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Measuring altruistic & solidaristic orientations towards others among people who inject drugs

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Abstract

Background—Past research has found that HIV+ people who inject drugs (PWID) have high levels of consistent condom use in their partnerships with non-IDUs and in other behavioral expressions of what could be altruism or solidarity. Such research on PWID has been hindered by lack of appropriate measures of altruism and solidarity. Yet such measures may help us understand how people who inject drugs react when structural interventions or Big Events such as economic or political crises take place, and thus may also have major implications for HIV and other epidemics.

Methods—After considerable formative ethnography and pilot testing, we developed scales to assess altruistic and solidaristic orientations towards other drug users and non-drug users. We administered these scales to 300 PWID (56% male; 72% nonwhite; 98% income < \$20,000) who were referred to our storefront location by a large respondent-driven sampling (RDS) project. Scale reliabilities were assessed using Cronbach's alpha; scale validity was assessed using Pearson's correlations with criterion variables.

Results—The 13-item Altruism Scale and the 9-item Solidarity Scale were both internally consistent ($\alpha = 0.91, 0.83$, respectively). Each scale was correlated with how many hours participants help other people, local organizations, or the community in general during an average week ($r = 0.33, p < 0.001$; and $0.34, p < 0.001$, respectively) and with bringing food or other necessities to others after the Hurricane Sandy emergency ($r = 0.48, p < 0.001$; and $0.41, p < 0.001$, respectively).

Conclusion—These measures seem to be reliable and valid. They can be useful for a variety of studies of PWID and perhaps other people who use drugs. They can help us study both how (and if) Big Events or structural interventions affect altruism and solidarity among PWID and how (and if) altruism and solidarity are associated with changes in HIV or other risks among PWID.

Background

Many people think of drug users, and particularly drug injectors, as selfish and uncaring people. Past research, however, suggests that they are sometimes motivated by altruism and solidarity (1-7). In this paper, we describe and assess measures to study this more deeply.

Altruism and solidarity may be important in affecting how people who inject drugs (PWID) and others respond to HIV and to other issues. In prior research, we found that HIV-positive PWID had very high levels of consistent condom use in their partnerships with non-PWID (1). Consistent condom use rates were lower in (a) the relationships of HIV-positive PWID with other PWID and in (b) the relationships of uninfected PWID with both their PWID and non-PWID partners. We interpreted this pattern of results as resulting from altruistic orientations that led participants in this project not to risk infecting those who were otherwise not at high risk. Later research by our group (2, 3) and others (4, 5) supported the importance of altruism and solidarity among drug users and among HIV-positive men who have sex with men (MSM). We have shown in our articles on “intravention” (in which we ask PWID and others at HIV risk (8 - 10) to describe how they try to get other people to protect their health) that actions that seem to express altruism and/or solidarity with others are widespread among PWID and other key populations.

In some cities in the United States, including New York, solidaristic orientations led active PWID and people who were no longer injecting drugs to work with researchers and some gay activists to set up illegal or quasi-legal syringe exchanges—which was a critical step in reducing HIV transmission (6, 7). Many PWID continue to volunteer their time at syringe exchanges and other harm reduction centers in attempts to protect others' health.

In a review of qualitative, historical and survey data about how altruistic, solidaristic, competitive and hostile orientations towards others changed in one community that had seen a parallel decrease in both risk behaviors and in HIV rates over a span of many years, we speculated about how larger-scale events and community interventions affected this process (11). Since our data in previous studies lacked validated quantitative measures of altruistic and solidaristic orientations to others, however, we could not study either upstream causes or behavioral/network correlates of such altruism or solidarity.

