risk behavior and drug use (these data will be reported in a separate paper). The study protocol did not permit us to inquire about relationships between members outside of the sessions. Instead, to obtain insight about the influence of relationship ties among members of the groups, we obtained separate approval to conduct qualitative interviews with a subsample of former participants. The research questions we sought to address through these interviews were: (1) How did participants conceptualize the relationships they may have formed during the intervention? (2) Did participants seek to maintain these relationships after the intervention ended, and what barriers prevented them from doing so? (3) What influence did prior network ties, if any, have on the intervention process and outcomes?

Methods

All study procedures were approved by the Institutional Review Boards of the University of Illinois at Chicago and the participating agency, a community health center with a GLBT outreach. Participants for the C-TALK intervention were recruited through fliers given to providers at the health center, as well as other health and social service providers and community agencies. Participants were not formally asked to recruit their network members. Since the intervention was focused on dissociating substance use and risky sex (Lyons, Chandra, Goldstein and Ostrow, 2010), the key eligibility criterion was self report of unprotected anal intercourse in the context of cocaine or methamphetamine use in the previous six months.

Ten cohorts were formed of 5-8 individuals, which met for ten sessions led by a facilitator (two MSM peers who are former stimulant users and who were trained in group process techniques, and one MSM LCSW-level drug and alcohol counselor). Each 1.5 hour session began with a brief interactive educational exercise which included topics on triggers and cravings; homophobia and discrimination; intimacy; and other topics designed to encourage discussion about dissociating drug use and sex. The second part of each session (40-50 minutes) was a guided group discussion. This unscripted discussion was guided by the facilitator, using techniques adapted from the theory of group process in psychotherapy (Yalom 1975) and motivational interviewing techniques adapted for groups (Miller & Rollnick, 1991). A third component of C-TALK was the encouragement of community building activities outside the group, in the belief that drug users need to experience positive drug-free social interactions (Díaz, 1998; Stall, Friedman, & Catania, 2007). Each group went on a social outing, which varied from a visit to the local GLBT center, to a trip to the aquarium or a picnic. Hence, the intervention as a whole was designed to leave wide scope for participants to get to know each other and form network ties. To assess changes in substance use and risk behavior post intervention, participants were followed up for

individual interviews via audio computer assisted self interview (ACASI) technology at 6 and 12 weeks post intervention (see below).

In a separate study protocol, a purposive sample of 12 volunteers was recruited for qualitative interviews from among participants from each of the three facilitators' groups. The sample was chosen to represent a range of intervention participation, from individuals who attended all 10 sessions to individuals who attended only one or two sessions, and a sufficient number were interviewed to achieve saturation of responses (Guest, Bunce, & Johnson, 2006). All interviews took place within 2 months of the participant's last intervention session. These interviews were conducted by the principal investigator and a research staff member not affiliated with the intervention project. Interviews lasted approximately one hour and were audiorecorded with the permission of the participants.

Measures

The ACASI interviews consisted of sexual and drug use measures (not reported here), as well as psychosocial measures, including measures of sexual compulsivity, and drug abstinence self efficacy. In particular, we administered the Social and Emotional Loneliness Scale for Adults, (DiTommaso, Brannen, & Best 2004), an eleven-item measure that yields separate scores for romantic and friendship-related loneliness, and which has demonstrated reliability and criterion validity .

The semistructured qualitative interviews consisted of open ended questions addressing relationships prior to, within, and subsequent to the group sessions; group dynamics; and the effect of the group on drug use and sexual behavior. Interview tapes were transcribed and identifiers were deleted (all names below are pseudonyms). They were then coded by two members of the team using qualitative software according to the constant comparative method (Taylor, 1998), in which the coding of each transcript informs the coding of the rest of the transcripts, in a cumulative process. To insure agreement between coders on key codes, a measurement of inter-rater concordance (kappa) was calculated for each code across transcripts. Codes below a kappa value of 0.6 or below were discussed and a consensus was reached on coding.

