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Effects of Psychosocial and Situational Variables on Substance Abuse among Homeless Adults

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Abstract

Finding direct and indirect influences of salient psychosocial and situational variables on problem substance use among homeless people is important in designing evidence-based, effective, and relevant interventions for this special population. A stress-coping paradigm in conjunction with situational items specialized for homeless people was used to explore predictive relationships in a sample of homeless adults (N = 664) among 1) psychosocial variables of self-esteem, social support, positive and negative coping, and emotional distress, 2) situational variables of homelessness history and quality of their recent housing, and 3) outcomes of alcohol use, injection drug use (IDU), and non-IDU. Lower self-esteem predicted greater emotional distress, lower positive coping, greater negative coping, and more alcohol use. Social support predicted less emotional distress, and more positive coping. Chronic homelessness predicted more emotional distress, less positive coping, greater alcohol use and IDU. Poor housing was associated with more alcohol use and IDU. Substance abuse interventions among the homeless should have a dual focus that includes attention to psychological issues and negative coping patterns while also addressing situational, environmental factors including encouraging provision of permanent supportive housing.

Keywords

homeless adults; emotional distress; housing quality; substance abuse; self-esteem

This paper tests a theoretically-based model that examines relations among demographics, psychosocial variables, stress and coping responses, and drug and alcohol use patterns in a large representative sample of homeless adults living in the Skid Row area of downtown Los Angeles. In addition, we include situational/environmental variables as further predictors and

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concomitants to assess the relative contribution of homelessness histories and living situations in the prediction of substance use and abuse problems in currently homeless individuals. To determine the most suitable evidence-based interventions, health professionals working with homeless persons must recognize and understand the interplay of psychosocial factors and situational/environmental factors that can either enhance or impede programmatic success. For instance, in a study investigating drug treatment among homeless persons, Milby et al. (2004) found a positive effect of housing supports on abstinence.

The theoretical framework underlying this study of homeless adults is the Comprehensive Health Seeking and Coping Paradigm (CHSCP; Nyamathi, 1989). The CHSCP, which has guided multiple investigations of drug-using, homeless, and impoverished adults, was originally adapted from the stress-coping paradigm of Lazarus and Folkman (1984) and the health-seeking paradigm of Schlotfeldt (1981). The CHSCP stress-coping paradigm has been used in numerous studies examining varied outcomes including substance use and abuse among homeless people (e.g., Nyamathi, Stein, & Bayley, 2000; Nyamathi, Stein, Dixon, Longshore, & Galaif, 2003; Nyamathi, Stein, & Swanson, 2000). In the current study, the stress-coping theoretical framework of the CHSCP also includes variables that reflect the difficult and substandard living situations and homelessness histories of the study participants. Sociodemographics (ethnicity, and gender), personal (self-esteem), and social factors (social support) join situational variables of homelessness history and quality of their current living situation as antecedents of mediating cognitive factors (coping responses) and emotional distress, which in turn influence substance use behaviors (alcohol use, IDU, and non-IDU).

The need for effective substance-related support interventions for the homeless population is critical and undisputed (Burt, Aron, Lee, & Valente, 2001). Up to two-thirds of homeless individuals in Los Angeles County are substance abusers (Institute for the Study of Homelessness and Poverty at the Weingart Center, 2004) and homeless individuals are known to engage in injection drug use (IDU) behaviors at a rate far greater than the general population (Des Jarlais, Braine, & Friedmann, 2007). A starting point to understanding and predicting substance abuse behaviors among homeless populations is an examination of antecedent psychosocial and situational variables that may be associated with these negative outcomes. For example, homeless women reporting lower social support are more likely to drink alcohol to intoxication and use marijuana (Tucker, D'Amico, Wenzel, Golinelli, Elliott, & Williamson, 2005). Moreover, the influence of social support in homeless individuals is an important consideration in their well-being and substance use behaviors. Receipt of social support has been found to be protective against depressive symptomatology in homeless adults (Berg, Nyamathi, Christiani, Morisky, & Leake, 2005) and has also been associated with engagement in more healthful behaviors and greater use of health services in homeless women (Nyamathi, Leake, Keenan, & Gelberg, 2000). Social network variables have also been associated with addiction treatment utilization in the homeless and housed urban poor (Kertesz et al., 2006).