Changes in the extent and distribution of altruism and solidarity in PWID communities may also be important in terms of what happens after Big Events like wars, transitions and economic crises. These are sometimes followed by large-scale HIV outbreaks (as in much of the former Soviet Union) but sometimes are not (as in Argentina and the Philippines (12-16). As we have previously discussed (15, 16), there is a need to study various kinds of pathway variables that may determine whether Big Events somewhere do or do not lead to HIV epidemics. Cultural-historical activity theory points to three broad kinds of pathway variables—activities that people engage in, their intersubjective exchanges with others, and self as a subjective process. Altruism and solidarity are aspects of self as a subjective process, and have to do with how people in a community orient their actions towards others inside and outside of that community. We speculate that if Big Events increase altruism and solidarity, this may make HIV outbreaks less likely, or at least make it easier to organize effective responses to them. In order to test such a speculation, however, it is necessary to have ways to measure changes in altruism and solidarity.

The research discussed in this paper developed measures (including measures of altruism and solidarity) that we hope will be valid and reliable for PWID and for other populations as well. Such measures can be used in future research to help us understand both the causes of

changes in altruism and solidarity and also how changes in altruism and solidarity affect the HIV epidemic and other health and social issues.

Methods

Developing these measures began with approximately one year of qualitative research in which we conducted focus groups and in-depth interviews with PWID, high-risk heterosexuals and MSM. During this time, we explored how participants lives were structured, how they used their time, their and their friends' norms on a number of issues, and how they thought about and acted in ways that expressed solidarity, altruism, hostility or competitiveness with others. We then drafted questions and pilot tested them on 15 PWID as well as on members of other Key Populations.

For the questions on altruism, we built on the work of Nimmons & Folkman (17) and of O'Dell et al. (18), who had created measures of other-sensitive motivations and altruism in relationship to safer sex among gay men. We modified their approach considerably based on our fieldwork.

To evaluate the reliability, validity and other characteristics of the altruism and solidarity scales, 300 PWID were recruited between November 29, 2012 and June 12, 2013 by referral from an allied large New York City respondent driven sampling study (RDS) of people who inject drugs. This allied study used RDS to recruit a diverse and somewhat representative group of PWID. Although we cannot claim that those who took part in our study were a representative sample, our sample was quite diverse. They were 56% male; 72% nonwhite; and 98% had incomes below \$20,000. We administered these scales as part of a longer questionnaire after participants' informed consent was obtained. (Scale items are listed in Table 1.)

Each item was answered in terms of the following responses: 1. Disagree Strongly; 2. Disagree Somewhat; 3. Neither disagree or agree; 4. Agree Somewhat; 5. Agree Strongly. (6. Not applicable, 7. Don't know, and 8. Refused to answer were considered to be missing values.) Scale values were constructed as the mean score of the non-missing values.

The Institutional Review Board of NDRI oversaw and approved study methods and materials.

Scale reliabilities were assessed using Cronbach's alpha; scale validity was assessed using correlations (Pearson's r) with criterion variables. Analysis of variance was used to study how values on these scales varied by various sociodemographic and other variables.

Results

As we can see from Table 1, both scales show high internal consistency reliability, with Cronbach's alpha values of 0.91 for the altruism scale and 0.83 for the solidarity scale (19). Further, neither scale would be improved by removing any of its items.

Two items on the questionnaire were used to validate these scales. The items and their correlations with the altruism and solidarity scales, respectively, were:

1. In the average week, how many hours would you say you spend doing things to help other people, local organizations, or the community in general? $r = 0.33$ (altruism); 0.34 (solidarity); and
2. During the week after Hurricane Sandy, how many times did you help others by bringing them food, blankets, flashlights or other necessities? This question was repeated to assess the following 5 groups of people whom participants could have helped: relatives, friends, neighbors, other drug users and others. We recoded responses so that participants who responded “None” to each of these questions were coded as 0 and participants who responded “About once,” “Several times,” “About once a day,” or “2 or more times a day” were coded as 1. The correlation of this with altruism was 0.48 and with solidarity 0.41 .

Each item was significantly correlated with each of the scales at $p < 0.001$.

In spite of being composed of questions that are quite different from each other, the solidarity and altruism scales were correlated at $r = 0.816$ with each other. This may suggest that the social and psychological roots of altruism and solidarity are similar. More research on this will be useful—including on whether Big Events or structural interventions lead to changes in altruism and/or solidarity, and, if so, how the pathways between Big Events (or structural interventions) and each of these measures are similar or different.

