

For the common good: Measuring residents' efforts to protect their community from drug- and sex-related harm

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Abstract

People in high-risk neighbourhoods try to protect their friends, neighbours, relatives and others from the social and physical risks associated with sex and drug use. This paper develops and validates a community-grounded questionnaire to measure such 'invention' (health-directed efforts to protect others). An initial ethnography, including life-history interviews and focus groups, explored the forms of invention activities engaged in by residents of Bushwick (a high-risk New York City neighbourhood). Grass-roots categories of inventions were derived and questions developed to ask about such behaviours. Face validity and adequacy of the questions were assessed by independent experts. Pre-testing was conducted, and reliability and validity were assessed. An instrument including 110 invention items was administered to 57 community-recruited residents. Analysis focused on 57 items in 11 domain-specific subscale. All subscales had good to very good reliability; Cronbach's alpha ranged from .81 to .95. The subscales evidenced both convergent and discriminant validity. Although further testing of this instrument on additional populations is clearly warranted, this invention instrument seems valid and reliable. It can be used by researchers in comparative and longitudinal studies of the causes, prevalence and effects of different invention activities in communities. It can benefit public health practitioners by helping them understand the environments in which they are intervening and by helping them find ways to cooperate with local neighbourhood-level health activists.

Keywords: *Invention, drug prevention, harm reduction, community actions, protecting others.*

Résumé

Des résidents des quartiers à haut risque essaient de protéger leurs amis, leurs voisins, leurs familles et d'autres personnes contre les risques sociaux et physiques liés au sexe et à l'abus de drogues. Cette communication a pour but de développer et de valider un questionnaire, fait exprès pour cette communauté, afin de mesurer ces 'inventions' (des efforts destinés à protéger la santé des autres). Une ethnographie initiale, qui inclut entre autres des entretiens portant sur le bilan de vie et des groupes de foyer, a examiné les formes d'activités d'invention exécutées par les résidents de Bushwick (quartier à haut risque de New York City étudié depuis 1990). Les catégories fondamentales des inventions ont été créées. De plus, des questions ont été formulées afin d'interroger ces comportements. La validité et l'adéquation de questions ont été évaluées de façon décrite ci-dessous. Un utile qui compte 110 éléments d'invention a été administré aux 57 résidents recrutés de la communauté. L'analyse a mis l'accent sur 57 éléments rangés sous 11 sous-échelles des champs spécifiques après avoir exclu des éléments qui ne sont pertinents qu'aux petits sous-échantillons de sujets ou des réponses faussées. Toutes les sous-échelles avaient la fiabilité allant de 0,81 à 0,95. Ces dernières ont confirmé la validité convergente et discriminatoire. Bien que les essais approfondis de cet utile sur d'autres populations soient clairement garantis, cet utile d'invention semble valable et fiable. Des chercheurs peuvent s'en servir pour les études comparatives et longitudinales sur des facteurs de risque, de prédominance et des répercussions de différentes activités d'invention au sein de communautés, ainsi que pour contrôler des interventions qui aident l'invention à devenir plus efficace à la prévention du VIH ou des infections par d'autres maladies. Les praticiens de la santé publique peuvent profiter de cet utile qui les aidera à comprendre l'environnement dans lequel ils interviennent et à coopérer avec les combattants pour la santé du voisinage.

Mots clés: *Prévention de drogues, réduction du mal, efforts communautaires, protéger les autres.*

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Introduction

Previous research by our team (Friedman *et al.*, 2004, 2005) has demonstrated that most residents of an impoverished New York City neighbourhood actively urge other people, including both drug users and non-users, to engage in certain behaviours that decrease the HIV-related and other risks of drug use and sex. These 'urgers' include users of drugs and of alcohol as well as other residents. This neighbourhood, like many impoverished localities in Africa, has undergone a large-scale HIV/AIDS epidemic.

We called such urging 'invention'. Invention is prevention activities that are conducted by community members. The categories of 'urging' that were studied in these previous papers were theory-based or 'etic' categories. In this paper we go beyond our previous etic invention concepts by (i) studying ethnographically determined 'emic' categories of invention behaviours (that is, using categories that are present in the consciousness and discourse of local residents and local street-scene participants); (ii) examining both *verbal urging* of others and non-verbal *actions* directed at others to prevent drug- and/or sex-related harm; and (iii) presenting an initial attempt to validate our 'emic' invention instrument.

In those African contexts where HIV is spreading in impoverished settings with limited external resources available, invention is a potentially important concept for designing more effective HIV/AIDS prevention. The measures described in this paper may be of help in applying the invention concept both in research and in public health action.

Theoretical orientation

There is a long tradition of inquiry into how social relations among community members lead to different community outcomes (crime, health, visible disrepair). Friedman *et al.* (2004; 2005) examined invention – what people *urge* others to do to be safe from risks associated with sex and drug use; these urging measures were an initial etic scale for invention that we used while developing the measures herein described. As we have discussed (Friedman *et al.*, 2005, 2007b), if we view norms as the social communication that others exert that leads others to conform with community members' wishes, then invention can be viewed as the process of producing such normative pressures. Invention differs from social capital (Coleman, 1990; Putnam, 1993) and collective efficacy (Sampson, Raudenbush & Earls, 1997) – which are other attempts to understand how social relations in a community affect its social- or health-related problems -- in that invention focuses on action rather than on structural or cultural potential for action.

In this paper we present and validate an emic invention questionnaire based on this research tradition that: asks people about *their actions* (rather than intentions or norms – although, as argued in Friedman *et al.* (2007a, 2007b), these actions are part of the constitutive process that creates and maintains external norms as a part of the local culture); and addresses problems of drug and sexual risk *directly* (rather than focusing on conditions that might indirectly affect such risk).

