



Substance Use and Social Networks after Moving into Permanent Supportive Housing

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COLLABORATORS

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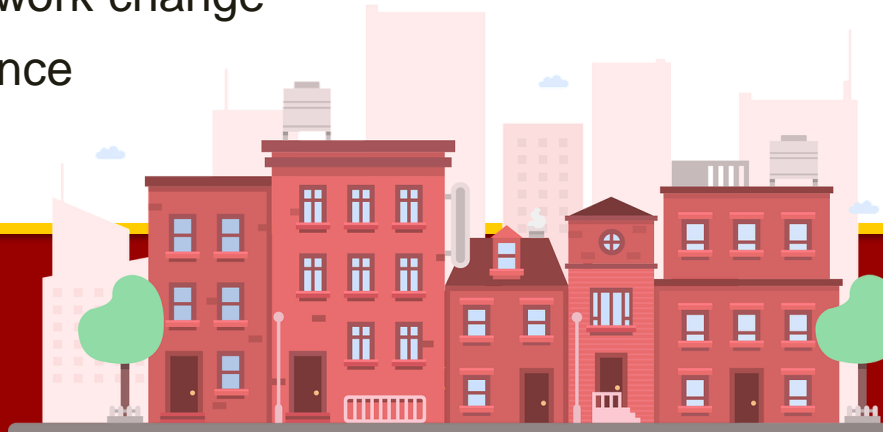


Correlates of Substance Use

- Research with those experiencing homelessness finds several correlates of substance use:
 - Use within social networks
 - Location where network members are met
 - Social support (protective)
- Longitudinal research in other populations finds that changes in social networks can impact subsequent personal substance use

Moving into PSH

- Moving into PSH is a time of social network change
- Conflicting evidence of whether substance use changes in PSH





This study will attempt to answer three primary research questions:

1. How does alcohol, marijuana, and illicit substance use change over time when persons move from experiencing homelessness into PSH?
2. How does substance use within social networks change during this time period?
3. What is the relationship between individual-level substance use and substance use within social networks in this population?





STUDY METHODS

- Participants:
 - Referred from 26 housing/service providers in LA County between August 2014 and October 2015
 - Had to be age 39+, moving in without minor children
 - Interviewed at baseline (prior to or within 5 days of moving in) and 3-, 6-, and 12-months after move-in
 - Interviews assessed:
 - Demographics, substance use, physical & mental health diagnoses, sexual risk behavior, HIV prevention, and social networks.
 - Ethnographic shadowing with 27 respondents
- 421 men and women interviewed at baseline (before move-in)
 - 383 (91%) interviewed 12 months after move-in
- After primary data collection, discussed results in focus groups with providers and residents (not study participants).



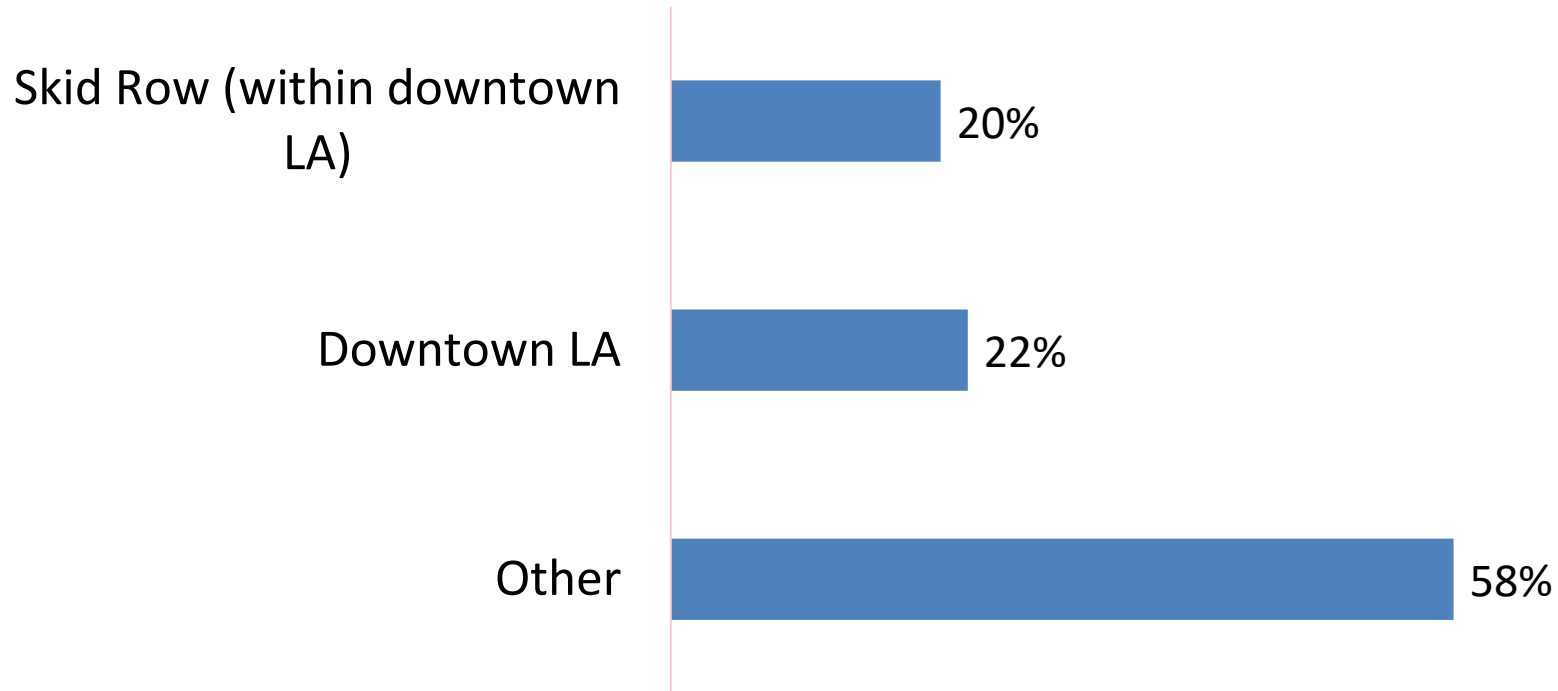
Why Los Angeles?

- Second most populous U.S. City: 3.98 million people
- Most populous U.S. County: 10.14 million
 - Almost 5k square miles
- One of the largest populations of homeless persons in the U.S.
 - More than 49k in the 2017 PIT count
 - 23% increase over 2016





Location of PSH Residence in LA County



Robyn Beck /AFP/Getty Images



COMPARISON TO LA CONTINUUM OF CARE PSH PLACEMENTS (LAHSA DATA)



- Within the LA CofC during the same time period and zip codes:
 - 629 heads-of-household aged 39+ without minor children moved into PSH
 - Our study participants are similar to LA CofC sample on race/ethnicity and age, e.g.:
 - 55% African American (our study), 60% (LA CofC data)
 - Mean age of 54 in both samples
 - Slightly more men among our participants (70% vs. 63%)
 - Over-representation of military veterans among our participants (30% vs. 11%)



Social Network Variables

- Elicitation:
 - All persons with whom they had interacted in the past 3 months (interaction did not need to be in person)
 - Started with “most important” persons
- Network size (total number of nominated persons)
- Perception of each nominated person’s substance use
- Social support
- All measures were a sum total of network members with each characteristic

Analytic Methods



- Generalized linear mixed models (GLMM) were used to examine:
 1. Changes in substance use and social network characteristics over the first year of living in PSH, and
 2. How social network characteristics were associated with substance use over time.
- To ID cross-sectional vs. longitudinal effects, SNI variables were decomposed as two parts:
 1. The within-person mean, and
 2. The deviation from the mean at each time point