Additionally, on the first day of each group, facilitators informally asked participants if they knew anyone else in the group. At the beginning of the study, we asked this question in order to introduce a rule against drug use or sexual activity between members of the group. Midway through the study it became apparent that many participants were acquainted with each other. Thereafter, for a subset of 5 cohorts facilitators collected systematic information about preexisting ties within the group. For these cohorts, facilitators recorded *sociograms* of the various relationships in the group. In the hypothetical sociograms in Figure 1, the arrows represent pre-existing social ties and the colors of the circles represent some other participant characteristic (such as adherence to the intervention.) Because this analysis was not part of initial study objectives, this prior social network information was obtained for only 5 of the 10 groups (30 participants). In addition, in the qualitative interviews we asked participants if preexisting ties may have had any influence on their decision to stay in the group and benefit from it.

Results

We first present an overview of intervention participation and outcomes. Eighty seven men enrolled in the study, of whom 70 attended at least one intervention session. The low rate of attendance compared to other group intervention research partly reflects the fact that we did not compensate the men to attend sessions. Compared to men who engaged, men who did not attend any sessions were less likely to be HIV positive (53% vs 78%, $p < 0.04$) and more

likely to have had mostly female lifetime partners (53% vs. 24%, $p < 0.01$). In the remainder of this paper, we discuss only the 70 participants who attended at least one session. Table 2 shows the characteristics of this sample.

The 70 participants who engaged in the intervention attended an average of 6 out of 10 sessions. Written evaluations were collected at the end of each session. Perhaps unlike other health promotion groups, these evaluation comments often stressed the interpersonal (both good and bad) aspects of the group, for example, "I think that this group brings out lots of emotions & feelings I forgot about." "This group was very interesting but I had a problem with one of group member[sic]." At the last session, many participants expressed regret that the sessions were ending: "I wish there were more session[sic]. To me I got a lot of information which I will keep in my mind and heart." "I wish C Talk was longer, need support!"

As noted, participants were assessed via audio computer-assisted self interview (ACASI) at 6 and 12 weeks post intervention. The 12 week followup rate was 76 percent (53/70). Although the sample size was small, the participants followed up did not differ from those not followed up in terms of demographics and baseline sexual behavior and drug use measures. Details of outcomes for sexual risk behavior and drug use will be presented in a separate paper. However, the combined mean scores on the Romantic and Friendship subscales of the SELSA improved 26 percent ($p < .002$) between baseline and 12 week followup. While this is the outcome of an uncontrolled trial and might be attributable to nonresponse bias at followup or other sources of bias, it suggests that the intervention may have had a beneficial effect not only on reducing unprotected sex with stimulant use, but also on social relationships.

Relationships during and after the group

We next summarize data on prior and subsequent network ties from our semi-structured interviews with participants. Of the twelve participants interviewed, only two did not wish to maintain ties post intervention. The first participant appears to have formed only one close friendship during the intervention.

R: There was talk about an after program, there was talk about online interaction, there was talk about - you know, none of which I think ever happened. For the most part, I'm not - while we had frank discussions, I'm not sure I would have stayed in touch with anybody in my group. I wouldn't have gotten the support from the people in my group for what I needed.

I: Like for this particular group, you didn't really keep in contact with the other guys who were in the group?

R: No, largely because - one of them relapsed.

I: Okay.

R: The one I probably trusted most relapsed. (White, 53 years old)

The second participant stated that his group as a whole did not wish to stay in contact.

R2: Well, I guess to answer your question I was not in direct contact with anyone else. The only contact I had was just through the yahoo group [for email announcements]. No direct phone or having coffee contact.

I: Was there any intention at the end of the group to stay in contact with other guys in the group?

R2: Not really. The group didn't -- the group dynamic didn't go in that direction. (Asian, 48)

The remaining participants interviewed either stayed in touch with their group members, or expressed the desire to do so. Three of the ten were actively keeping in touch:

R3: It helped me to where I'm at now. I'm in a great space. I still keep in contact with a few of the guys; I still have them on my phone. (Latino, 35)

R4: The CTALK helped me to meet two of my friends. (African American, 49)

R5: Me, [other participant], and his other friend, we used to get together sometimes, we'd sit and talk. We'd sit and talk for hours about what we used to do and CTALK and all. And then there was another guy that used to call me all the time, I forgot his name. (African American, 52)

The preceding quotation perhaps suggests that despite the intervention, the lives of heavy drug users remain anomic ("I forgot his name").