Methods

Development of invention questions

Ethnographic methods

This research began with an ethnography of inventions, which was conducted from 2001-2003, with particular attention to conflict, collaboration, distrust and invention among drug dealers, drug users, and other neighbours. We conducted in-depth, life-history interviews with 23 long-term residents, of whom 15 were drug injectors and 3 were non-injecting cocaine and/or heroin users. These interviews were tape-recorded and lasted an average of 90 minutes. They covered respondents' social relations with fellow neighbourhood residents and actions (verbal and non-verbal) aimed at protecting others.

We also conducted focus groups to explore non-using residents' perceptions of drug users, with specific emphasis on their willingness to engage in social and sexual relations with drug users. Three focus groups were held: men aged 18 - 21 (8 participants), women aged 18 - 21 (7 participants), and mothers aged 30 - 35 (5 participants). Focus groups transcripts were coded by the type of behaviour toward which participants' action was aimed (e.g. drug-related harm, sex-related harm), and types of persons toward whom the action was aimed (e.g. children, family member, friend, drug user). A number of emic categories of such actions emerged from the analyses of these ethnographic data, and are described in the next two sections.

Inventions aimed at drug behaviours

On the first pass, actions aimed at protecting others (both users and non-users) from dangers associated with drug use and drug dealing were coded under the inclusive umbrella of 'doing something about drugs'. After coding these actions as drug-related inventions, we identified characteristics of the invention actor (e.g. parent, sexual partner, user, neighbour) as they related to the intended recipient (e.g. user, non-user, drug dealer). In addition, we looked at the frequency of similarly coded actions and, when appropriate, formulated action-oriented questions intended to generalise from specific behaviours. For example, when we interviewed Carmen, a block leader, about her efforts to stop drug dealing in front of her apartment building, she explained that in order

to confront neighbourhood drug dealers she needed 'back-up' by neighbours who were supporting her efforts. Interviews with other residents confirmed similar efforts. These findings led to the formulation of the following two questions:

- *How many times have you asked anyone who was selling drugs in your neighbourhood to do it elsewhere?*
- *How many times did you take part in an organised attempt to do something about drug dealing in your neighbourhood?*

All in all, our ethnographic data uncovered 136 specific kinds of actions related to reducing drug use harm; we organised these into 46 generalised types of actions, which were sorted into the following six categories:

- Preventing drug use in familiar spaces.* These were actions intended to move drug using away from familiar spaces – home, building, block, and neighbourhood areas. This category included actions such as requesting users to stop drug consumption, requesting mediation from a third party to prevent users' drug consumption in the locality, and educating the young about the risks of drug use.
- Negotiating 'place' for drug dealing.* These were actions intended to move drug dealing elsewhere. We included actions such as directly asking the drug dealer to sell elsewhere, or supporting a community leader's efforts to stop drug dealing.
- Preventing or discouraging drug consumption by family members, friends and neighbours.* This category included actions such as pointing out or alluding to users on the street as bad examples, telling of family members' or one's own experiences that demonstrate negative consequences of drug use, and showing disdain for drug users.
- Preventing or discouraging drug users' drug consumption,* such as by encouraging or facilitating access to drug treatment or helping users avoid drug use.
- Helping drug users with basic needs* by actions such as providing money, shelter or food.
- Making drug use safer.* The actions included in this category were facilitating access to safe drugs, clean injection equipment, or a safe place to consume drugs.

Actions described in points d, e and f, although more prevalent among drugs users, were also mentioned by non-drug users.

Intraventions aimed at sexual behaviours

These were actions aimed at protecting family, friends and neighbours from risks associated with sex. We identified all

protective actions related to sex under the code 'do something about sex'. We created a category 'do nothing about sex' to help understand the contexts under which sex-related intraventions do or do not take place. We coded 62 actions as 'do something about sex', specifying characteristics of the actor and of the person toward whom the action was directed. For example, many respondents referred to their experiences of early pregnancy as a way to discourage teens from having sex. Based on those actions we included the question: *'How many children have you told of your own experiences with sex as a way to discourage them from having unprotected sex (e.g. catch disease, got pregnant)?'*

Once we coded all intraventions related to sexual behaviour, we formulated 34 sex-related questions and organised them into three categories:

- Actions aimed at preventing sex* included emphasising sex as a risky act leading to disease, a bad reputation and/or pregnancy; and taking actions to punish someone for having sexual partnerships. These actions were more prevalent when aimed at protecting children and teenagers.
- Actions aimed at regulating sex* included promoting some sexual practices while stigmatising others, or regulating number or types of partners.
- Encouraging/facilitating safe sex* by providing condoms, encouraging HIV testing, encouraging condom use, informing someone about another person's HIV (or other STDs) status, and informing others about successful strategies for negotiating condom use.

Creating questions to measure the coded categories of intraventions

Once we organised the coded intraventions into the above categories, we formulated questions to determine whether or not respondents engaged in these behaviours. These emic questions were based on categories and subcategories that emerged in the ethnography – and, we would add, remained emic, because we did not exclude actions reported as being aimed at reducing sexual risk and/or drug harm just because we considered them ineffectual.

Face validity and pre-testing

After initial drafting of the questionnaire, research team members (including those working in the field) and several other HIV and community-process experts evaluated its face validity, including the adequacy of its coverage of relevant categories. After revisions, the questions were pilot-tested on 7 individuals. These procedures resulted in 5 screening questions

and a 110-item instrument designed to measure intraventions. This questionnaire appears as Appendix A.

Ethics

All procedures were approved and overseen by the Institutional Review Board of National Research and Development Institutes.

Collecting the data

Setting

Bushwick is a poor, primarily Latino and African-American neighbourhood in New York City, with a population of approximately 100 000, that went through a widespread AIDS epidemic beginning in the early 1980s. It has been a major centre for drug dealing and use for many years (Friedman *et al.*, 1999; Maher, 1997). Among Bushwick drug injectors in the early 1990s, HIV prevalence was approximately 40%, and hepatitis B core antibody prevalence was approximately 70% (Friedman *et al.*, 1999).