Research evaluating the relationship of self-esteem to poorer psychological outcomes and substance abuse behaviors in the homeless has shown that lower self-esteem is predictive of emotional distress (Nyamathi, Stein, & Bayley, 2000) and substance abuse in homeless women (Nyamathi, Keenan, & Bayley, 1998; Tucker et al., 2005), and has been associated with more substance abuse in the overall homeless population (Unger, Kipke, Simon, Montgomery, & Johnson, 1997). Higher individual self-esteem appears to provide a protective psychological foundation which facilitates more positive decision-making and behavioral responses.

Coping responses may buffer or otherwise mediate substance abuse behaviors and emotional distress in the homeless. It has been shown that homeless adults who demonstrate positive coping have a greater sense of personal health protection, belonging, and self efficacy (Nyamathi, Leake, et al., 2000; Nyamathi, Stein, & Swanson, 2000). Furthermore, coping with

adversity using more positive strategies, such as talking to someone or creating a plan of action, is linked to lower rates of alcohol abuse and substance abuse in the homeless (as opposed to individuals who use avoidant strategies such as social withdrawal or increased sleeping) (Galaif, Nyamathi, & Stein, 1999; Nyamathi et al., 1998; Tucker et al., 2005).

Chronic homelessness, sub-standard housing, and housing instability are all associated with more drug and alcohol use including injection risk behaviors (Des Jarlais et al., 2007). In addition, homeless people are usually concentrated in the worst neighborhoods that have limited opportunities and high rates of crime and violence (Aidala & Sumartojo, 2007). However, among homeless persons who are in drug treatment, housing supports and opportunities for work have been associated with better outcomes (Milby et al., 2004).

Based on cross-sectional survey data obtained from homeless adults, this paper tests a model utilizing antecedent variables (social support, self-esteem, chronic homelessness, quality of housing, African American, and female) and mediating variables (positive coping, negative coping, emotional distress) to predict outcome variables (alcohol use, IDU, and non-IDU). We expect that the males will report more alcohol and drug use. Homeless men have higher rates of alcohol and substance use disorders including injection drug use (IDU) (Linn, Brown, & Kendrick, 2005).

Because the variables are cross-sectional, we recognize that influences may flow in opposing directions. For instance, the participants may report sub-standard housing, perhaps because their substance use precludes them from living in supportive shelters. Nonetheless, the predictive relationships among the psychosocial, situational, and substance use variables will lead to further understanding of malleable correlates, precursors and moderators of drug use in people who are homeless, thus facilitating targeted and research-based program development.

Methods

Participants and procedures

This study uses baseline information from a longitudinal study evaluating the effectiveness of an intervention encouraging completion of a hepatitis A and B vaccine series among sheltered homeless adults in the Skid Row area of Los Angeles. Data were collected between September 2003 and June 2006 from 685 eligible participants. Participants were eligible for the study if they were: 1) adult age 18–65 and residing in one of 16 participating homeless sites; 2) willing to undergo hepatitis A virus (HAV), hepatitis B virus (HBV), hepatitis C virus (HCV) and Human Immunodeficiency Virus (HIV) antibody testing at baseline and at six-month follow-up; 3) willing to participate in the intervention; and 4) no history of HBV vaccination. Testing positive for HBV was grounds for exclusion from the study as was a severe mental condition which made an individual unfit to participate in the intervention. This exclusion process left a total of 664 in the current study. The sample was about 75% male, 14% White, 70% African-American, 13% Hispanic, 1% other; 2% identified themselves as mixed. Their average age was 42 years (S.D. = 9.0; range = 19–65 years). Gender and ethnic proportions within the sample were highly similar to those found in a census conducted recently among the greater homeless population in Los Angeles (Los Angeles Homeless Services Authority, 2007).

The UCLA Human Subjects Protection Committee provided oversight of all study activities. Participating shelters were stratified by type (emergency versus residential recovery) and size and randomized to one of three treatment programs. Flyers were posted at recruitment sites to inform residents of the study and presentations were held at the sites. After written informed consent to screening was obtained, outreach workers administered a brief questionnaire covering basic sociodemographic characteristics and a hepatitis-related health history designed

to assess eligibility for the HAV/HBV vaccination study. Homeless persons determined by the research nurses to be eligible and interested in enrollment into the study completed a second written informed consent followed by pretest counseling and a blood draw for HAV, HBV, HCV and HIV assays for further eligibility consideration. Potential participants were then given referrals to see a research nurse stationed at the research site two-weeks later for posttest counseling and test results. Homeless adults that were HBV negative (regardless of their HAV/HCV/HIV status) then provided final written informed consent for the study and were administered the larger baseline survey used in the current study.