Although the sample size of 300 means that some of the categories of participants in Table 2 may be relatively small, it does seem that both altruism and solidarity scores among people who inject drugs are higher for younger injectors, injectors who are Black, and those who are neither unemployed nor part of the underground economy. In addition, both scales are associated with more risk behavior at the individual level. (In Discussion, we suggest that this issue needs to be analyzed at the relationship-level of analysis rather than the individual.)

Discussion

Most importantly, these measures are reliable and, insofar as we could test this, valid, for this sample of people who inject drugs. This finding is limited by a non-representative (though diverse) sample and by the fact that it relies on self-report data. It is also limited by the fact that the measures used as validators are themselves subject to response bias and by the absence of previously-validated measures against which to try to validate our measures of solidarity and altruism.

The association of solidarity and altruism with more HIV risk behavior at the individual level might seem surprising, but chiefly just points to the complexity of the issue and why we need more research—and thus these measures. Previous research (1 – 5) suggests that their relationship with behavior depends on the respondent's HIV status, the HIV status of the people they have sex or inject drugs with, and (if this is unknown), whether a partner is a non-injector (and thus is perceived as much less likely to be infected.) *Research at the*

dyadic level of analysis is needed to study relationships among altruism and solidarity, on the one hand, and risk and transmission behaviors, on the other. Research at this level of analysis combines information about characteristics of both members of an injection or sexual partnership as well as about the behaviors they engage in. With this information, it is possible to look simultaneously, for example, at consistent condom use rates of HIV-positive and of HIV-negative people who inject drugs when they are having sex with people who inject drugs and when they are having sex with partners who do not inject drugs (1, 2). These complications also may affect how Big Events that lead to changes in altruism and solidarity in various populations will affect the spread of HIV and other infections. For example, to the extent that HIV-positive people who inject drugs are likely to use condoms when having sex with non-injectors, this might reduce the extent to which an HIV outbreak like that in 2011 among PWID in Athens, Greece, would lead to HIV outbreaks in non-injecting populations.

These measures of altruism and solidarity can be used for a variety of studies of PWID and perhaps other people who use drugs. They can let us measure altruism and solidarity among different groups of PWID and help us to understand the conditions that shape the extent of altruistic and/or solidaristic behaviors—and how and with which partners these translate into more or less HIV risk behavior. Of central importance to us, these measures can help us conduct research on how structural interventions and/or Big Events such as wars or transitions sometimes seem to lead to large changes in HIV transmission rates. One hypothesized mechanism for this is that they change the altruism or solidarity of people who inject drugs or other Key Population and that this in turn leads directly or indirectly to changes in networks and/or (relationship-specific) behaviors.

In conclusion, these measures of altruism and solidarity seem like promising new tools for researchers to use in a variety of studies of people who inject drugs and their behaviors.

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Table 1
The altruism and solidarity scales and their corrected item-total correlations with each item among 300 New York PWID

a. Altruism scale	Corrected item-total correlation *
I share the resources I have with other people in my neighborhood.	.665
I give to those in need.	.772
When my neighbors need help, they know they can count on me.	.843
In an emergency, I would baby-sit my neighbor's kid.	.729
I would bring food to my neighbors' home if they go through hard times.	.810
In times like these, we should make sure no one goes hungry.	.715
People in my neighborhood can only survive by helping each other.	.728
People in my neighborhood need to use condoms to prevent the spread of any diseases to others.	.535
The community needs to accept drug users.	.582
I should always use sterile syringes to prevent the spread of disease to others.	.242
We IDUs need to provide each other with sterile syringes to prevent the spread of disease among us.	.508
I would rather share my drugs than see other IDUs being dope sick.	.598
We IDUs need to use condoms to prevent the spread of any diseases to others.	.361
Cronbach's Alpha = .906	
b. Solidarity scale	Corrected item-total correlation *
If violence against people of my race is done by police or other people in NYC, I should speak up.	.446
If violence against people of my race is done by police or other people in NYC, I should offer support to the victim or his/her family.	.582
I would rather lie or not tell the truth than tell on a fellow co-worker to my boss.	.288
We should organize to prevent the eviction of families from their homes.	.689
I would never tell on someone to the police.	.461
Drug users like me need to support each other.	.633
When my people in my neighborhood are in trouble they can count on me.	.752
In our society, [RACE] have to organize to keep jobs.	.473
When my fellow IDUs are in trouble they can count on me.	.557

* The corrected item-total correlation is the correlation with the scale value if the given item is removed.