Administering the questionnaire

Face-to-face structured interviews were conducted in confidential settings after informed consent was obtained. The primary survey included sections on sociodemographics, sexual and drug behaviours, sexual and drug networks, social support, external and internal norms, health activism, and other personal characteristics. The intravention portion of the survey was described above. On average, the entire interview took a total of 90 minutes, while the intravention subsection of the questionnaire took approximately 20 minutes.

Sample

Intravention data were collected in 2004 on 57 subjects who were part of a larger sociometric network study of the sexual and injection partners of IDUs, men who have sex with men (MSM), and other adults in the Bushwick section of Brooklyn. The chain-referral sampling methodology in this study is described elsewhere (Friedman *et al.*, 2007a, 2007b). Neither the full sample nor the subset of subjects who were administered the intravention questionnaire was a population-representative sample. We oversampled MSM who had attended gay group sex events and their sexual/injection partners.

Sample characteristics

Thirty-seven per cent of the intravention sample had ever injected drugs; 28% reported crack, 16% reported non-injected heroin/cocaine, and 18% reported marijuana as the hardest drug they had ever used. Eighteen per cent were MSM, 23% women who have sex with women (WSW), 16% other women, and 44% other men. Looking at other characteristics of the

intravention sample, over 40% were 30 years or younger; 65% were Latino, 28% African-American and 7% white; and 44% had not completed high school, while 13% had at least some college. Almost 50% reported individual annual income as less than \$5 000 and 58% reported household annual income as less than \$15 000.

Results

Validating the intravention questionnaire

The psychometric validation process included several steps. We assessed internal-consistency reliability using Cronbach Alpha (Cronbach, 1951), and also assessed convergent and discriminant interscale validity (Rosenthal & Rosnow, 1991). In addition, we compared two versions of our intravention scales, one using a 25% exclusion criterion (explained in detail below) and the other using a 10% exclusion criterion. This last step was intended to help us construct the most valid and economical intravention instrument to be considered by future researchers.

Determining which questions could be validated psychometrically

We began the quantitative psychometric testing of the questionnaire by examining the distribution of responses on all 110 intravention items. All items had values ranging from 0 (did not engage in intravention in the last 12 months) to 5 (engaged in intravention 11 or more times, or with 11 or more people in the last 12 months). Items that were reported on by only a small number of subjects were excluded from the validation, but remain of interest.

A section of the survey asked respondents to tell us about intravention aimed at children for whom they had primary responsibility (e.g. biological or foster parent, informal caretaker). Only 25 subjects said they were responsible, in the last 12 months, for a child aged 8 - 20 years old (primarily because of the young average age of our sample). Thus 19 items related to one's own children were not included in the validation procedures. In spite of the small number of cases for whom we have these kinds of data, results suggest frequent parent-to-child intraventions. For example, among respondents reporting responsibility for a child aged 8 - 20, half reported advising their child about safe sex in the last 12 months, while over 40% reported having requested that friends/friends keep an eye on the respondents' child and report any undesirable behaviour (e.g. drug use, hanging out with members of the opposite sex). Among 18 subjects reporting responsibility for a female aged 8 - 20, almost 40% said that in the past 12 months they had advised her to postpone sex until after she had married, while fully 29% said they had forbidden her to leave the house so that she would

not have sex. When we asked about these intraventions directed at young males, percentages were less than 30% and less than 13%, respectively.

It is important to note that some behaviours that we included in the survey and, based on our qualitative interviews, expected to be somewhat common occurrences among parents, were not commonly reported by these 25 subjects. For example, we asked parents *'In the last 12 months, how many times have you yelled at/threatened/hit any of your daughters because you thought or found out that they had had sex'*, and we asked the same question about sons. Only 2 parents responded in the affirmative for daughters, while none did for sons – perhaps in part because they did not have teenage children or because they were reluctant to admit doing so. Other questions about violent behaviour towards their children got similarly low affirmative responses.

In addition, based on our qualitative research, we expected some parents to engage in actions to encourage their older children to have sex. For example, a woman participant in a focus group told us: *'My husband goofs on my son (when a sex scene is on TV). He tells him, "Look, you got to learn. You got to learn." He's goofing around with him because he is older. He said, "I did it when I was fourteen. You're going to be seventeen. What's your problem?"'*

We thus included questions about parents encouraging sons/daughters to have sex, but no parent reported engaging in any of these actions.

After these and other exclusions due to small numbers of subjects for whom an item was applicable, we were left with 78 questions about intraventions. The next step was to omit items for which only a small percentage of cases reported engaging in these 78

intraventions in the last 12 months. For most items we set the criterion for exclusion at less than 25% affirmative responses. (As discussed later, results using this 25% affirmative exclusion criterion did not differ from those using a 10% criterion.)

For intraventions that were aimed at helping users with their drug use, however, we relaxed this criterion. Because of the central importance of IDUs and other users to issues of HIV, hepatitis and other health-related issues (Friedman et al., 1999; Gourevitch & Arnsten, 2005), we felt it important to retain these items as part of our validation process. Intraventions directed at helping users with their use included giving a user a needle, helping a user cope with withdrawal (and with dope sickness), advising a user how to inject more safely, and injecting another user. Most of these intraventions are likely to be enacted by those most familiar with user behaviour and the consequences of use, i.e. a current or one-time user. Thus, for these questions about helping IDUs with their drug use, as opposed to other intraventions about providing general help to IDUs, such as giving them money, a place to sleep, or helping them get into drug treatment, we set the exclusion criterion at less than 25% of ever IDUs as opposed to 25% of the total sample. Intraventions that were deleted because of this criterion included advising people who sniffed drugs to inject them so that they would not need as much dope, advising users to use other drugs as a way of quitting their heroin or crack use, and teaching someone how to inject for the first time.