Measures

Instruments utilized in the study had been previously tested, modified, and validated for impoverished and/or homeless African-American, Latino, and White adults (Sherbourne & Stewart, 1991; Simpson & Chatham, 1995; Stewart, Hays, & Ware, 1988). Most of the constructs in the model are represented as latent variables. They were created from multi-item scales from the baseline questionnaire and are described in more detail below.

Predictors

Social Support—An 18-item scale from the RAND Medical Outcomes Study (MOS) measured Social Support (Sherbourne & Stewart, 1991). Items assessed how often various forms of support were available to them if they need it, for example, "someone you can count on to listen to you when you need to talk". Items were rated from 1 (none of the time) to 5 (all of the time). Coefficient alpha was high among the items (Coefficient α = .97). To avoid too many indicators, the 18 scores were randomly combined into parcels of 6 to obtain 3 mean indicators for Social Support (Little, Cunningham, Shahar, & Widaman, 2002). Parceling is acceptable in structural modeling when alpha coefficients are high (Yuan, Bentler, & Kano, 1997) and when the set of items are unidimensional (Bandalos & Finney, 2001). Parceling will typically result in better model fit than models using individual items with their attendant idiosyncratic measurement error. However, as mentioned above, unidimensionality should be verified so that important features of individual items are not discarded when they are combined with others.

Self-Esteem—A single item reflected self-esteem. It was a sum of responses to the 23-item Coopersmith (1967) Self Esteem Inventory. Coefficient α was high (.79) and a sum score was used. Responses were in a True (1) False (2) format and items were reversed when necessary so that higher responses indicated more self-esteem. Sample items included: "You often wish you were someone else," and "You give in very easily."

Chronic Homelessness was indicated by 2 items: The number of times they had been homeless and the number of years they had been homeless. This variable representing homelessness severity has been used in prior research (e.g., Stein, Andersen, & Gelberg, 2007; Stein, Lu, & Gelberg, 2000; Stein & Nyamathi, 2004; Stein, Nyamathi, & Zane, in press).

Although the entire sample is classified as homeless and considered to be poorly housed, *Poor quality housing* was indicated by their reporting that their usual place to spend the night in the last 30 days was in places such as an abandoned building, a car or other vehicle, on the street or other outdoor place (1 = poor housing, 0 = not one of the above categories). Thirty-four percent of the sample reported poor quality housing. This variable has been used in prior research with a subset of this sample (Stein, Nyamathi, & Zane, in press).

Demographics include single items representing ethnicity (African-American = 1, all others = 0) and gender (Female = 2, Male = 1). Age was originally included but was not significantly associated with the variables under consideration and was dropped in the interest of parsimony.

Intervening Variables

Coping style was assessed with items from the Brief COPE Inventory (Carver, 1997). Items were scaled from 1–4 ranging from "I do not do this at all" to "I do this a lot." *Positive Coping* was indicated by 6 items representing active coping, positive reframing, and planning (Coefficient α = .74). They were combined randomly to make 3 parcels. An example item is: "I concentrate my efforts on doing something about the situation I am in." *Negative Coping* was indicated by 3 items representing denial and behavioral disengagement (Coefficient α = . 61). An example item is: "I gave up trying to deal with the situation." Items concerning escapist substance use were not used for Negative Coping to avoid an overlap with the drug use outcome variables.

Emotional Distress was measured by responses to the 5-item subscale from the RAND Health Survey SF-36 (Ware & Sherbourne, 1992) that assesses mood in the previous 4 weeks. Scores range from 1 (*all of the time*) to 6 (*none of the time*) and were reverse scored where appropriate so that higher scores indicate more distress. A sample item is: "I was downhearted and blue." All 5 items were used as separate indicators.

Outcome Variables—Substance use variables were based on the past 6 months. *Alcohol Use* was indicated by 1) frequency of use and 2) quantity of use. Frequency was assessed on a scale ranging from 1 (*didn't drink past 6 months*) to 5 (*4 or more times per week*), and quantity of use assessed the number of drinks containing alcohol they had on a typical day when they were drinking in the past 6 months. This variable ranged from 1 (*1 or 2*) to 5 (*10 or more*).

