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Pepperdine University
Graduate School of Education and Psychology

THE PSYCHOMETRIC UTILITY OF THE
DRUG ABUSE SCREENING TEST
AMONG TREATMENT-SEEKING, HOMELESS MEN

A clinical dissertation submitted in partial satisfaction

of the requirements for the degree of

Doctor of Psychology

by

Brittany N. Winters, M.A.

May, 2014

Cary Mitchell, Ph.D. – Dissertation Chairperson

This clinical dissertation, written by

Brittany N. Winters

under the guidance of a Faculty Committee and approved by its members, has been submitted to and accepted by the Graduate Faculty in partial fulfillment of the requirements for the degree of

DOCTOR OF PSYCHOLOGY

Doctoral Committee:

Cary Mitchell, Ph.D., Chairperson

Carolyn Keatinge, Ph.D.

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DEDICATION

This dissertation is dedicated to my family.

Words cannot express how fortunate I feel to have you in my life.

ACKNOWLEDGEMENTS

It is with tremendous gratitude that I acknowledge several individuals who directly contributed to bringing this paper, and my doctoral degree, to fruition. First, this dissertation could not have been completed without the tireless efforts and utmost patience of my Dissertation Chairperson, Dr. Cary Mitchell. Dr. Mitchell was incredibly generous to offer the use of his research database at the Union Rescue Mission for my study, and he demonstrated an enduring commitment to the completion of my research. There are countless draft-to-draft details that I reflect back on with appreciation, but just as importantly, the extended, global encouragement he never failed to impart along the way. I would also like to offer thanks to my committee; I was privileged to have the contributions of Dr. Carolyn Keatinge and Dr. Michelle Margules, whose clinical experience and expertise strengthened this paper immeasurably. Dr. Keatinge has encouraged me unceasingly to pursue my goals within forensic and correctional psychology since the very beginning of my doctoral studies. Dr. Margules has likewise been a tremendous supporter of mine as I pursue a career within the Federal Bureau of Prisons, and I owe her a great deal of thanks for her guidance therewith. This paper could not have been completed without Dr. Shelley Harrell's generous gift of her time and statistical proficiency. Dr. Harrell was very kind in assisting me in navigating the murky and convoluted waters of statistical analysis, and without her generosity I could not have completed this research. Ms. Maria Brahme, Head Librarian of the Pepperdine University GSEP West Los Angeles Campus Library, to whom I am incredibly grateful for the numerous elusive articles she helped me track down from, quite literally, all over the country. To my wonderful dissertation partner, Stacy Saetre, thank you, dear friend, for being so patient with me along this long journey; for always encouraging me to keep going despite long nights and longer weekends reading piles of articles, crunching statistical data, and revising draft after draft after draft; and for never failing to provide the much needed relief of laughter along the way. I would like to

acknowledge my family: My parents, Bob and Barbara Irvine, and my brother, Calvin Irvine, for whom I am more appreciative than words can describe. Mom and Dad: Thank you for always believing in me and for supporting my academic endeavors and professional pursuits, far-reaching and elaborate as they may have been since I was a very small girl. You have always instilled in me the notion that I can pursue whatever it is I seek to accomplish, and I could not have completed this journey without your endless encouragement and support. The genuine interest you have always expressed in my pursuits, despite your explicit expression of not always understanding them (“You are the only person I know who is excited to go to federal prison everyday”), is a privilege for which I am so grateful. Cal: Continue to pursue the enormous creative talent you so clearly embody, and seek the faith and perseverance to achieve your goals. Thank you for the joy of watching you continue to develop into the very gifted artist that you are, and for the many incredible works of art that now adorn my home thanks to your imaginative mind and skilled hands. Lastly, and most importantly, to my dear husband and best friend, Justin Trevor Winters, without whom this great journey would be quite different and not nearly as fulfilling. Thank you, Justin, for all you have done to support my pursuit of big dreams, and for always reminding me to chase what it is I love and not let go. You have never let me forget how important it is to do what you love. You not only embody this ideal so compellingly yourself, you have been the pillar I lean against when challenges have felt too great to overcome on my own. I love you endlessly.