In addition to these exclusion criteria, additional deletions arose as follows. Since our sample size was too small to conduct more sophisticated techniques to identify multidimensionality (e.g. exploratory factor analysis) among the scale items, we grouped these items by content categories (domains), as determined by agreement among the authors, and constructed additive

Table 1. Description of intravention subscales

Intravention subscales	Total # items in subscale	Item number	Cronbach's Alpha	95% confidence interval	Weakest subscale-item correlation
Targeting children's sexual behaviour	14	20-30, 32-34	.95	.93-.97	.68
Targeting adults about unprotected sex	4	35-38	.86	.79-.91	.79
HIV/STD testing advice to adults	3	39-41	.88	.81-.93	.86
Advice about choice of sex partner	4	43-45, 47	.91	.86-.94	.79
Discussing HIV/STDs with others	3	55-57	.84	.75-.90	.79
Actions to remove drug users/sellers from vicinity	6	65-68, 71, 72	.87	.81-.92	.67
Exposing your (or someone else's) drug use to prevent others from using	3	76-78	.83	.74-.89	.73
Efforts to get users to quit using	5	86-90	.86	.79-.91	.68
Financial support/shelter to users	5	91-95	.88	.82-.92	.67
Advice about syringe safety/procurement	4	96-99	.81	.70-.87	.69
Advice about/assistance in safely managing drug use	6	100, 102-105, 107	.86	.79-.91	.68

subscales for each domain. Subscales were created only for domains in which three or more items remained after deletions based on the above exclusion criteria.

The remaining 57 intravention items were divided into 11 predetermined and non-overlapping domains. We created a subscale for each domain by summing the values across all eligible items assigned to that domain. We then examined the degree to which individual items were correlated with their respective subscale, intending to delete any item that was correlated at less than .40 with the subscale. No item, however, was correlated at less than .67 with its respective domain.

Reliability

Table 1 shows, for each subscale, the number of items used in constructing the subscale, the questionnaire number for each item in the subscale (see Appendix A for a list of all intravention questionnaire items), the Cronbach Alpha test of scale reliability, and the weakest item-subscale correlation. The latter shows the correlation between the subscale and the individual item in the scale with which it most weakly correlated.

All but one subscale was comprised of between 3 and 6 items.

This subscale comprised of 14 items, 'Targeting children's sexual behaviour', and showed no indication of multi-dimensionality: exploratory factor analysis on this scale suggests only one dimension. All subscales had good to very good reliability, ranging from .81 to .95 as measured by Cronbach's alpha; the lower point on the 95% confidence interval for alpha was .70 or higher for each subscale.

Convergent and discriminant validity

We also examined convergent and discriminant validity of the subscales. Firstly, since each subscale measured different aspects of the same general construct, intravention, we would expect them to be somewhat correlated with one another. In addition, we would expect the correlations between similar intravention scales, for example, the various sex intravention scales, to be relatively high (convergent validity), and the correlations between dissimilar intravention scales, for example, the children and sex scale and the syringe safety scale, to be relatively low (discriminant validity).

Table 2 shows the interscale correlation for each of our intravention subscales. These 11 subscales fell into three broad categories: sex-related (columns numbered 1 - 5), anti-drug

Table 2. Pearson's correlation coefficients among intravention subscales (N=57)

	Sex-related intraventions					Anti-drug or anti-user intraventions			Advising users intraventions		
	1	2	3	4	5	6	7	8	9	10	11
1.Targeting children's sexual behaviour	1										
2.Targeting adults about unprotected sex	.78	1									
	<.0001										
3.HIV/STD testing advice to adults	.70	.74	1								
	<.0001	<.0001									
4.Advice about choice of sex partner	.59	.49	.55	1							
	<.0001	<.0001	<.0001								
5.Discussing HIV/STDs with others	.67	.59	.52	.62	1						
	<.0001	<.0001	<.0001	<.0001							
6.Actions to remove drug users/dealers from vicinity	.74	.65	.54	.55	.68	1					
	<.0001	<.0001	<.0001	<.0001	<.0001						
7.Exposing your (or someone else's) drug use to prevent others from using	.66	.60	.54	.48	.60	.62	1				
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001					
8.Efforts to get users to quit using	.60	.54	.62	.40	.49	.76	.79	1			
	<.0001	<.0001	<.0001	.0021	.0001	<.0001	<.0001				
9.Financial support/shelter to users	.33	.37	.34	.38	.31	.40	.48	.39	1		
	.0110	.0047	.0101	.0036	.0177	.0019	.0002	.0027			
10.Advice about syringe safety/procurement	.15	.21	.34	.26	.26	.36	.37	.44	.41	1	
	.2772	.1210	.0108	.0472	.0555	.0065	.0049	.0006	.0017		
11.Advice about/assistance in safely managing drug use	.19	.26	.39	.27	.12	.22	.29	.46	.53	.77	1
	.1627	.0496	.0029	.0455	.3545	.0968	.0303	.0003	<.0001	<.0001	
12.Total Intravention scale	.88	.81	.80	.70	.73	.82	.80	.77	.58	.49	.53
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	0.0001	<.0001

Notes: Correlation coefficient in top row and significance level in bottom row of each cell.

use/user (columns numbered 6 - 8), and aid/advice to users (columns numbered 9 - 11). The highest correlations were found between: (a) two sex-related intravention subscales, 'targeting children's sexual behaviour' and 'targeting adults about unprotected sex' ($r = .78$); (b) two anti-drug use/user intravention subscales, 'exposing your (or someone else's) drug use to prevent others from using' and 'efforts to get users to quit using' ($r = .79$); and c) two aid/advice to users subscales, 'advice about syringe safety/procurement' and 'advice about/assistance in safely managing drug use' ($r = .77$). The sex-related subscales were correlated with one another at values ranging between .49 and .78 (mean correlation = .63); all were significant at $p < .0001$. The correlations among the 3 anti-drug use/users subscales were .56, .61 and .79 (mean = .65); all were significant at $p < .0001$. The correlations among the aid/advice to users subscales were .41, .53 and .77 (mean = .57); all were significant at $p < .01$.