Injection Drug Use (IDU) was indicated by yes/no responses to injection of heroin, heroin mixed with cocaine (speedballs), or a composite of any other injection with infrequently endorsed injectable substances such as methamphetamine.

Non-Injection Drug Use (Non-IDU) was indicated by frequency of use of cocaine, crack cocaine, and marijuana in the past 6 months. Responses ranged from 1 (never/not used) to 9 (about 4 or more times per day).

Analysis

The analyses were performed using the EQS structural equations program (Bentler, in press). Latent variable analysis allows one to evaluate causal hypotheses with correlational, non-experimental data. Goodness-of-fit of the models was assessed with the maximum-likelihood χ^2 statistic, the Comparative Fit Index (CFI), the Satorra-Bentler χ^2 (S-B χ^2), the Robust Comparative Fit Index (RCFI), and the root mean squared error of approximation (RMSEA) (Bentler, in press). The Robust S-B χ^2 was used in addition to the maximum likelihood χ^2 because it is more appropriate when the data are not multivariate normal. The CFI and RCFI range from 0 to 1 and reflect the improvement in fit of a hypothesized model over a model of independence among the measured variables. CFI and RCFI values at .95 or greater are desirable, indicating that the hypothesized model reproduces 95% or more of the covariation in the data. The RMSEA is a measure of lack of fit per degrees of freedom, controlling for sample size, and values less than .06 indicate a relatively good fit between the hypothesized model and the observed data.

An initial confirmatory factor analysis (CFA) assessed the adequacy of the hypothesized measurement model and the associations among the latent variables. Then a latent variable path model positioned the demographics of ethnicity and gender, Social Support, Self-Esteem, Chronic Homelessness, and Poor Quality Housing as predictors of Positive Coping, Negative Coping, and Emotional Distress which served as intervening variables. All variables then predicted the outcomes of Alcohol Use, IDU, and Non-IDU.

Results

Confirmatory Factor Analysis

Table 1 reports summary statistics of the measured variables and the factor loadings of the hypothesized factor structure. All factor loadings were significant ($p \leq .001$). Fit indexes for the CFA model were all excellent: ML $\chi2 = 618.70$, 288 *df*; CFI = .96, RMSEA = .042, 90% confidence interval for RMSEA (CI) = .037 to .046; S-B $\chi2 = 559.72$, 288 *df*; RCFI = .95; RMSEA = .038, CI = .033 to .043. No supplementary correlations or other modifications were added to this model or the subsequent path model. Table 2 reports the correlations among the variables in the model.

Predictive Path Model—The final predictive structural equation model is presented in Figure 1 after model trimming. Fit indexes for the final path model were also very good: ML $\chi2 = 652.77$, 317 *df*; CFI = .96, RMSEA = .040, CI = .036 to .045; S-B $\chi2 = 594.50$, 317 *df*; RCFI = .95; RMSEA = .037, CI = .032 to .041. The psychosocial, stress-coping, and situational factors all played a role in the prediction of substance use and abuse in this sample. Demographics also had some significant effects.

Direct effects on substance use outcome variables—Alcohol Use and IDU were predicted by a combination of demographic, psychosocial, and situational variables. Alcohol Use was predicted by more Emotional Distress, Negative Coping, less Self-Esteem, Chronic Homelessness, and Poor Quality Housing. Females were less likely to report Alcohol Use. IDU was predicted by Poor Quality Housing, Chronic Homelessness, Negative Coping, and was less likely among African-Americans. Non-IDU was predicted by Emotional Distress, Negative Coping and by being male. African-American ethnicity was associated with more Non-IDU and this relationship stemmed in particular from higher usage of crack cocaine, one of the indicators of this latent variable.

Direct effects on stress-coping mediators—Emotional distress was predicted by less Social Support, Self-Esteem, and more Chronic Homelessness. Positive Coping style was predicted by greater Social Support, more Self-Esteem, and less Chronic Homelessness. African-Americans reported more Positive Coping. Negative Coping style was predicted by lower Self-Esteem and was more likely among males. Housing quality was not a significant predictor of any of the mediating variables.