Cronbach's Alpha = .831

Table 2
Mean values of altruism and solidarity scales (and p-values by ANOVA)

Characteristic	Category n	Mean value on altruism scale	Mean value on solidarity scale
Gender ⁺ , ns			
Male	169	3.8	3.5
Female	128	3.9	3.6
Age ^{**} , ^{**}			
19-29	52	4.2	3.8
30-39	83	4.0	3.7
40-49	97	3.8	3.6
50-62	60	3.4	3.2
Race ^{**} , ^{**}			
White	145	3.7	3.5
Black	115	4.2	3.8
Other ²	37	3.4	3.3
Hispanic ethnicity ns, ns			
Non-Hispanic	125	3.9	3.7
Marital status ^{**} , ⁺			
Never married	129	3.8	3.6
Married or living together	93	4.0	3.7
Divorced, separated or widowed	75	3.6	3.4
Educational achievement ns, ns			
Less than high school graduation	112	4.0	3.8
High school graduate or GED	129	3.9	3.7
More than high school graduate	56	4.0	3.8
Employment status ^{**} , ^{**}			
Employed full-time or part-time	59	4.2	3.9
Student	10	4.3	4.0
Unable to work due to disability or retired	50	3.9	3.6
Homemaker	13	4.5	4.2
Unemployed	159	3.6	3.4
Other, including illegal activities	6	3.3	3.2
Income category (per year) ^{**} , ^{**}			
Less than \$10,000	184	3.6	3.4
\$10,000-\$19,999	107	4.3	3.9
\$20,000 or more	6	4.0	4.2

Characteristic	Category n	Mean value on altruism scale	Mean value on solidarity scale
Veteran of U.S. armed forces *, ns	51	4.1	3.7
Non-veteran	213	3.8	3.6
Discharge status (among veterans) ns, ns			
Honorable	19	3.9	3.5
General	14	4.2	4.0
Other than honorable/punitive	16	4.2	3.8
Homeless *, ns	56	3.7	3.5
Not homeless	230	3.9	3.6
Self-reported HIV-positive ns, ns	60	3.7	3.5
Negative by self-report	225	3.9	3.6
<i>HIV risk behavior during the last 30 days</i>			
Frequency of illicit drug injecting **, *			
One per week or less	15	3.4	3.3
Several times per per week	138	3.8	3.5
Once per day	64	3.7	3.6
Twice per day or more	80	4.1	3.8
Receptively shared syringes ns, ns	49	3.8	3.5
Did not do so	246	3.8	3.6
Distributively shared syringes ns, ns	77	3.8	3.6
Did not do so	218	3.8	3.6
Backloaded/piggybacked ³ *, +	51	4.0	3.8
Did not do so	244	3.8	3.5
Shared drug preparation equipment *, **	105	4.0	3.7
Did not do so	190	3.7	3.5
Injected daily or more frequently **, **	144	3.9	3.7
Did not do so	117	3.6	3.4
Number of vaginal or anal sex partner *, *			
0	78	3.4	3.3
1	90	3.8	3.6
2 or more	129	4.1	3.8
Had any unprotected vaginal or anal sex ⁴ **, **	147	4.1	3.8
Did not do so	150	3.6	3.4
Exchanged sex for money, drugs or other goods **, **	98	4.1	3.8
Did not do so	199	3.7	3.5

*
 $p < 0.01$,

**
 $p < 0.05$,

+
 $p < 0.10$

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