Correlations between the sex-related subscales and the aid/advice to users subscales were weak, ranging from .12 to .39 with an average correlation of .24. The correlations between the sex-related subscales and the anti-drug use/user subscales were stronger, ranging from .40 to .74 with an average correlation of .58. Finally, the correlations between the anti-drug use/user subscales and the aid/advice to users subscales ranged from .22 to .48, with an average correlation of .38. These results demonstrate that intra-category correlations were higher than inter-category correlations, and that each of the three broad categories captured distinct kinds of intraventions, though the broad distinction between sex-related intraventions and anti-drug use/user intraventions was statistically somewhat tenuous.

Comparing briefer and longer versions

Our final validation step was to assess the similarity for each 10% criterion-based scale to its corresponding 25% criterion-based scale. Seventy-eight items met the 10% criterion; the resulting 78-item intravention scale was almost perfectly correlated with the 57-item scale ($r = .99$, $p < .0001$). Six of the subscales

contained the same items when using the 25% as compared with the 10% criterion. We calculated correlation coefficients for the remaining 5 subscales, and found that each pair of 25% versus 10% criterion subscales was correlated at .94 or higher (Table 3). We thus concluded that the scales constructed using the 25% criterion and the 10% criterion were essentially the same.

Moreover, when we compared Cronbach Alpha for the 5 subscales across the 2 procedures, on only 1 subscale, activism against drug use/sales, did this measure of reliability differ significantly (data not shown). Since the alpha for the 25% criterion subscale was well within the acceptable range ($\alpha = .87$), we concluded that the reliability of this truncated activism against drug use/sales subscale was not substantively different from its 10% criterion counterpart.

Discussion

For future research examining intraventions in the USA we propose a questionnaire that contains all items listed in Table 1 and, in addition, items we initially excluded from these validation procedures because they were restricted to specific populations (adults responsible for children 20 or younger - Qs 1-19, and current injectors - Qs 113 & 114). As an alternative, where time and length considerations are of major concern, the 57-item scale can be used with appropriate additions from Qs 1 - 19, 113, and/or 114. For Africa and other countries, and perhaps for some areas in the USA, we would recommend that adaptation of these items be considered to account for social, cultural, political and epidemiologic differences from those in Bushwick, and that further research to validate these versions be conducted.

Limitations

These validation results are limited by the relatively small number of participants in this validation research, and by the fact that they were clearly a non-representative sample. Nonetheless, the sample should also be viewed as a strategically important one: it was comprised of residents of a neighbourhood that has experienced widespread drug use and high levels of HIV among drug users and others. Residents of this neighbourhood have also engaged in widespread soul-searching about drug use, HIV and how to respond to them (Friedman et al., 2007a). Thus, although this sample might not be appropriate as one from which to estimate the prevalence of intravention in the US population, it is useful as a sample in which these actions are frequent and refer to activities that are well known as problems and dilemmas in the community. This is likely to be the case in many African communities confronted by AIDS.

Table 3. Correlations between subscale based on 25% and subscale based on 10% exclusion criterion

Intravention scale	r
Total intravention scale	.99
Targeting children's sexual behaviour	.99
Actions to remove drug users/dealers from vicinity	.96
Exposing your (or someone else's) drug use to prevent others from using	.95
Efforts to get users to quit using	.94
Advice about/assistance in safely managing drug use	.98

Conclusions

Further research should be conducted in other populations to determine the relevance and validity of these items. In other countries, we would add, appropriate methods for adapting the questionnaire might require a degree of ethnographic work first, since important and feasible aspects of intravention probably differ depending on such social and cultural characteristics of the area as the patterns of social hierarchies, community networks, risk behaviours and family relations. It also might be useful to explore whether recall bias issues make it advisable to ask about intraventions in the last 3 months rather than the last 12 months.

This questionnaire and its adaptations for other countries could be useful for researchers. In surveillance research, it provides a way to measure the extent to which residents are proactive in attempting to sustain the health of their community, and about the extent to which they may be acting based on questionable understandings. These intravention measures could also be used in studies of whether and how health activism affects community members' behaviours and health outcomes (such as HIV or STI incidence rates) over time. Finally, intravention is interesting as a research subject in its own right. Research of this kind should investigate how public health interventions or changing sociocultural conditions affect health activism.

The questionnaire could also benefit public health agencies by describing the extent and varieties of health promotion that are already occurring. This could help the agencies avoid unnecessary activities, and also help them identify localities that most need educational or other interventions. In addition, intravention data could help public health and clinical programmes to see ways in which clients and other community members are allies and resources for spreading the affects of their interventions.

The proposed intravention questionnaire asks about preventive actions regarding sex and drug use. Should the questionnaire (and the methodology used to develop it) prove useful in understanding community preventive processes, similar questionnaires should be developed for other diseases (e.g. asthma, tuberculosis) or health-related issues (birth weight, interpersonal violence, smoking, prenatal care, or vaccination).

In sum, the health activism of community members is a potentially critical resource in HIV/AIDS prevention and care. This questionnaire could help us understand it better -- and thus to develop fruitful ways for local intravention health

activists and public health organisations and agencies to work together to combat the epidemic. Further research, including questionnaire modification and validation, could help us learn how public health agencies and local health intravenors could work together more effectively.

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Appendix A. Intravention Questionnaire

Subject ID #: _____

We are interested in finding out to what extent people living in Bushwick protect others in the neighbourhood (their family, friends, relatives and neighbours) from the dangers of sex, drug use and drug dealing. By drug use we mean injected drugs, crack, and non-injected heroin and cocaine. We would like to know how often, in the past twelve months, you have engaged in each of the behaviours listed below to protect anyone that you know. Some of the questions ask with how many people you've engaged in the behaviour and others ask about how many times you've engaged in the behaviour. The first section asks about your behaviours intended to protect others from the dangers of sex. The second section asks about your behaviours intended to protect others from the dangers of drug use. Remember, the questions refer to specific behaviours you have engaged in during the past twelve months.