Indirect Effects mediated through the stress-coping latent variables were also examined for their significance. Having less Social Support and less Self-Esteem had significant indirect effects on Alcohol Use. Self-Esteem also had significant indirect effects on IDU, and on Non-IDU. Less Social Support and more Chronic Homelessness also had significant indirect effects on Non-IDU.

Discussion

Outlining the direct and indirect influences that lead to drug and alcohol abuse in the homeless population is a critical step in addressing these issues and designing effective interventions. As depicted in Figure 1, substance abuse behaviors were directly and indirectly predicted by the theoretically-based CHSCP antecedent and mediating variables including both the psychosocial variables and the situational variables that were specialized for homeless individuals. Thus, there was synergy between both types of predictors in this model. Our results suggest that effective substance abuse treatment interventions should encompass psychological and social empowerment as well as encouraging decent supportive housing and further environmental supports for homeless people.

Self-esteem was a powerful and central antecedent variable negatively predicting emotional distress and alcohol use, and indirectly negatively predicting substance use via more maladaptive coping responses. Self-esteem correlated significantly with social support which also predicted more positive coping and less emotional distress. Having sources of social support may be enhancing to one's self-esteem. Given the multitude of daily challenges and competing needs faced by homeless adults, maintaining a sense of personal identity, let alone a positive self-concept, is highly difficult. Studies have shown that feelings of devaluation, diminished self-efficacy, and lost identity are common among both the chronically and newly homeless (Boydell, Goering, & Morrell-Bellai, 2000; Buckner, Bassuk, & Zima, 1993). This model would suggest that in addition to providing psychosocial support as much as possible, addressing the needs of homeless individuals in terms of retaining and/or building their sense of self worth may limit or reduce undesirable psychological and drug-using behaviors. Moreover, the incorporation of interventions designed to build positive self-esteem among participants in substance abuse prevention programs seems warranted.

The manner in which coping styles impacted maladaptive outcomes in this homeless population yielded some important results. Negative coping styles predicted non-IDU, IDU, and alcohol use. To the extent that negative coping represented denial and behavioral disengagement, the findings of relationships with alcohol and/or drug use are not surprising. As has been found in other studies, positive coping was not a significant predictor of alcohol and/or drug use in this model. However, given the association between negative coping styles and substance use, interventions such as individual counseling and life skills classes that target and reduce negative coping patterns and attitudes into more engaged approaches would be worthwhile. While such interventions require time and funding, and admittedly may be not be an immediate priority for homeless individuals, incorporating programs addressing more healthful coping strategies into longer term case management programs with homeless adults is suggested.

Apart from the personal and social factors in this model, chronic homelessness, poor quality housing, ethnicity, and gender were factors that provided additional information about how the backgrounds of homeless adults are related to substance use. Perhaps reflecting the cumulative burden of homelessness, chronic homelessness was negatively associated with positive coping, predicted more emotional distress, and impacted both Alcohol Use and IDU, highlighting the well-known problem of substance abuse among the chronically homeless and emphasizing the need for more supportive housing along with financial supports for the homeless (Aidala & Sumartojo, 2007; Burt et al., 2001; Milby et al., 2004). Residing in the poorest quality housing directly predicted more alcohol use and more IDU. These results support those of Des Jarlais et al. (2007). Prioritizing employment along with better housing options might also go a long way towards ameliorating substance abuse problems among homeless people (Milby et al., 2004; Shaheen, Williams, & Dennis, 2003).

With respect to ethnicity, less IDU was predicted by African American ethnicity. However, African-Americans also reported more non-IDU which was due mostly their use of crack cocaine. African American ethnicity was also associated with more positive coping. Gender influences were also demonstrated that support prior findings. Females were less likely to report alcohol use and non-IDU. These results deserve more study and suggest avenues for future tailored substance abuse programs among women and ethnic minority individuals. Males reported more negative coping which was opposite of what was found previously in a similar population (Stein & Nyamathi, 2000).

This study relied on self-reported data which can be problematic in research examining maladaptive outcomes. In other studies with this same type of homeless population however, strong correlations between objective measures of substance use and self-report data have been demonstrated (Nyamathi, Leake, Longshore, & Gelberg, 2001). In addition, this group of

homeless adults currently residing in Los Angeles may not be representative of all homeless individuals throughout the country which may limit the generalizability of our results. They also may not represent most homeless people due to their willingness to be tested for HAV, HBV, and HIV. However, this sample, both before and after the exclusion criteria were applied, closely mirrors the demographic characteristics of the wider homeless population found in the Los Angeles area which increases our confidence in the generalizability of this sample (Los Angeles Homeless Services Authority, 2007).