VITA

EDUCATION

- Pepperdine University Graduate School of Education and Psychology 9/2010 – 5/2014
 APA accredited Psy.D. Program
 Doctor of Psychology, Clinical Psychology
 Dissertation: The psychometric utility of the Drug Abuse Screening Test
 among treatment-seeking, homeless men
- Pepperdine University, Graduate School of Education and Psychology 5/2008 – 12/2009
 Master of Arts, Psychology
- University of California, Santa Barbara 9/2001 – 6/2005
 Bachelor of Arts, Spanish Language & Literature
 Bachelor of Arts, Political Science, Emphasis: International Relations

LANGUAGE

- Proficient in Spanish language (speaking, reading and writing)
- Spanish language therapy in residential and correctional settings 9/2010 – present

CLINICAL EXPERIENCE

- Federal Correctional Institution Terminal Island 8/2013 – 8/2014
 Federal Bureau of Prisons: San Pedro, CA
 Predoctoral Psychology Intern
Supervisors: Linda McGee, Ph.D.; Maureen P. Gonzales-Burris, Ph.D.; Leslie Charles, Ph.D.;
 Laurie Schoellkopf, Psy.D.
Rotation Assignments: Drug Abuse Treatment; Mental Health; General Population
- Facilitated multiple weekly psychotherapy groups, including a Non-Residential Drug Abuse Program group, an “Emotion Management” Care Level 3-MH group, and a general population group
 - Participated in Residential Drug Abuse Program (RDAP) and Dual Diagnosis Residential Drug Abuse Program (Dual Diagnosis RDAP), including daily Sunrise Summit meetings, mental health group, and individual interventions within the modified therapeutic community model. Obtained direct experience with each phase of manualized RDAP and Dual Diagnosis RDAP treatment
 - Maintained weekly therapeutic contact with Care Level 3-Mental Health (CL 3-MH) inmates, monitoring treatment progress, medication compliance, symptom presentation and institutional adjustment. Referred inmates to Psychiatry Services for psychotropic medication evaluations as needed
 - Maintained Psychiatric Medication Inventory for Psychology Services Department, including ongoing medication, diagnostic, and treatment planning documentation for approximately 175 inmates

- Organized weekly Medication Check clinic and weekly CL 2-MH clinic, including triaging which inmates required most immediate clinical contact in order to maintain care level compliance
- Conducted weekly Special Housing Unit (SHU) reviews. Consulted with Executive Staff regarding mental status and assessments of risk of SHU inmates
- Conducted weekly Short Stay Unit rounds to review mental status of inmates receiving medical treatment referred for psychological services. Consulted with multidisciplinary team, including Health Services Staff and Correctional Services staff in meeting treatment needs of hospitalized inmates
- Maintained long-term weekly individual psychotherapy client caseload using evidence based treatments such as cognitive behavior therapy, acceptance and commitment therapy, and dialectical behavior therapy
- Conducted suicide risk assessments. Presented findings and recommendations to Psychology Services Department as well as multidisciplinary team of mental health providers, medical staff, and custody staff
- Conducted weekly intake screening evaluations and presented findings and recommendations to Psychology Services staff
- Conducted and interpreted a variety of psychodiagnostic assessment batteries and drafted comprehensive psychological assessment reports
- Conducted abovementioned therapeutic services in English and Spanish

Patton State Hospital

9/2012 – 8/2013

California Department of State Hospitals: Patton, CA

Psychological Assessment Clerk

Training Supervisors: Annette Ermshar, Ph.D., MSCP, ABPP (Forensics); Andrew Tamanaha, Ph.D.; Mark Martinez, Psy.D.