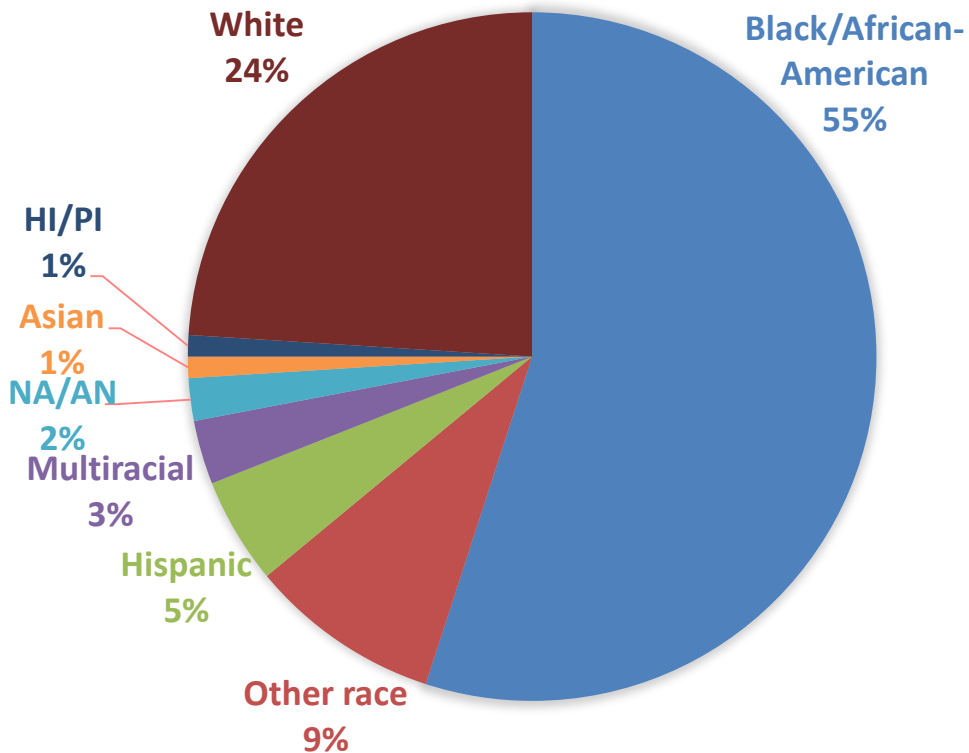


SAMPLE CHARACTERISTICS

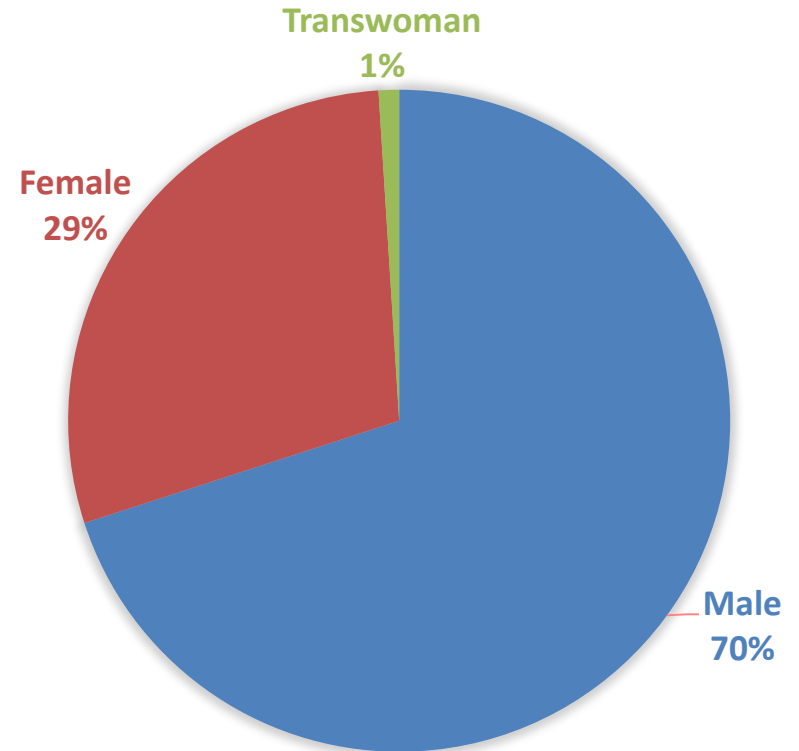


Average age: 54 years

RACE/ETHNICITY

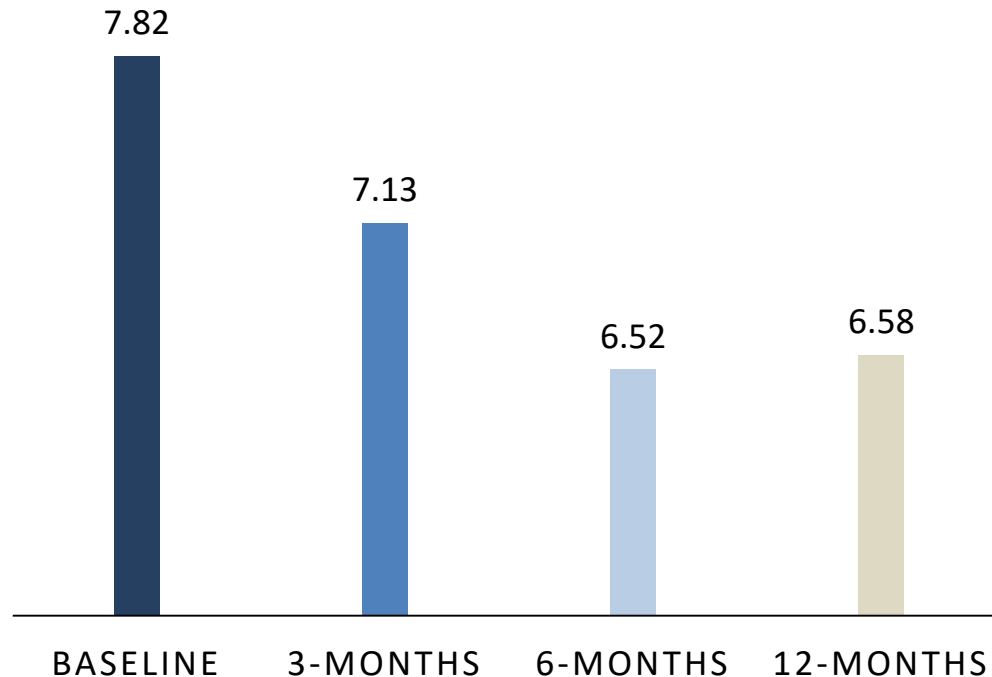


GENDER





Network Size Over Time (number of persons in the average social network)



