Constructing Taxonomies:

Identifying Distinctive Class of HIV Support and Risk Networks Among People Who Inject Drugs (PWID) and Their Network Members

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Introduction

Network theory

Taxonomies

Specific Aims

- – To identify taxonomies of network characteristics among PWID and members of their network

- – To determine whether the taxonomies are effective at predicting the impact of a peer-educator intervention to reduce the rate of HIV infection

- – To determine the characteristics of highly effective networks.

Methods

- – Secondary data analysis of HPTN 037

Table 1

Demographic Characteristic and Latent Classes among PWID and their network members (n= 696)

|		n	%			n	%
Age				Employment			
	<29 years old	113	16.2		Full time (>=30 hrs. per week)	60	8.6
	30 - 39 years old	200	28.7		Part-time	36	5.2
	40 - 49 years old	242	34.8		Occasional or time-to-time	36	5.2
	50 years old+	141	20.3		Unemployed	564	81
Gender				Homelessness			
	Female	217	31.2		No	524	75.3
	Male	479	68.8		Yes	171	24.6
Race				Incarceration			
	Non-Latino White	304	43.7		No	576	82.8
	Non-Latino Black	316	45.4		Yes	119	17.1
	Latino	42	6				
	Other	34	4.9				
Education				Risk Latent Class			
	<High School	235	33.8		LoIDU_MODSx	327	47
	High School/GED	328	47.1		ModIDU_HiSx	127	18.2
	Some College +	133	19.1		HiIDU_HiSx	242	34.8