Other participants were in touch passively with other group members because they moved in the same circles (treatment and support groups) or because they already knew one another.

R6: There's one person that - he lives near me, and I see him from time to time, so, yeah, there is one person that I do - that was in C-TALK with me, and we still - actually, we run in the same circles sometime, because there's a treatment center that I have a friend in, and he used to be an alumni there, so we do see each other and we have conversations. (African American, 47)

R7: I haven't talked to anybody in a while, but I do see Jim when I go out, if I go to a [12 step] meeting. (African American, 37)

R8: Yes, I call Nicky [project coordinator] all the time, I call Ed [facilitator]. And the people that was in my group, some of them go to the classes *[sic]* I go to. (African American, 48)

It is not clear from these quotations whether the intervention changed or deepened these relationships in any significant way.

Unable to Stay in Touch

Finally, four participants (including two who had pre-existing ties) stated in the interviews that they would have liked to have stayed in touch, but did not.

R4: Yeah, we all exchanged numbers and stuff, and we were gonna set up little meetings for ourselves, but all our states *[sic]* are far away and stuff. (African American, 49)

R9: Actually it was interesting, because we all exchanged emails within our group, and we talked about maybe getting together again, and then it never happened. So there was some -- there was that cohesiveness that happens because you're coming here every Wednesday or every Friday or what else.[...]and once that falls apart, then it kind of lost its magic. But it would be cool if there was some type of like alumni thing done. (Latino, 49)

R5: I had tried to get a hold of a couple other group members and stuff, I don't know what I did with the paper, I had it and I don't know where my numbers are. I went through a breakup, and I think some of my papers may have went with my ex. (African American, 52)

R8: On our last day, we had a holiday at the pizza place down on State Street. I mean, God, it was so beautiful, and people started crying, 'cause it was getting over with. And we tried to start, we were gonna start an alumni group going on. (African American, 48)

One participant pointed out the extreme difficulty of even agreeing on a meeting place without an external structure.

R9: We were like, "Let's meet here, let's meet there," and then it just becomes, "Well I don't like that, or I don't like this," whereas if it's centrally focused at the same place, then there's no bitching about it. (Latino, 49)

In terms of the benefits of staying in touch with their fellow group members, one participant cited knowing how the other members are doing, a potential source of support:

R9: I'm like, "Well, I wonder how he's doing. Is he doing okay, or is he doing terrible? Has he had a little slip, or no slips at all?" So that's why I said that it'd be cool to have some type of alumni thing. (Latino, 49)

The same participant implied that the continuity of an ongoing alumni group would reinforce social support for change.

R9: You would already recognize a couple of faces, and then there's something to be said for that, to say, "Well, these 3 or 4 guys are still hanging in there," whereas that's totally different from always joining a new group. (Latino, 49)

Most importantly, an ongoing support group would permit in depth discussions that may not be possible in other settings, even among one's fellow HIV positive individuals.

R6: Well, most of [my friends] are HIV positive [...] We don't discuss it; we just -- it comes up about: "Are you on meds?" or this, that, and the other, and, "Yeah, and how long you been taking it?" But as far as just sitting down and discussing it, we don't do it. And, like I said, with my family, I have not discussed it at all. (African American, 47)

One participant summed up the need for ongoing support for this highly marginalized population:

R5: And like I said we need you guys man. We do. We need you guys. We need somebody to talk to every now and then. (African American, 52)

Pre-existing ties

In terms of the formal analysis of pre-existing ties, four out of the five cohorts for which sociograms were constructed had members who were acquainted with at least one other member on the first day of the group. Altogether, 12 of the 30 members of the five cohorts (40 percent) reported such relationships. Rather than being dyadic pairs of friends, in three of the cohorts one network existed in which each member knew all of the others. In the fourth cohort, there two separate networks of three individuals each. Facilitators learned more about the nature of relationships between group members during the course of the 10 weeks. With one exception, none of these relationships were ongoing sexual partnerships; they were instead acquaintances from bars, drug using circles, drug treatment, or 12 step groups. The number of participants for which this information is available is too small for statistical analysis. However, if we set aside the cohort that had no prior network ties and compare participants in cohorts where ties existed, 75% of those with network ties vs. 41% of those without ties completed the intervention.