Before we begin talking about protective actions, I want to ask a few questions about children who may be in your life.

- A. Do you have any children? Yes No
- If yes,
- How many?
 - How many live with you?
 - How old is the youngest?
 - How old is the oldest?
 - How many daughters?
 - How many sons?
- B. Are there other children (sibling, niece, nephew, foster child, stepchild) you consider yourself responsible for? Yes No
- C. If yes,
- How many?
 - How many live with you?
 - How old is the youngest?
 - How old is the oldest?
 - How many are female?
 - How many are male?

[To interviewer: go to question 20 if respondent has no children of own or is not responsible for any other children.]

The first group of questions asks about your own children or children for whom you consider yourself responsible (niece, nephew, foster child, stepchild), including teenagers.

		In the last 12 months					
		0	1	2-5	6-10	11+	
1.	In the last 12 months, how many times have you talked to/advised any of your children about safe sex?	0	1	2-5	6-10	11+	
2.	How many times have you helped any of your children get some form of birth control (condom, the pill, etc.)?	0	1	2-5	6-10	11+	
3.	How many times have you taken any of your daughter(s) to a gynecologist?	N/A	0	1	2-5	6-10	11+
4.	How many times have you asked/told any of your daughters not to have sex until they get married?	N/A	0	1	2-5	6-10	11+
5.	How many times have you asked/told any of your sons not to have sex until they get married?	N/A	0	1	2-5	6-10	11+
6.	How many people (friends/relatives/relatives) have you asked if they see any of your children doing things you don't want them to do, like hanging out with or kissing their boyfriend/girlfriend, using drugs, drinking, to tell you about it?	0	1	2-5	6-10	11+	
7.	How many times have you forbidden any of your daughters to leave the house so they would not hang out with members of the opposite sex?	N/A	0	1	2-5	6-10	11+
8.	How many times have you forbidden any of your sons to leave the house so they would not hang out with members of the opposite sex?	N/A	0	1	2-5	6-10	11+
9.	How many times have you sent any of your daughters to live somewhere else (different neighbourhood, state, country) so they would stop seeing their boyfriend/girlfriend?	N/A	0	1	2-5	6-10	11+
10.	How many times have you sent any of your sons to live somewhere else (different neighbourhood, state, country) so they would stop seeing their boyfriend/girlfriend?	N/A	0	1	2-5	6-10	11+
11.	How many times have you told your daughter(s) that if she becomes pregnant ("comes with a belly") she will have to leave the house/will be on her own?	N/A	0	1	2-5	6-10	11+
12.	How many times have you yelled at/threatened/hit any of your daughters because they had a boyfriend?	N/A	0	1	2-5	6-10	11+
13.	How many times have you yelled at/threatened/hit any of your sons because they had a girlfriend?	N/A	0	1	2-5	6-10	11+

		In the last 12 months					
14.	How many times have you yelled at/threatened/hit any of your daughters because you thought or found out that they had sex?	N/A	0	1	2-5	6-10	11+
15.	How many times have you yelled at/threatened/hit any of your sons because you thought or found out that they had sex?	N/A	0	1	2-5	6-10	11+
16.	How many times have you encouraged any of your daughters to meet people so they will become sexually active?	N/A	0	1	2-5	6-10	11+
17.	How many times have you encouraged any of your sons to meet people so they will become sexually active?	N/A	0	1	2-5	6-10	11+
18.	How many times have you asked anyone or paid anyone to have sex with any of your daughters?	N/A	0	1	2-5	6-10	11+
19.	How many times have you asked anyone or paid anyone to have sex with any of your sons?	N/A	0	1	2-5	6-10	11+
In the remainder of the questions when we ask about children we are asking about any child, yours, your friends', your neighbours', etc., including teenagers.							
		In the last 12 months					
20.	In the last 12 months, how many children have you advised about using condoms if they have sex?	0	1	2-5	6-10	11+	
21.	How many children have you advised about using birth control methods other than condoms (e.g. the pill, pull out, have just oral sex) if they have sex?	0	1	2-5	6-10	11+	
22.	How many children have you given condoms to so they would have protected sex?	0	1	2-5	6-10	11+	
23.	How many children have you advised on ways to get their sex partners to use condoms?	0	1	2-5	6-10	11+	
24.	How many children have you advised about how to talk to their partners about HIV/AIDS or other STDs?	0	1	2-5	6-10	11+	
25.	How many children have you encouraged to ask their potential or current sex partner to get tested for HIV?	0	1	2-5	6-10	11+	
26.	How many children have you encouraged to get tested for HIV?	0	1	2-5	6-10	11+	
27.	How many children have you advised to wait to have sex until they are married or are 18 or older?	0	1	2-5	6-10	11+	
28.	In the last 12 months, how many children have you advised not to have sex because they could get pregnant/their partner could get pregnant?	0	1	2-5	6-10	11+	
29.	How many children have you told that if they have sex they could catch a disease?	0	1	2-5	6-10	11+	
30.	How many children have you told that if they have sex people will bad mouth them?	0	1	2-5	6-10	11+	
31.	How many children have you told that if they have sex before marriage they will go against religion (i.e., sex before marriage is immoral, it is wrong)?	0	1	2-5	6-10	11+	
32.	How many children have you told of your own experiences with sex as a way to discourage them from having sex too early (e.g. wasn't ready, painful, dropping out of school if you get pregnant, lots of work taking care of child while friends were having a good time)?	0	1	2-5	6-10	11+	
33.	How many children have you told of your own experiences with sex as a way to discourage them from having unprotected sex (e.g. catch disease, got pregnant)?	0	1	2-5	6-10	11+	
34.	In the last 12 months, how many adults have you told about <i>their</i> children's unwanted behaviour, like hanging out with or kissing boyfriend/girlfriend, using drugs, drinking?	0	1	2-5	6-10	11+	
The next group of questions asks about actions aimed at protecting other adults, not children/teenagers. The adult might be your friend, a neighbor, a relative or someone you barely know.							
		In the last 12 months					
35.	How many adults have you told about your own experiences with sex as a way to discourage them from having unprotected sex?	0	1	2-5	6-10	11+	
36.	How many adults have you advised to use condoms when they have sex?	0	1	2-5	6-10	11+	