Networks demonstrate a statistically significant decrease over time



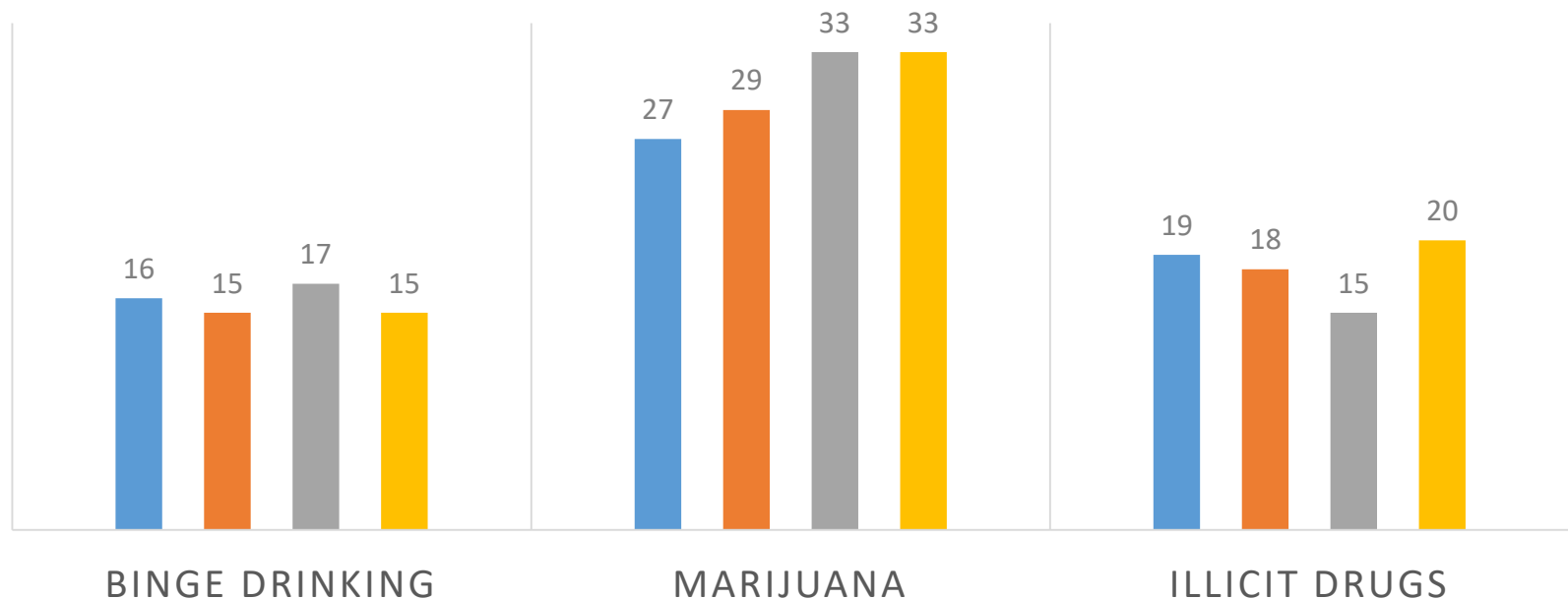
Substance Use Treatment (Past 3 Months)

	<i>Baseline</i>	<i>3-Months</i>	<i>6-Months</i>	<i>12-Months</i>
<i>Treatment Used</i>	11.2%	7.7%	6.0%	3.4%
<i>Unmet Need for Treatment</i>	2.6%	1.2%	1.3%	2.6%



INDIVIDUAL SUBSTANCE USE OVER TIME (%)

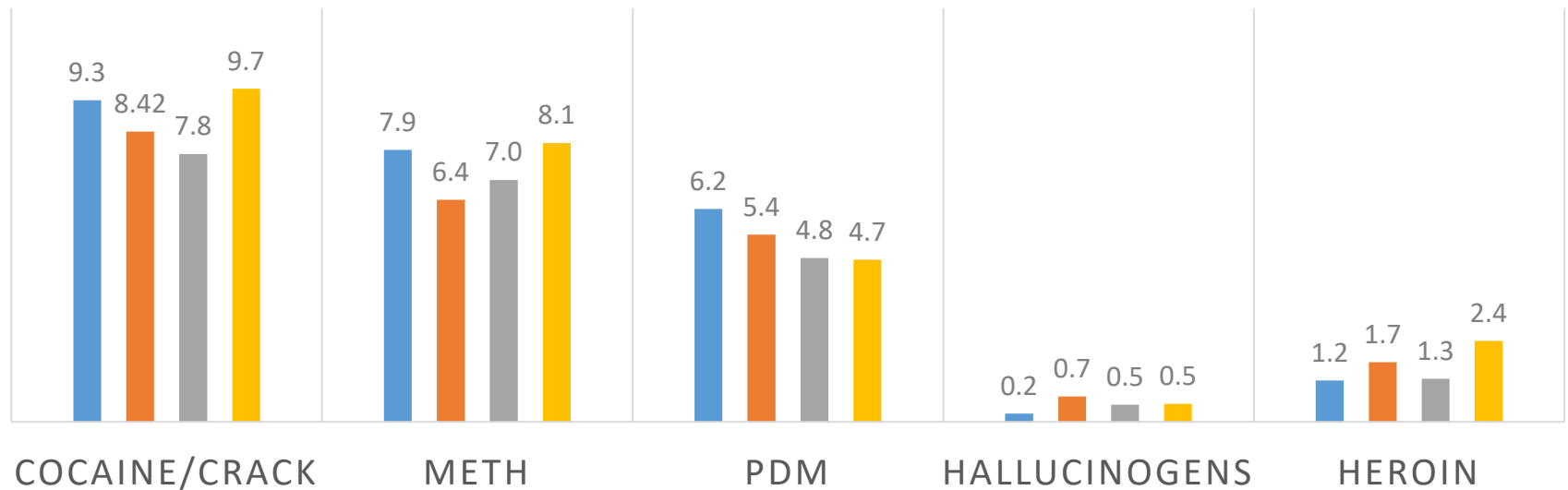
■ Before move-in ■ 3-months ■ 6-months ■ 12-months





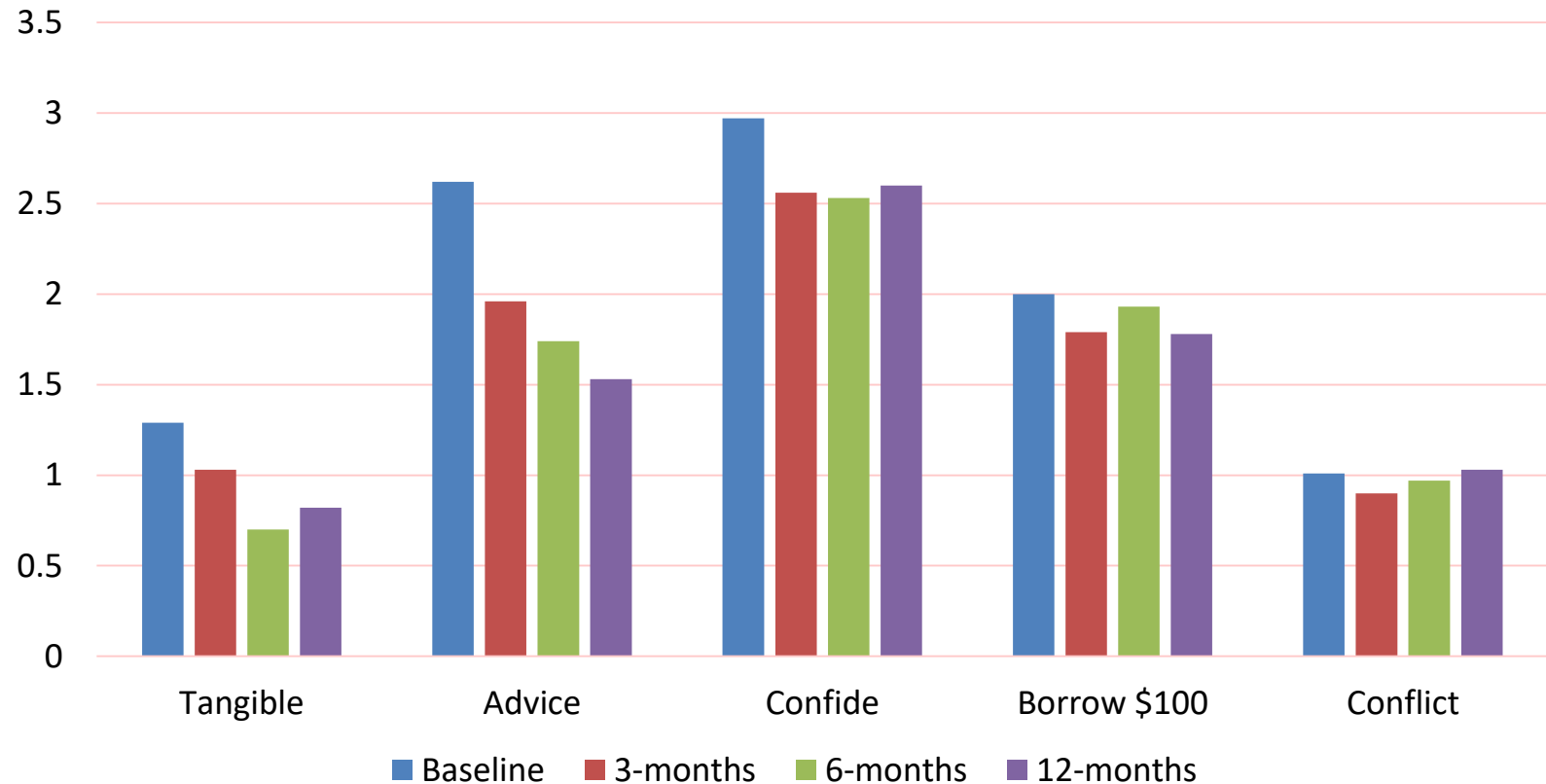
INDIVIDUAL SUBSTANCE USE OVER TIME (%)