LATENT CLASSES RISK CATEGORIES
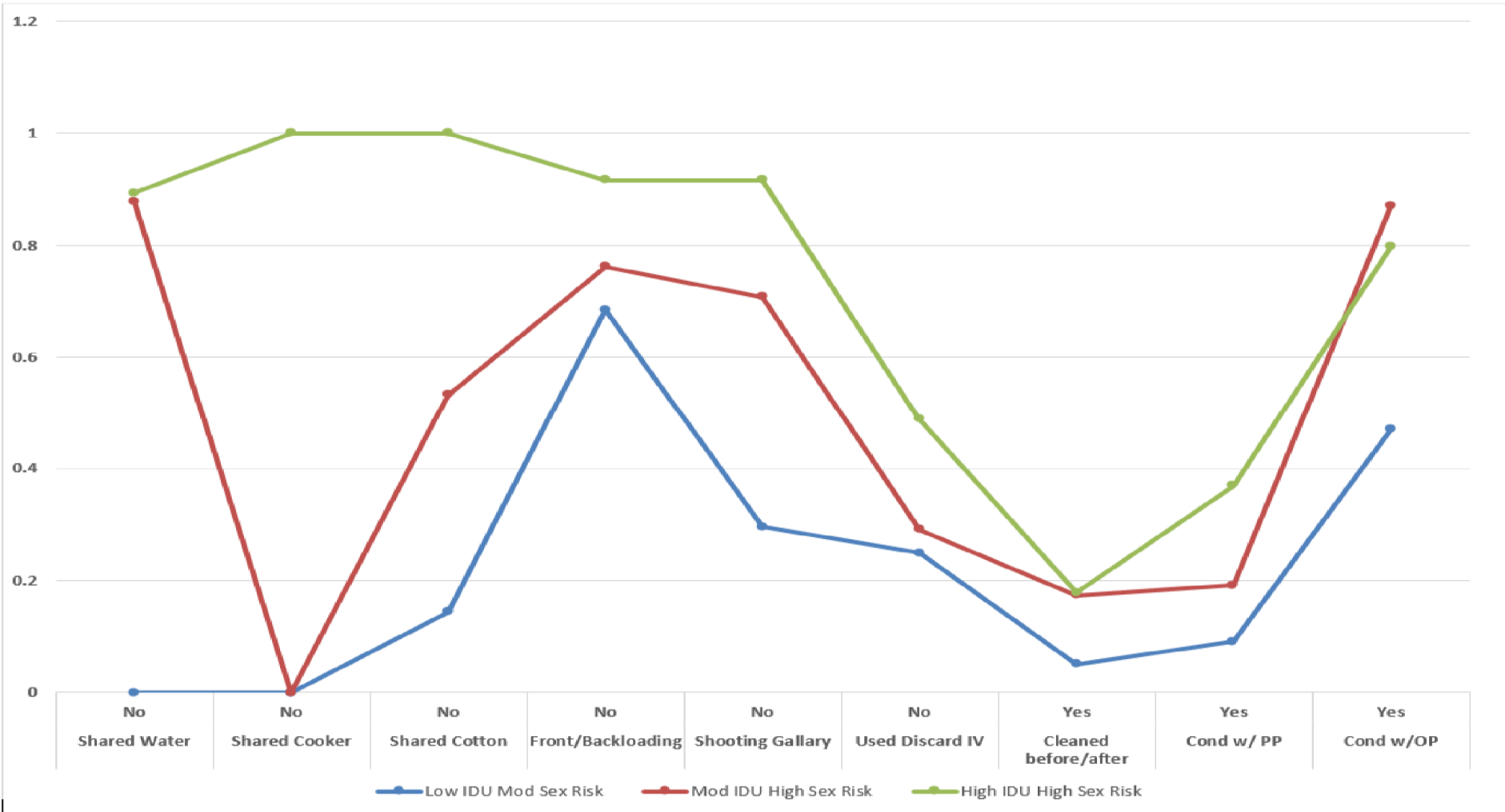
Table 2

Logistic regression analysis of selected demographic variables on latent class membership. (*n*=696)

	Latent Class 1		Latent Class 2 vs 1					Latent Class 3 vs 1				
	OR[a]	95% CI[c]	OR[a]	95% CI[b]			*p*	OR[a]	95% CI[b]			*p*
Age	1.0	Ref.[c]	0.766	0.62	-	0.95	0.014*	1.052	0.89	-	1.25	0.561
Gender	1.0	Ref.[c]	0.552	0.34	-	0.89	0.014*	0.671	0.41	-	1.10	0.117
Race	1.0	Ref.[c]	0.749	0.58	-	0.97	0.031*	0.752	0.60	-	0.94	0.011*
Education	1.0	Ref.[c]	1.041	0.77	-	1.40	0.790	1.069	0.85	-	1.35	0.570
Homelessness	1.0	Ref.[c]	0.986	0.94	-	1.04	0.605	1.026	1.00	-	1.06	0.099
Employment	1.0	Ref.[c]	1.025	0.82	-	1.28	0.825	1.004	0.80	-	1.27	0.972
Incarceration	1.0	Ref.[c]	0.867	0.58	-	1.29	0.485	1.032	0.09	-	1.00	1.070

Notes:

a) Odds Ratio (adjusted for all covariates in table)

b) 95% Confidence Interval

c) Reference Category

Robust Regression Methods employed to make adjustments in the estimates that take into account some of the flaws.

Table 3

Comparison on Control and Treatment group means from base line to 6month follow up

		X	95% Confidence Interval		p
Low IDU, Moderate Sex Risk (LC1)					
Control	Shared Water	2.868	0.387	5.348	0.024
	Used discarded IV	0.529	-0.017	1.075	0.057
	Shooting Gallery	0.164	0.02	0.309	0.027
	Cleaned needles	0.09	-0.029	0.208	0.135
Treatment	Shared Cooker	6.269	2.876	9.661	0
	Shared Cotton	4.955	1.028	8.882	0.014
	Shooting Gallery	0.288	0.146	0.429	0
Moderate IDU, High Sex Risk (LC2)					
Control	Shared Cooker	9.391	0.091	18.691	0.048
	Shared Cotton	9.652	0.112	19.192	0.048
Treatment	Shared Water	15.786	-0.522	32.093	0.057
	Shared Cooker	20.321	1.273	39.37	0.037
	Shared Cotton	21.036	0.688	41.383	0.043
	Shooting Gallery	0.286	0.078	0.493	0.009

Note: Only significant differences reported

Table 3 continued

Comparison on Control and Treatment group means from base line to 6month follow up

		X	95% Confidence Interval		p
High IDU, High Sex Risk (LC3)					
Control	Shared Water	5.818	1.746	9.89	0.006
	Shared Cooker	4.712	0.139	9.285	0.044
	Shared Cotton	5	0.873	9.127	0.018
	Backloading	3.894	-0.162	7.95	0.06
	Shooting Gallery	0.154	0.007	0.301	0.04
	Cleaned needles	0.091	-0.012	0.194	0.083
	Condom w Primary Partner	-0.154	-0.491	0.183	0.356
	Condom w Other Partner	-0.333	-1.964	1.297	0.65
Treatment	Shooting Gallery	0.158	0.018	0.298	0.028
	Condom w Primary Partner	-0.556	-1.119	0.007	0.053

Note: Only significant differences reported

Summary

- Sex risk remains a challenge in all classes.

- Age, race and housing remain significant determinants of risk.

- Transformations occurred from baseline to 6mon among treatment and control groups.

  - What transformations in the social environments inform these changes (e.g., housing, incarceration)?

- Interventions (e.g., treatment on demand, safe injection sites, wrap around service) must be tailored to address the risk in each category as well as the determinant of such risk

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