		In the last 12 months					
37.	How many adults have you advised to use birth control methods other than condoms (the pill, pull out, oral sex) when they have sex?	0	1	2-5	6-10	11+	
38.	How many adults have you given condoms to so they would have protected sex?	0	1	2-5	6-10	11+	
39.	How many adults have you encouraged to get tested for HIV/AIDS?	0	1	2-5	6-10	11+	
40.	How many adults have you encouraged to ask a potential or current sex partner to get tested for HIV/AIDS?	0	1	2-5	6-10	11+	
41.	How many adults have you advised about how to talk to their sex partners about HIV/AIDS or other STDs?	0	1	2-5	6-10	11+	
42.	How many adults have you advised on ways to get their sex partners to use condoms?	0	1	2-5	6-10	11+	
In the remaining questions, when we say people, we mean anybody, your lover/spouse, friends, neighbours, relatives, your children, your neighbor's children, etc.							
		In the last 12 months					
43.	In the last 12 months, how many people have you encouraged to begin a relationship with someone you know because that someone has a job?	0	1	2-5	6-10	11+	
44.	How many people have you encouraged to begin a relationship with someone you know because that someone is disease free?	0	1	2-5	6-10	11+	
45.	How many people have you encouraged to begin a relationship with someone you know because that someone is not a user?	0	1	2-5	6-10	11+	
46.	How many times have you organised parties in which you provided condoms so people would have safe sex?	0	1	2-5	6-10	11+	
47.	How many people have you told they should not have sex with anyone who uses drugs?	0	1	2-5	6-10	11+	
48.	How many people have you talked to concerning the need to do something about sex workers in your neighbourhood?	0	1	2-5	6-10	11+	
49.	How many times have you called the police for help in getting rid of sex workers in your neighbourhood?	0	1	2-5	6-10	11+	
50.	How many times have you taken part in an organised attempt (e.g., attended a meeting, signed a petition, etc.) to do something about sex workers in your neighbourhood?	0	1	2-5	6-10	11+	
51.	How many people have you told that their lover/partner uses drugs? [To interviewer, N/A if respondent knows no one involved with a drug user.]	N/A	0	1	2-5	6-10	11+
52.	How many people have you yelled at/threatened/hit because they had sex with someone who uses drugs?	N/A	0	1	2-5	6-10	11+
53.	How many times have you advised anyone who has sex with a user to use condoms? [To interviewer, N/A if respondent knows no one involved with a drug user.]	N/A	0	1	2-5	6-10	11+
54.	How many people have you sent/helped send to live somewhere else (a different neighbourhood, state, country) so they would stop seeing someone who uses drugs? [To interviewer, N/A if respondent knows no one involved with a drug user.]	N/A	0	1	2-5	6-10	11+
55.	How many people have you told they should not have sex with anyone who has HIV/AIDS or other STDs?	0	1	2-5	6-10	11+	
56.	How many people have you talked to about your HIV status, even if you are HIV negative?	0	1	2-5	6-10	11+	
57.	How many people have you talked to about your STD status (other than HIV), even if you have no other STDs?	0	1	2-5	6-10	11+	
58.	How many people have you told that someone else in the neighbourhood has HIV/AIDS/STD so that people would not have sex with that person? [To interviewer, N/A if respondent knows no one in neighbourhood with HIV/AIDS/STD.]	N/A	0	1	2-5	6-10	11+
59.	How many times have you spoken to/yelled at/threatened/hit anyone because you found out they had an STD or HIV and you didn't want them to infect anybody else? [To interviewer, N/A if respondent knows no one with HIV/AIDS/STD.]	N/A	0	1	2-5	6-10	11+
60.	Can you think of any other things you have done in the past twelve months to protect people you know from the dangers of unsafe sex? [To interviewer: write responses below.]	<hr/> <hr/> <hr/>					

Now we would like you to think about your behaviours directed at protecting people you know from the dangers of drug use and drug dealing. As in the questions above, some of the questions ask with how many people you've engaged in the behaviour, while others ask about how many times you've engaged in the behaviour. Below, when we ask about drug use or users we are referring to injected drugs, crack, and non-injected heroin and cocaine. When we say people or anyone, we mean anybody, including children (your own or others), lovers, neighbours, relatives and people you hardly know. **Remember, the questions refer to specific behaviours you have engaged in during the past twelve months.**