■ Before move-in ■ 3-months ■ 6-months ■ 12-months





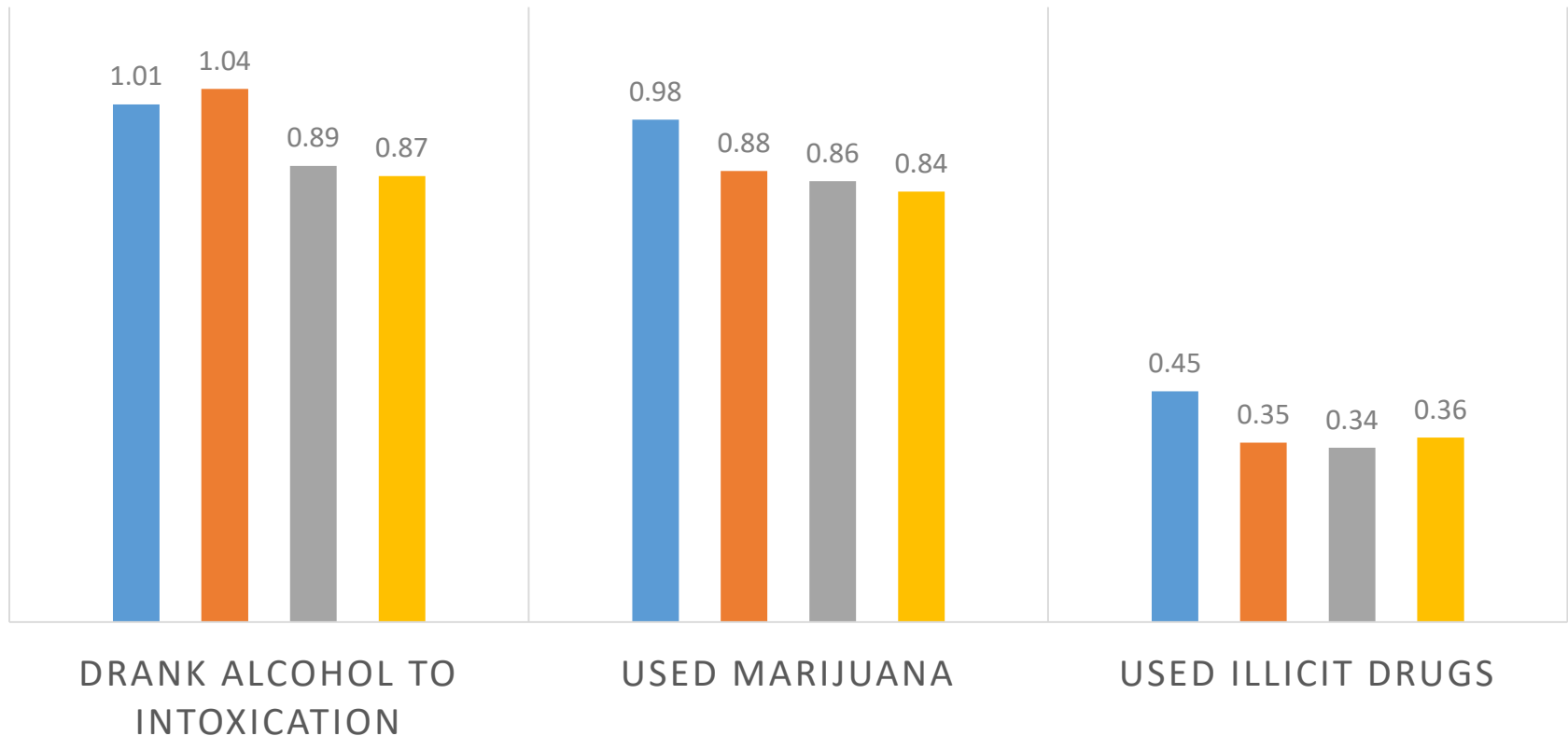
Social Network Support by Time Point (average # in network)





SOCIAL NETWORK CHARACTERISTICS OVER TIME (AVERAGE # OF PERSONS IN NETWORK)