In contrast, in the qualitative interviews only a minority of the twelve participants interviewed stressed their pre-existing relationships with other participants. One participant denied that anyone in his group knew each other prior to the group:

I: Did you know each other beforehand?

R6: No, not before the group. No. (African American, 47)

Another mentioned preexisting ties, but in a vague way:

R5: Yeah, and we kind of jelled together. And then some of the other people that were in the group we know them from other groups. (African American, 52)

In one case, prior acquaintance might have helped a participant who otherwise would have dropped out to stay in the study. This participant stated that he had a friend in his group who helped him to overcome some apprehension going into the group.

I: Did anybody say anything at the meetings that might have been a trigger for you, like describing getting high, or -?

R7:... It wasn't too bad [...] 'cause I know Jim was in there [...] So it was okay, 'cause I had Jim in there, and you know, it was okay, I could deal with it. (African American, 37)

Discussion

In our review of the literature on evidence-based group interventions for HIV prevention, we found few research reports that mentioned the effect of prior or of newly formed network ties on intervention outcomes. In summarizing our findings from qualitative interviews, we found that some participants formed strong bonds during a group-based HIV prevention intervention, and many wished to maintain ties after the intervention but had difficulty doing so on their own. Even those who were prior acquaintances, and were able to interact on a deeper level during the sessions, seemed to revert to a more superficial level after the sessions were over. The study protocol, and concerns over confidentiality, did not allow us in this pilot study to actively facilitate post-intervention activities. This in fact became a major issue during the conduct of the study, as staff came to recognize that participants wanted and needed support for developing ongoing relationships.

As noted above, both social cognitive theory and the theory of group process predict that social support, modeling of behavior (both positive and negative), and social desirability will be intertwined phenomena that affect intervention outcomes. To the extent that participants formed, or tried to form, ongoing relationships outside of the intervention group, these relationships might have bolstered the healthy sexuality and substance use reduction messages of the curriculum. For the African American participants of this study, these relationships may have been congruent with cultural norms of accountability to self and the community (Constantine et al., 2003; Jagers et al., 1995; Mattis et al., 2002).

The C-TALK groups had a characteristic that is either not present, or simply has not been deemed important, in previous group based HIV prevention interventions--namely, that many participants knew each other prior to the intervention. Note that we did not employ formal snowball or respondent driven sampling to recruit participants. These techniques would presumably produce even more instances of prior network relationships. Hence, although our data are very limited, the possible effect of social support may partly rest upon previously formed relationships (prior to the intervention) that were enhanced and transformed through the intervention. Further deliberate exploration of this phenomenon is warranted, such as a quantitative analysis with a larger sample of the effect of pre-existing ties on retention in the intervention.

We initially saw prior relationships as a possible threat to the intervention. First, pre-existing dynamics between group members, especially if negative, might derail the group discussions. Second, pre-existing relationships might make drug use and sexual activity among participants more likely, leading to possible iatrogenic harm to participants (see Mimiaga, Skeer, Mayer, & Safren, 2008). Clearly, having couples together in an intervention about sexuality that is not designed for couples is problematic. But our limited qualitative evidence suggests that pre-existing ties may improve attendance--allowing one participant to feel safe in attending because his friend "Jim was there--and facilitate contacts after the intervention. The real impact of prior network ties, however, may have been on interactions within sessions, phenomena that are harder to measure. Facilitators reported that friends "kept each other honest". Despite the superficiality of these acquaintances, one facilitator stated that they allowed participants to "go deeper quicker" in discussions. "They feel safe enough around each other to talk about their vulnerability." Another facilitator stated that these network ties allowed members to have "rapport." On the first day "they talked about people they know, like 'who have you seen lately?'" As a facilitator put it, "It adds a new dimension to their friendship --no, friendship is not the right word-- to their acquaintance."

