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Poster Sessions

P2-S5.05 RISK PROFILES OF WINNIPEG STREET POPULATIONS: A LATENT CLASS ANALYSIS

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Background Sexually transmitted and bloodborne infection (STBBI) risk is multifaceted and can involve a complex interplay between sexual behaviours, substance abuse and mental health conditions. In Winnipeg, Manitoba Canada we conducted a study to better understand the interconnectedness and overlap of these conditions and behaviours.

Methods Data from the Social Network study phase III (SNS III) were collected in the fall and winter of 2009 using semi-structured in-person interviews (n=600). Sampling was by respondent driven sampling and targeted street populations. The average mean age was 37 (SD=14.8) and the gender distribution was relatively equal (males constituted 53%). Latent class analysis was used to identify unobserved or latent subgroups (ie, risk profiles) to explore the extent of overlap between risky sexual behaviours, substance use choice (crack, alcohol, solvents, injection drug use), and mental health conditions. Six individual level items constituting risky behaviours and five network or environmental level risk behaviours were used in the latent class analysis. Individual items included: Ever diagnosed with a mental health condition, ever used crack, daily binge drinking, ever used solvents, ever injected drugs and knowing your sex partner has multiple other sex partners while social network items included: the proportion of your social network members who drink alcohol, use crack, sniff solvents, inject drugs, or are sex partners. Fit indices of G2, AIC, and BIC were used in assessing model fit. Additionally, the model fit was assessed by examining the relationship between items and their conditional latent class by strength of homogeneity (closeness to 0 or 1) and by whether there was evidence of good separation of latent classes.

Results The 2-, 3-, 4-, and 5-class LCA models were compared. Goodness of fit indices favoured the 4-class model. For the 4-class model indices were: G2=1115, df=2000, AIC=1209, BIC=1415. Class prevalence of the 4 latent classes were: 31% were at high risk for all individual and network items, 25% constituted another latent class labelled as low-risk, 21% constituted a subgroup who were labelled as "loners" and exhibited high risk for mental

health issues as well as individual crack, solvent use, and injection use but no network level correlates while the fourth latent class (23%) was distinguished for engaging in risky sexual behaviours and having these risky behaviours be supported at the social network level.

Conclusions Latent class analysis demonstrated that there are indeed subgroups of vulnerable populations who warrant targeted interventions given their different risk profiles. This type of investigation offers a public health population segmentation strategy to plan for future targeted prevention efforts that can more effectively address the special needs of these subgroups of vulnerable populations.

Abstract P2-S5.05 Table 1. 4 Latent class model of Winnipeg street population risk profiles

Class membership probabilities: Gamma estimates (SEs)					
Class	1	2	3	4	
	0.2474 (0.0254)	0.3099 (0.0315)	0.2137 (0.0243)	0.2289 (0.0325)	
Item response probabilities: pestimates (SEs)					
HSA14_:	0.0335 (0.0482)	0.7211 (0.0372)	0.6719 (0.0473)	0.7207 (0.0467)	Mental health (even been dx)
ALC2_:	0.3754 (0.0461)	0.8494 (0.0627)	0.4599 (0.0505)	0.0623 (0.0433)	Binge drinking (>5 drinks)
CRS1_:	0.3158 (0.0540)	0.9773 (0.0166)	0.9128 (0.0342)	0.9258 (0.0315)	Crack use
SSU1_:	0.1425 (0.0349)	0.5256 (0.0414)	0.5068 (0.0525)	0.5541 (0.0516)	Solvent use
idu1_:	0.0488 (0.0285)	0.6211 (0.0404)	0.6698 (0.0568)	0.6879 (0.0525)	Injection drug use
SNSX7_new_:	0.1944 (0.0403)	0.7745 (0.0368)	0.0052 (0.0069)	0.6961 (0.0511)	Sex partners have multiple part
SNID1_:	0.1784 (0.0398)	0.5803 (0.0407)	0.3842 (0.0483)	0.7888 (0.0477)	Network members' IDU
SNALC_:	0.6019 (0.0459)	0.9870 (0.0158)	0.4698 (0.0500)	0.4151 (0.0713)	Network members' alcohol use
SNCRACK_:	0.0136 (0.0137)	0.6265 (0.0408)	0.3629 (0.0498)	0.4515 (0.0549)	Network members' crack use
SNODU_:	0.4989 (0.0462)	0.8380 (0.0331)	0.4820 (0.0497)	0.5634 (0.0518)	Network members' other drug use
SNSX1_:	0.5883 (0.0496)	0.9872 (0.0121)	0.1129 (0.0572)	0.9958 (0.0068)	Network members are sex part.