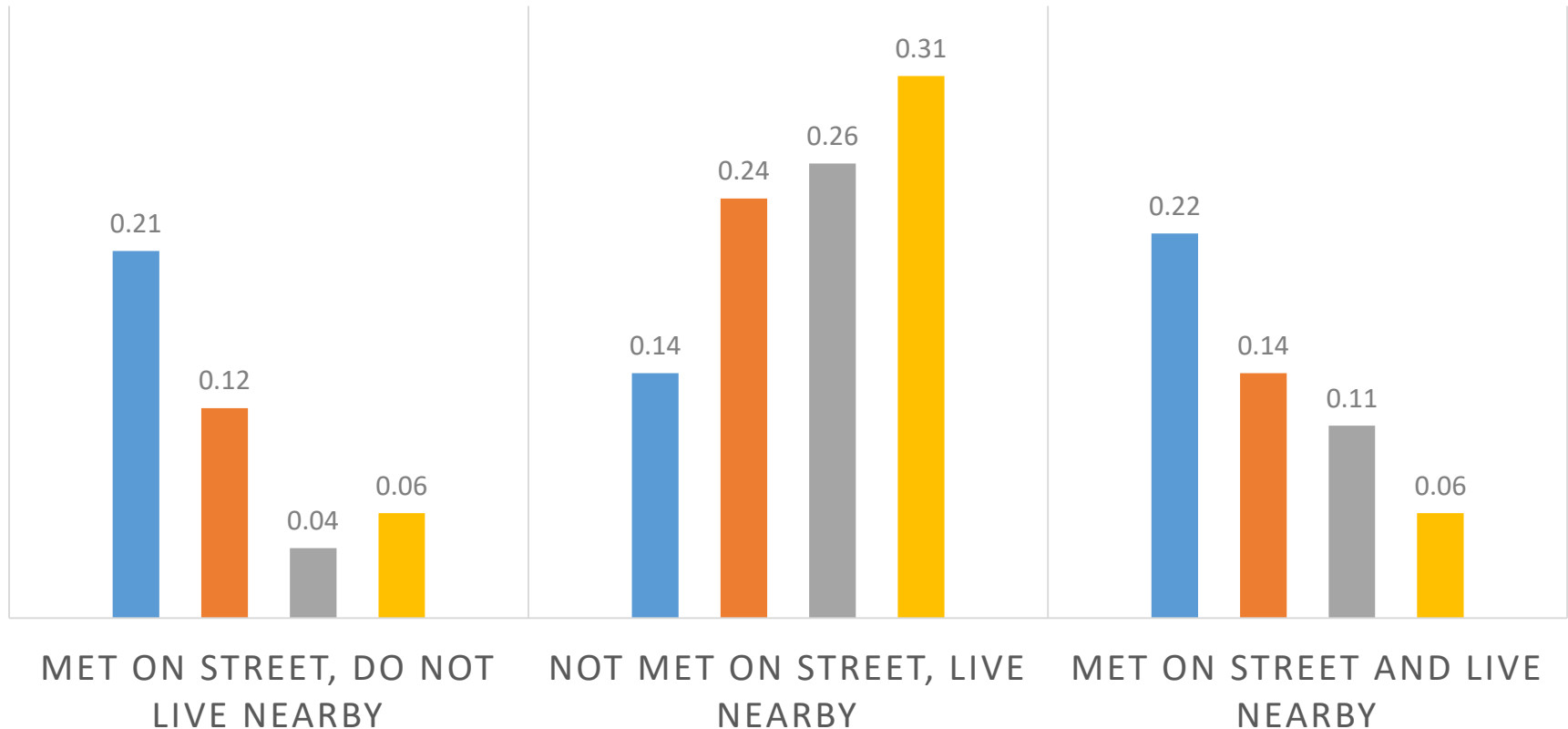
■ Before move-in ■ 3-months ■ 6-months ■ 12-months





SOCIAL NETWORK MEMBERS WHO USE ALCOHOL TO INTOXICATION OVER TIME (SUM)

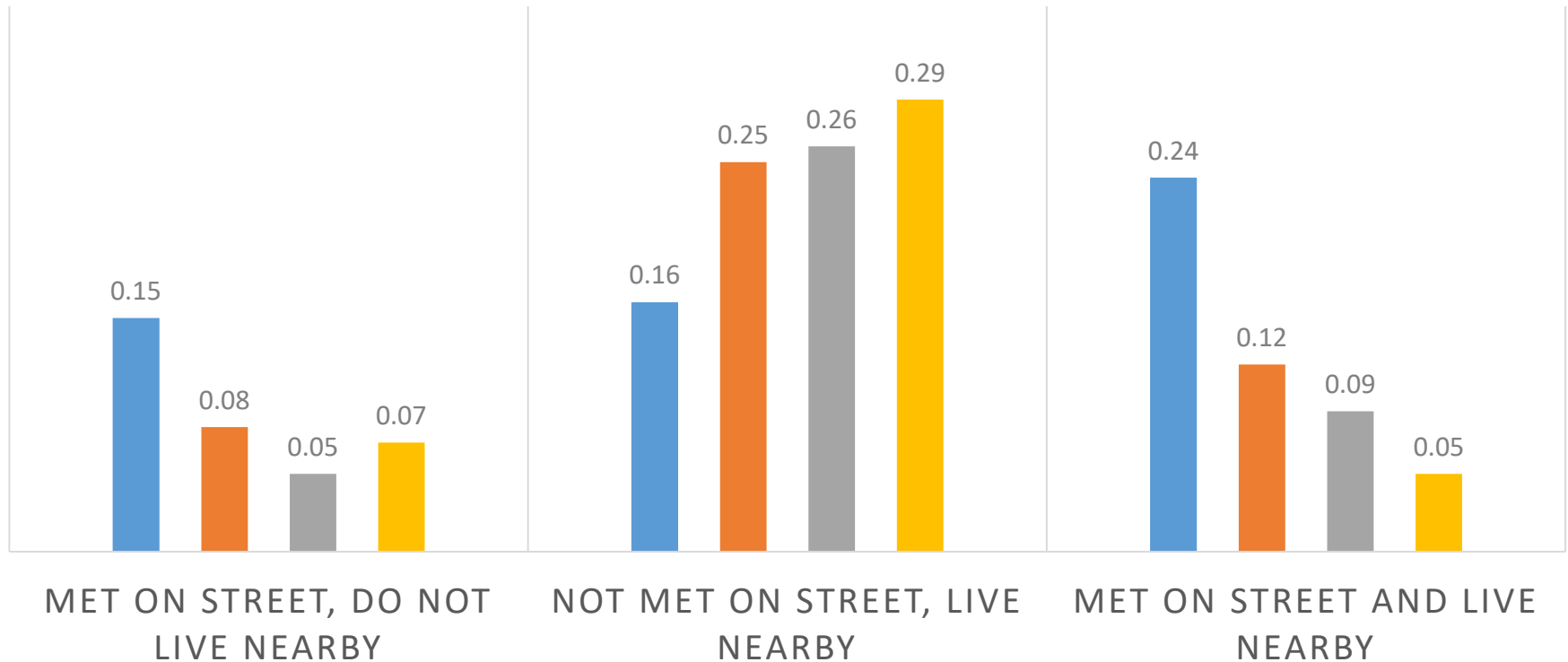
■ Before move-in ■ 3-months ■ 6-months ■ 12-months





SOCIAL NETWORK MEMBERS WHO USE MARIJUANA OVER TIME (SUM)