61. Have you seen people using drugs in your neighbourhood?	Yes	No			
62. Are you concerned about people using drugs in your neighbourhood?	Yes	No			
63. Have you seen people selling drugs in your neighbourhood?	Yes	No			
64. Are you concerned about people selling drugs in your neighbourhood?	Yes	No			
			In the last 12 months		
65. In the last 12 months, how many times have you asked anyone who was using drugs in your neighbourhood to go someplace else when they use drugs?	0	1	2-5	6-10	11+
66. How many times have you asked someone else to tell a user to use drugs elsewhere?	0	1	2-5	6-10	11+
67. How many people have you talked to about the need to do something so users don't use in your neighbourhood?	0	1	2-5	6-10	11+
68. How many people have you talked to concerning the need to do something about discarded syringes seen in your neighbourhood?	0	1	2-5	6-10	11+
69. How many times have you taken part in an organised attempt (e.g., attended a meeting, signed a petition, etc.) to do something about drug use in your neighbourhood?	0	1	2-5	6-10	11+
70. How many times have you called the police for help in getting rid of drug use in your neighbourhood?	0	1	2-5	6-10	11+
71. How many times have you asked anyone who was selling drugs in your neighbourhood to do it elsewhere?	0	1	2-5	6-10	11+
72. How many people have you talked to about the need to do something so drug dealers don't deal in your neighbourhood?	0	1	2-5	6-10	11+
73. How many times have you asked anyone who knows a dealer to ask the dealer to sell their drugs elsewhere (e.g., ask the dealer's brother to ask the dealer to deal elsewhere)?	0	1	2-5	6-10	11+
74. How many times have you taken part in an organised attempt (e.g., attended a meeting, signed a petition, etc.) to do something about drug dealing in your neighbourhood?	0	1	2-5	6-10	11+
75. How many times have you called the police for help in getting drug dealing out of your neighbourhood?	0	1	2-5	6-10	11+
76. To how many different people have you pointed out users on the street as examples not to be followed?	0	1	2-5	6-10	11+
77. How many people have you told about your own or others' experiences with drugs as a way to discourage them from using drugs or to encourage them to quit using?	0	1	2-5	6-10	11+
78. In an effort to get someone you know to stop using drugs, how many other people have you told about her/his drug use?	0	1	2-5	6-10	11+
79. In the last 12 months, how many people have you yelled at/threatened/hit because you thought they were using drugs?	0	1	2-5	6-10	11+
80. How many people have you helped cope with the drug use of someone close to them (helped them get a user into treatment, helped them when they were feeling depressed about the user)?	0	1	2-5	6-10	11+
81. How many people have you encouraged to avoid contact with anyone who uses drugs?	0	1	2-5	6-10	11+
82. How many people have you told that using drugs goes against religious teachings (i.e., using drugs is immoral, it is wrong)?	0	1	2-5	6-10	11+
83. How many people have you sent/helped send to live somewhere else (a different neighbourhood, state, country) so they would quit using drugs?	0	1	2-5	6-10	11+
84. How many times have you reduced your contact or stopped having contact with a user(s) until they quit using drugs?	0	1	2-5	6-10	11+
85. How many times have you stopped giving money (providing financial support) to a user(s) until they quit using drugs?	0	1	2-5	6-10	11+

		In the last 12 months				
86.	How many times have you told a user(s) they could not stay in your home until they quit using drugs?	0	1	2-5	6-10	11+
87.	How many users have you told about your own or others' experiences with drugs as a way to encourage them to quit using, or to use less dangerous drugs?	0	1	2-5	6-10	11+
88.	How many users have you discouraged from hanging out with other users?	0	1	2-5	6-10	11+
89.	How many users have you encouraged to get into drug treatment?	0	1	2-5	6-10	11+
90.	How many users have you helped get into drug treatment (e.g., gave them money for transportation, went with them to the treatment center, etc.)?	0	1	2-5	6-10	11+
91.	How many users have you given money to help them out (other than to buy drugs)?	0	1	2-5	6-10	11+
92.	How many users have you provided temporary shelter to (a place to stay overnight, a few days, months)?	0	1	2-5	6-10	11+
93.	How many users have you given other kinds of support to (food, bathroom use, a place to shower, clean clothes, job referral)?	0	1	2-5	6-10	11+
94.	How many users have you allowed to use drugs in your home or apartment building (e.g. inject in your bathroom or basement, smoke crack in your apartment)?	0	1	2-5	6-10	11+
95.	In the last 12 months, how many users have you given money to so they could buy drugs and not get dope sick?	0	1	2-5	6-10	11+
96.	How many users have you told about needle exchange programmes?	0	1	2-5	6-10	11+
97.	How many users have you told they can now buy needles at a pharmacy (without a prescription)?	0	1	2-5	6-10	11+
98.	How many users have you given needles to?	0	1	2-5	6-10	11+
99.	How many users have you discouraged from sharing needles/equipment?	0	1	2-5	6-10	11+
100.	How many users have you gone with or told about a safe place to inject dope?	0	1	2-5	6-10	11+
101.	How many drug sniffers have you advised to inject so they would not have to use so much dope?	0	1	2-5	6-10	11+
102.	How many drug sniffers have you advised not to inject?	0	1	2-5	6-10	11+
103.	How many users have you helped through or told how to cope with a bad injection (e.g. muscle spasm, swollen arm)?	0	1	2-5	6-10	11+
104.	How many users have you helped through or told how to cope with dope sickness?	0	1	2-5	6-10	11+
105.	How many users have you helped cope with their withdrawal symptoms?	0	1	2-5	6-10	11+
106.	How many times have you advised a user to use other drugs as a way to quit using heroin or crack?	0	1	2-5	6-10	11+
107.	How many users have you gone with or told about a place to buy "good" (clean) dope?	0	1	2-5	6-10	11+
108.	How many people have you taught to inject for the first time?	0	1	2-5	6-10	11+
109.	How many people have you taught ways to better inject (e.g. taught how to find the vein, how to inject in different body parts, how to tell when a vein is missed)?	0	1	2-5	6-10	11+
110.	How many times have you injected another person with drugs?	0	1	2-5	6-10	11+
111.	Have you ever injected drugs?	Yes	No			
112.	Have you injected drugs in the last 12 months?	Yes	No			

[To interviewer: if respondent says yes to injected in last 12 months, continue. If not, ask the open-ended question below (#115)]

	In the last 12 months				
113. In the last 12 months, how many users have you given what was left in your syringe so they would not get dope sick?	0	1	2-5	6-10	11+
114. Not including those to whom you gave what was left in your syringe, how many users have you shared your dope with so they would not get dope sick?	0	1	2-5	6-10	11+

115. Can you think of any other things you have done in the past twelve months to protect people you know from the dangers of drug use/dealing? *[To interviewer: write responses below.]*

Okay - those are all the questions I have for you. Do you have any questions for me? IF NO: Again, thank you so much for your time and honesty. Let me get you your money, and you'll be able to leave.

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