As acknowledged earlier, the cross-sectional nature of this study makes it inadvisable to infer causality from the directional results. Another model positioning the variables in a different manner may have fit as well as the one that we assessed (e.g., MacCallum, Wegener, Uchino, B. Fabrigar, 1993). For instance, substance use itself may cause a spiral downward into chronic and severe homelessness and eventuate in the poorest quality housing situations. Substance abuse may lead to low self-esteem and loss of vital social supports. Clearly, longitudinal data, although relatively difficult to obtain among the homeless, would be useful. Future research that will be being conducted with this current sample will help us disentangle predictive relationships and causal pathways more definitively. Nonetheless, using recent substance use as our end point in our analyses provided critical leverage points that are associated with better outcomes that could be addressed by comprehensive and integrated substance abuse programs and housing support. These leverage points include most specifically, self-esteem, less negative coping mechanisms, better housing, and a less chronic history of homelessness.

Acknowledgments

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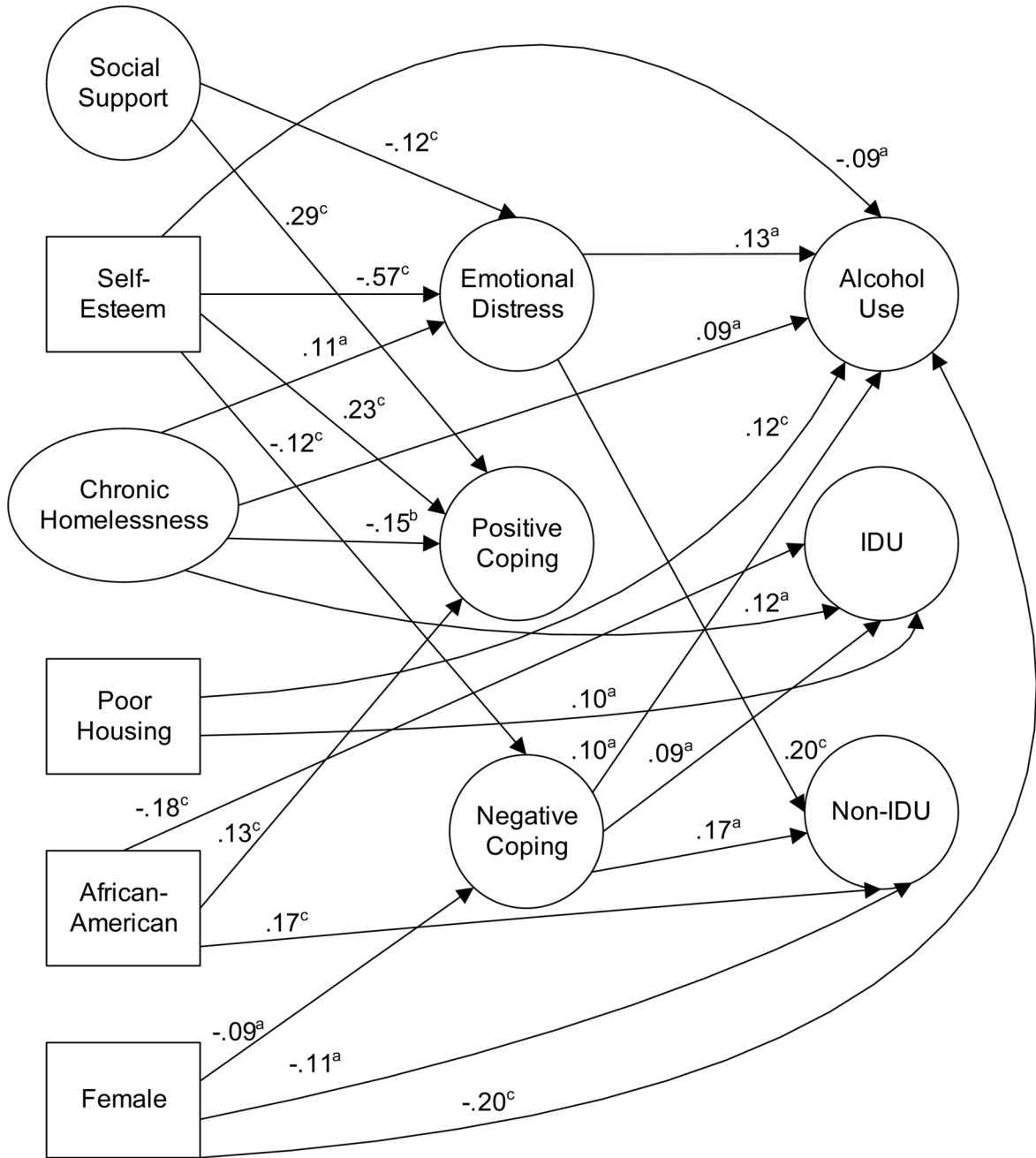
Figure 1.
Final structural path model. All estimated parameters are standardized. The circles designate latent variables; the rectangles represent measured variables. One-headed arrows represent regression paths. [a] $p < .05$; [b] $p < .01$; [c] $p < .001$.