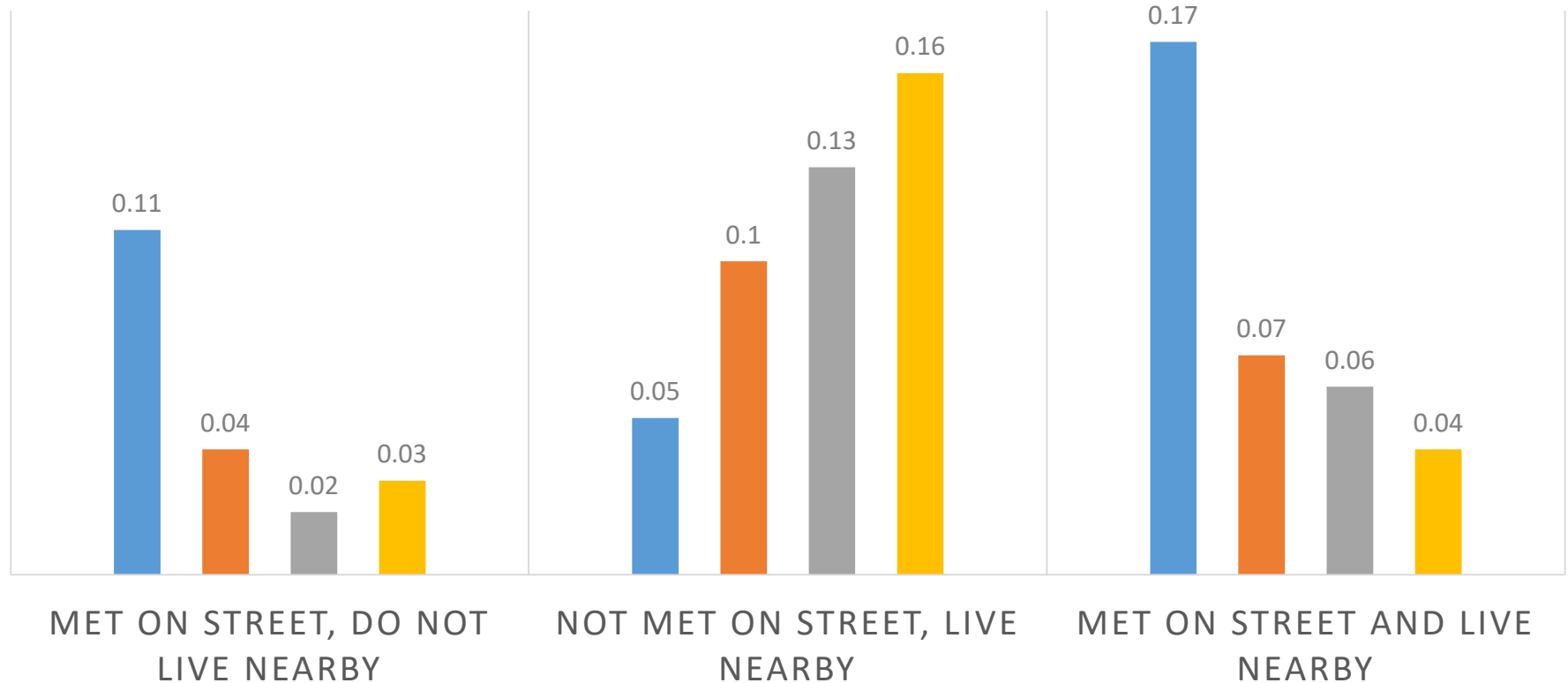
■ Before move-in ■ 3-months ■ 6-months ■ 12-months





SOCIAL NETWORK MEMBERS WHO USE ILLICIT DRUGS OVER TIME (SUM)

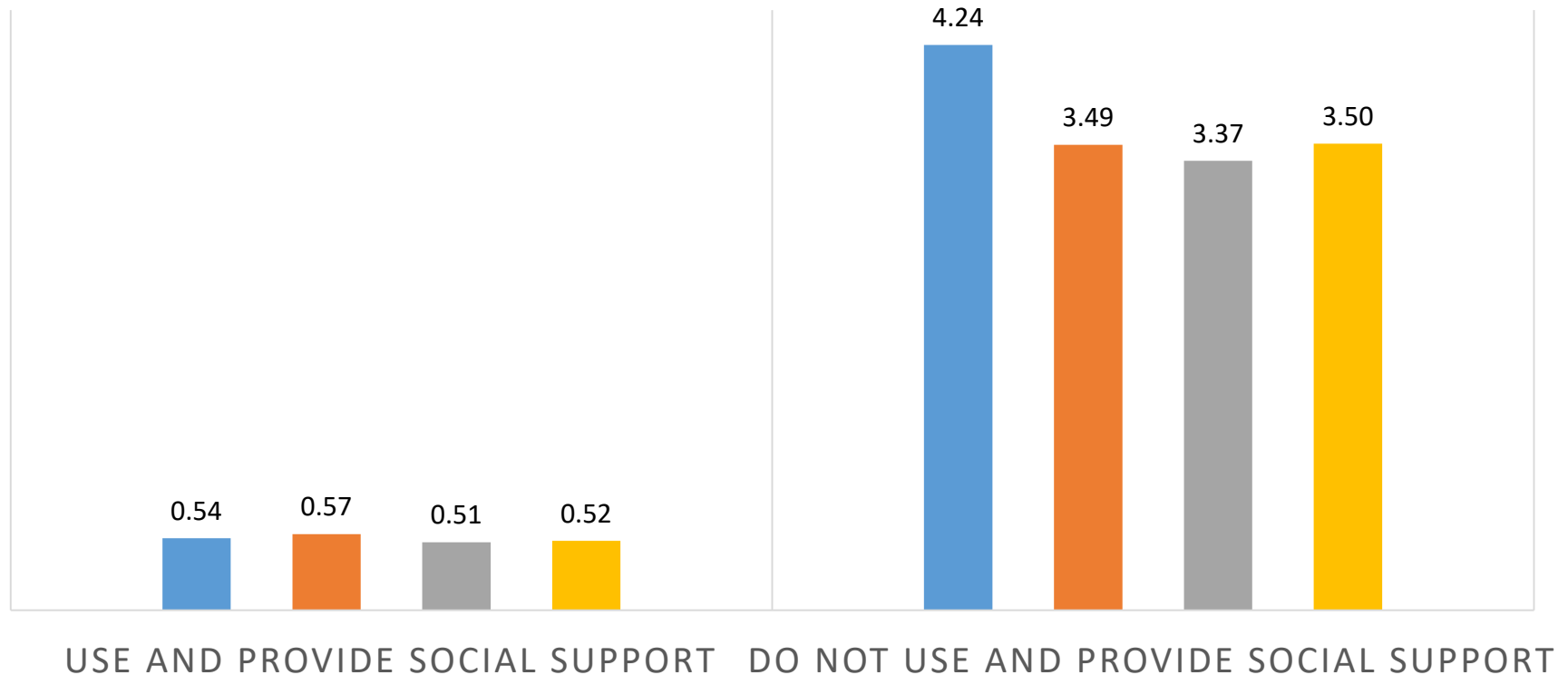
■ Before move-in ■ 3-months ■ 6-months ■ 12-months





SOCIAL SUPPORT AND ALCOHOL USE IN NETWORKS (MEAN)

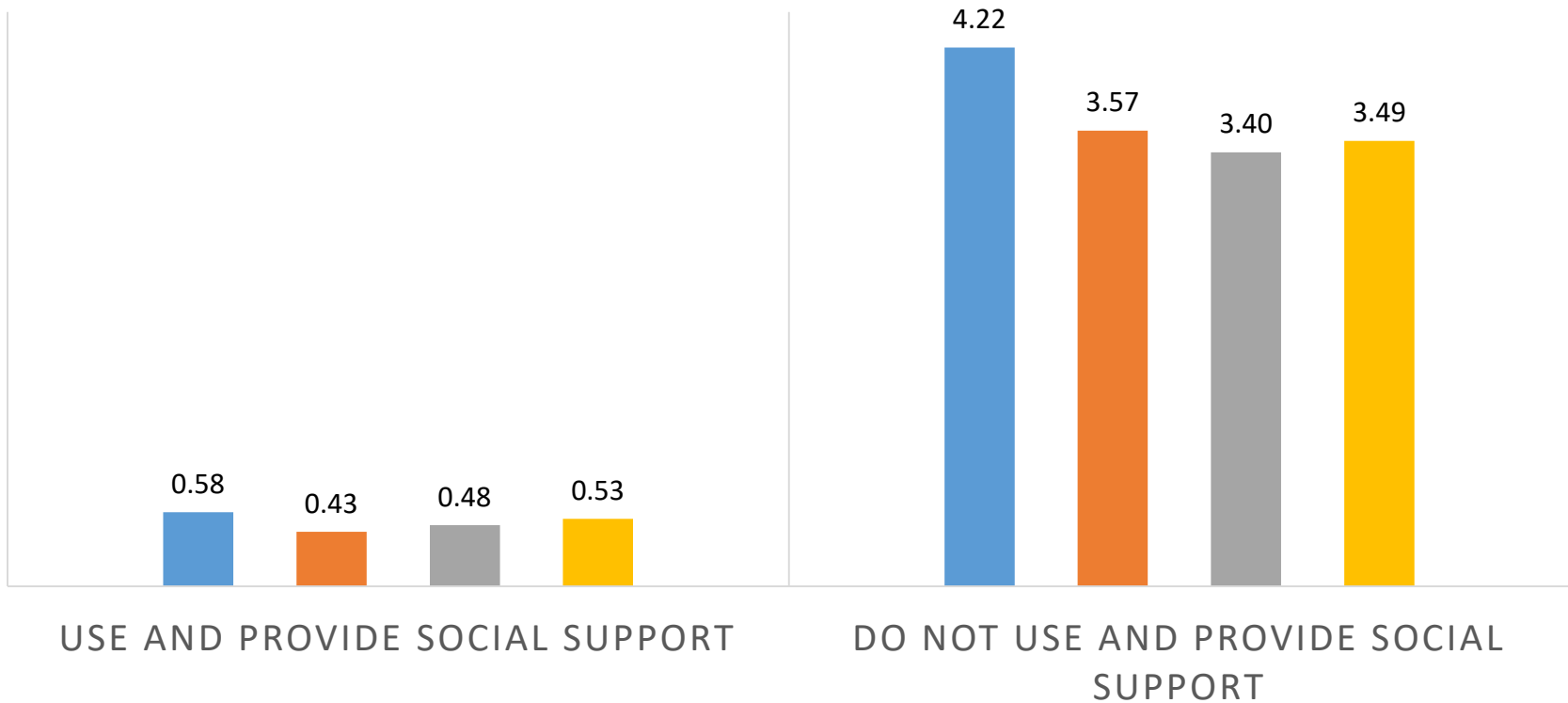
■ Before move-in ■ 3-months ■ 6-months ■ 12-months