There are numerous limitations to the empirical data presented in this paper. Although our recruitment was similar to that of other HIV prevention groups, it is unknown whether the C-TALK sample may have had an unusual number of prior ties. All data are self reported, and some nonresponse bias was undoubtedly at work in contacting participants for the qualitative interviews, who may have been unusually favorable toward the intervention and predisposed to staying in touch. The CTALK intervention is harm reduction oriented and targeted at an out-of-treatment population. Thus the dynamics of prior network ties within substance abuse treatment might be quite different. Finally, the importance of prior networks came to our attention in the midst of the research, and so we were unable to measure them systematically or to analyze quantitatively their relationship to study outcomes. However, our qualitative interviews illuminate the various ways in which relationships among participants affected their experience of the intervention, and their desire, in most cases, to maintain those ties.

The results presented here point to the need for a new approach to group based interventions for health promotion. The participant who stated "we need someone to talk to" underlines the need for facilitators to actively facilitate ongoing relationships in the group after the formal sessions are over, particularly among marginalized populations. In addition, facilitators should consider asking group members about their existing relationships with each other (perhaps using sociograms). This is especially true for interventions such as C-TALK that are less structured, and in which prior acquaintance may influence outcomes. In ongoing support groups in community settings, word of mouth is crucial. Unlike in a research context, interventions like C-TALK in the community are almost guaranteed to have groups of friends enroll together. By providing a space for in depth discussions and stressing community building activities, C-TALK and other interventions can capitalize on these friendships in the service of reducing drug use and HIV transmission.

Acknowledgments

The authors wish to thank Ron Stall for helpful comments, Jason Bird for assistance with interviews, as well as the C-TALK Team at the Howard Brown Health Center in Chicago: Mark Hartfield, Kurt Mohnung, Ed Negron, Nicole Perez, Yves-Michel Fontaine and Sandra Tilmon. This research was funded by a grant from the National Institute on Drug Abuse (R21DA026315) to the University of Illinois at Chicago.

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Figure 1.
Hypothetical sociograms for three groups.

Table 1

Selected Group Interventions in the CDC Directory of Evidence Based Risk Reduction Interventions

Authors	Target Population	Participant based recruitment	Mentions Prior Networks Within Groups
Calsyn et al., 2009	Male Drug Users in Treatment	No	No
Des Jarlais et al. 1992	IDUs	Yes	No
Diallo et al. 2010	Heterosexual Black women	Yes	Yes
Garfein et al 2007	Young IDUs	Yes	No
Hershberger et al. 2003	Out of Treatment Drug Users	Yes	No
Kalichman et al, 2005	HIV+ Men and Women	Yes	No
Kapadia et al., 2007	IDUs	Yes	No
Kegeles et al., 1996	MSM	Yes	Yes (“Core Group”)
NIMH Multisite Prevention Trial Group, 2008	African American couples	Yes	Yes
Peragallo et al., 2005	Latina women	Yes	No
Sikkema et al., 2007	HIV+ Men and Women	No	No
Tross et al., 2008	Heterosexual women in drug treatment	Yes	No
Wechsberg et al., 2004	Out of treatment drug using women	Yes	No
Wingood et al., 2004	Women living with HIV	No	No
Wilton et al., 2009	HIV- MSM	Yes	Yes
Wolitski et al., 2005	HIV+ MSM	Yes	No

Adapted from www.cdc.gov/hiv/topics/research/prs/RRcomplete-list.htm

MSM – Men who have sex with men. IDU- injection drug user.

Table 2**Baseline Characteristics of Engaged Participants^{*}**

Characteristic	Number of ppts (n=70)	%
Age (years)		
<= 40	15	21
> 40	55	79
Race		
African American	50	70
Other	20	30
Education		
High School or less	27	39
More than High School	42	61
Employment		
Unemployed	52	74
Employed	18	26
Sexual Identity		
Gay	37	53
Bisexual	16	23
MSM	4	6
Other	11	16
HIV Status		
HIV +	54	77
HIV -/unknown	16	23
Substance Use in Previous Month		
Alcohol	50	71
Cocaine	49	70
Crystal Methamphetamine	15	21
Other	41	58

^{*} Participants who attended at least one intervention session.