Table 1

Summary statistics and factor loadings in the CFA model.

Variables	Mean (SD)		Factor Loading
Social Support			
Support 1	3.33	(1.18)	.90
Support 2	3.23	(1.25)	.98
Support 3	3.17	(1.30)	.94
Self-Esteem	14.48	(4.45)	—
Chronic Homelessness			
Number of Times	3.02	(4.09)	.58
Time Homeless (years)	3.09	(4.46)	.57
Poor quality housing (Yes/No)	0.34	(0.48)	—
African-American (Yes/No)	0.70	(0.46)	—
Female (1 = male, 2 = female)	1.25	(0.43)	—
Positive Coping			
PosCope 1	3.37	(0.72)	.65
PosCope 2	3.35	(0.69)	.73
PosCope 3	3.25	(0.75)	.76
Negative Coping			
NegCope 1	1.83	(1.06)	.62
NegCope 2	2.37	(1.19)	.45
NegCope 3	1.63	(0.94)	.70
Emotional Distress			
Very nervous	2.68	(1.64)	.70
Calm & peaceful (R)	3.18	(1.47)	.63
Downhearted	2.67	(1.44)	.75
Happy (R)	3.10	(1.46)	.65
In the dumps	2.13	(1.43)	.65
Alcohol Use			
Alcohol frequency	3.45	(2.81)	.91
Alcohol quantity	1.18	(1.46)	.90
IVDU			
Heroin-cocaine	0.02	(0.15)	.74
Heroin	0.04	(0.20)	.97
Other injection	0.06	(0.23)	.84
Non-injection Drug Use			
Cocaine frequency	1.60	(1.83)	.54
Crack frequency	2.91	(2.96)	.73
Marijuana frequency	2.39	(2.49)	.46

All factor loadings significant, $p \le .001$. (R) = reverse-scored.

Table 2

Correlations among variables in the CFA model.

	1	2	3	4	5	6	7	8	9	10	11
1. Social Support	—										
2. Self-Esteem	.32^c	—									
3. Chronic Homelessness	-.13^a	-.18^c	—								
4. Positive Coping	.39^c	.37^c	-.24^c	—							
5. Negative Coping	-.11^a	-.40^c	.09	-.36^c	—						
6. Emotional Distress	-.29^c	-.63^c	.22^c	-.33^c	.39^c	—					
7. Alcohol Use	-.18^c	-.20^c	.19^c	-.11^a	.20^c	.23^c	—				
8. IDU	-.11^b	-.12^c	.15^b	-.05	.10^a	.13^b	.18^c	—			
9. Non-IDU	-.15^c	-.16^c	.07	-.04	.25^c	.23^c	.66^c	.25^c	—		
10. African-American	.05	.12^b	-.08	.18^c	-.05	-.12^b	-.03	-.19^c	.13^b	—	
11. Female	.12^b	-.15^c	-.14^b	.04	-.02	.11^a	-.19^c	-.02	-.10^a	-.02	—
12. Poor quality housing	-.19^c	-.05	.18^c	-.10^a	.02	.11^a	.18^c	.12^b	.08	.03	-.08^a

[a] p < .05;

[b] p < .01;

[c] p < .001.