SOCIAL SUPPORT AND MARIJUANA USE IN NETWORKS (MEAN)

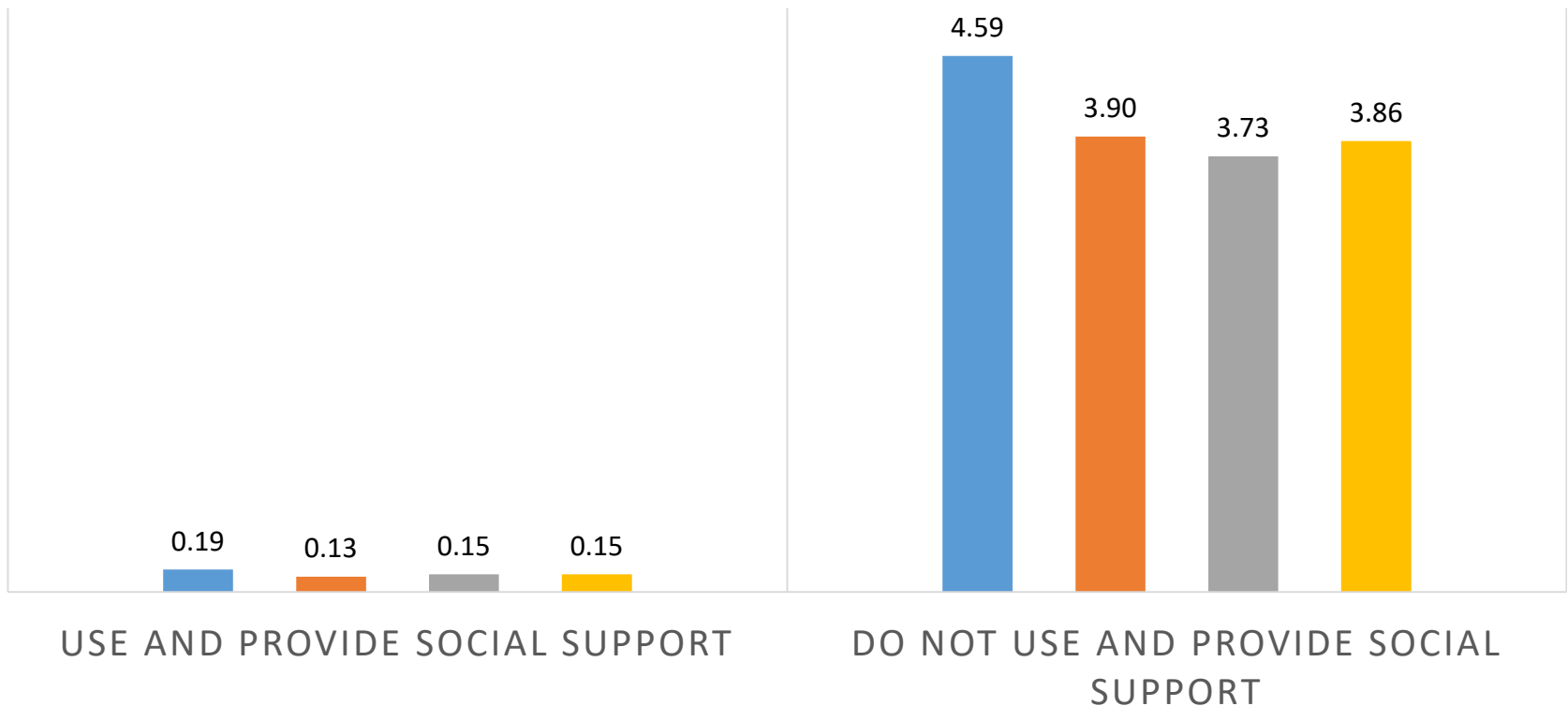
■ Before move-in ■ 3-months ■ 6-months ■ 12-months





SOCIAL SUPPORT AND ILLICIT DRUG USE IN NETWORKS (MEAN)

■ Before move-in ■ 3-months ■ 6-months ■ 12-months





BINGE DRINKING: ODDS RATIO (95% CONFIDENCE INTERVAL)

	<u>Within; OR (95% CI)</u>	<u>Between; OR (95% CI)</u>
MODEL 1 Network Variables (sum totals)	(n=415)	
Each corresponding substance	1.18 (1.04-1.35)	2.07 (1.62-2.64)
MODEL 2 Users of each substance with met on street and proximity	(n=415)	
Met on street, do not live nearby	2.06 (1.31-3.21)	6.75 (2.39-19.09)
Not met on street, live nearby	1.30 (0.98-1.71)	1.83 (0.94-3.58)
Met on street and live nearby	0.80 (0.54-1.16)	2.29 (0.97-5.41)
Neither met on street nor live nearby	1.12 (0.91-1.37)	1.77 (1.22-2.56)
MODEL 3 Social support	(n=415)	
Uses substance and provides support	0.97 (0.81-1.17)	2.51 (1.78-3.53)
Does not use and provides support	0.91 (0.82-1.02)	0.71 (0.61-0.84)



MARIJUANA: ODDS RATIO (95% CONFIDENCE INTERVAL)

	<u>Within; OR (95% CI)</u>	<u>Between; OR (95% CI)</u>
MODEL 1 Network Variables (sum totals)	(n=412)	
Each corresponding substance	1.42 (1.17-1.73)	6.41 (3.88-10.58)
MODEL 2 Users of each substance with met on street and proximity	(n=412)	
Met on street, do not live nearby	1.28 (0.69-2.38)	7.53 (0.97-58.52)
Not met on street, live nearby	1.49 (1.00-2.21)	12.72 (4.07-39.74)
Met on street and live nearby	2.40 (1.36-4.22)	27.63 (4.42-172.78)
Neither met on street nor live nearby	1.24 (0.96-1.61)	3.59 (1.75-7.37)
MODEL 3 Social support	(n=412)	
Uses substance and provides support	1.30 (1.01-1.69)	10.50 (5.22-21.12)
Does not use and provides support	0.93 (0.82-1.05)	0.65 (0.51-0.83)

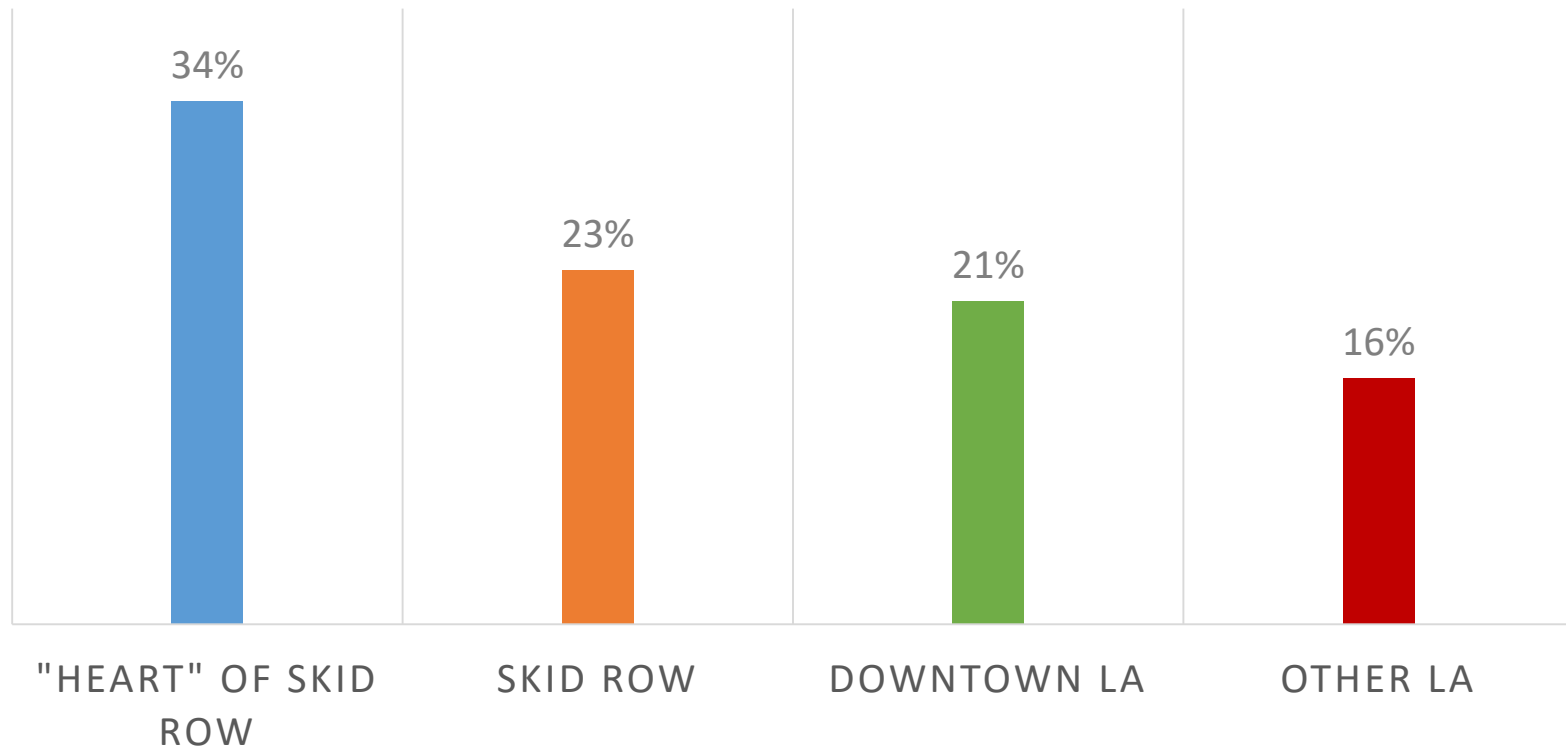


ILLICIT DRUGS: ODDS RATIO (95% CONFIDENCE INTERVAL)

	<u>Within; OR (95% CI)</u>	<u>Between; OR (95% CI)</u>
MODEL 1 Network Variables (sum totals)	(n=415)	
Each corresponding substance	2.17 (1.61-2.93)	7.47 (4.38-12.73)
MODEL 2 Users of each substance with met on street and proximity	(n=415)	
Met on street, do not live nearby	2.06 (1.05-4.03)	6.98 (1.29-37.82)
Not met on street, live nearby	2.72 (1.56-4.73)	4.17 (1.32-13.17)
Met on street and live nearby	2.54 (1.32-4.88)	9.61 (2.50-37.01)
Neither met on street nor live nearby	1.76 (1.10-2.79)	10.98 (3.68-32.7)
MODEL 3 Social support	(n=415)	
Uses substance and provides support	2.64 (1.69-4.14)	18.65 (7.63-45.60)
Does not use and provides support	0.93 (0.82-1.04)	0.80 (0.66-0.96)



PREVALENCE OF ILLICIT SUBSTANCE USE BY LOCATION (12-MONTHS)





Ethnographic Shadowing Observations

- Many respondents still living in risky neighborhoods
 - Crime/safety
 - Networks of those they had known while homeless
 - Substance users
- For many, isolation was a way of navigating this risk environment
 - Respondents stated:
 - Not trusting ability to remain drug free if they socially engaged
 - Focusing on pets, rather than family and friends they found “risky”
 - Some expressed loneliness, but felt it was necessary for sobriety
 - Some engaged in their neighborhoods, but kept social relationships distant, including not allowing anyone in their housing placements

Resident Perspectives



- Many people started recovery prior to PSH
- Other reasons for low rates:
 - Difficult to get housing
 - Following housing rules
- Perspectives on continued use within housing:
 - Addiction may continue/worsen because of privacy
 - Gratitude for housing may promote change, BUT
 - Housing isn't enough – people have to *want* to change
 - What helps?
 - Support groups/12 steps/therapy
 - Staying busy/increasing stability
 - Changing friends, finding social support with similar experiences

Provider Perspectives



- Still transforming from old models
 - Promoting “tolerance” of substance use because of HF
 - Perception that this is associated with more use
 - Limited recognition of ability to obtain stability (pay rent, etc.) while actively using
 - These providers had a greater focus on harm reduction, maintenance of health
 - Some have proactive programs, like rent subsidies during inpatient treatment
- Many providers perceived that persistent substance use was associated with the prevalence of mental health disorders




Discussion



- Relatively consistent substance use
 - At the individual and overall network level
 - However, considerable changes in substance users with particular proximity and relational characteristics
 - Moving into PSH is time of network change
- At the individual level, change in network behavior -> changes in personal behavior
 - Dependent on the type of network member and the support they provide
 - Persistent use associated with proximal using networks
 - Strength of network influence varied by substance type

Directions for Intervention and Future Research



- Prevention interventions
 - Education
 - Social ecological interventions for large-scale behavior change
 - Some network interventions exist, but still aimed at individual-level behavior change
- Larger-scale programs aimed at changing the social ecological context may be warranted
 - Need to make a sustained impact
 - Following other health intervention models? 
- Concerns:
 - Provider time and finances
 - Social integration
 - Need for new pro-social peers or just network behavior change?



Thank you!

Many thanks to my co-authors, community partners, and all those who participated in our research.

Questions? hrhoades@usc.edu