Primary Unit Assignment: Sex Offender Unit

- Implemented the Good Lives Model/Self-Regulation Model and Containment Model providing skills acquisition and skills application to male and female sex offenders
- Conducted psychodiagnostic and neuropsychological screening assessments to judicially committed, severely mentally ill patients under the following commitment types: not guilty by reason of insanity, not competent to stand trial, mentally disordered offender, and various civil commitments
- Assessment instruments administered and interpreted over the course of the training year: MMSE; MMPI-2; MMPI-2-RF; MCMI-III; PAI; Rorschach – Exner’s Comprehensive System; WAIS-IV; Shipley-2; Gray Silent Reading Test; TOMM; SIRS; M-FAST; WASI-II; TONI; REY-15 Item Memory Test; BSS; MoCA; RBANS; BPRS
- Obtained experience with assessment and management of violence risk and sexual violence risk
- Obtained experience with actuarial (i.e., Static-99R, VRAG) and dynamic (SRA-FV, Stable-2007, HCR-20, START) sexual violence and non-sexual violence risk assessment instruments; practiced integration of assessment information into reports for the legal system, and delivery of feedback to treatment team and patient on risk management skills
- Co-led psychotherapy groups focused on interpersonal and coping skills

Harbor-UCLA Medical Center, Department of Psychiatry
 Dual Diagnosis Treatment Program
 California Department of Mental Health: Torrance, CA
 Psychology Extern

9/2011 – 7/2012

Training Supervisors: Lee Gomberg, Ph.D.; John Tsuang, M.D.

- Co-facilitated cognitive-behaviorally oriented psychotherapy groups of dual-diagnosis adult outpatients; maintained detailed Department of Mental Health (DMH) progress notes monitoring psychological, emotional, functional and behavioral progress of each patient
- Conducted weekly individual cognitive-behavioral psychotherapy with dual-diagnosis adult outpatients to improve coping mechanisms, increase adaptive behavior patterns, and strengthen affect regulation skills
- Performed weekly intake evaluations of adult psychiatric outpatients to obtain comprehensive patient history; presented intake reports to Program Director and Treatment Team and provided recommendations for care in order to assign patient to most appropriate treatment team
- Participated in weekly Advances in Cognitive Therapy didactic trainings in the continued development of CBT, DBT, and ACT theory and clinical application

Union Rescue Mission: Los Angeles, CA

9/2010 – 6/2012

Psychology Extern

Training Supervisors: Aaron Aviera, Ph.D.; Steven Strack, Ph.D.

- Provided weekly individual psychotherapy to dual-diagnosis homeless population in a residential treatment facility. Focused on increasing clients' emotional wellbeing, decreasing patterns of maladaptive coping mechanisms, and preparing for reintegration into the community
- Conducted and interpreted a variety of assessment measures (MMPI-2, MCMI-III, BDI-II, BAI, DAST-20, and AUDIT) to assess baseline emotional functioning, as well as identify nature, impact and course of presenting psychopathology
- Provided psychoeducation regarding addiction model, and implement relapse prevention techniques to increase likelihood of sobriety maintenance and promote behavioral change
- Conducted abovementioned therapeutic services in English and Spanish

LAC + USC Medical Center Psychiatric Emergency Room:
 Los Angeles, CA

1/2009 – 4/2009

Psychological Extern

Training Supervisors: David Levy, Ph.D.; Joseph N. Mirkovich, M.D.

- Assessed psychiatric inpatients in crisis to determine acute psychiatric and medical needs
- Administered brief psychological assessment measures to identify baseline emotional functioning, as well as identify nature, impact and course of presenting psychopathology
- Performed clinical intakes and maintain clinical progress notes to monitor patients' current psychological status
- Collaborated with Los Angeles County Sheriff's Department for those patients serving sentences at local prison facilities

Managed Med, Inc: Los Angeles, CA 1/2010– 10/2010

Registered Psychological Assistant, Reg. No. PSB 53039

Training Supervisors: Cynthia J. Mothersole, Ph.D., QME; Seth Hirsch, Ph.D., QME

- Conducted dyadic cognitive behavioral psychotherapy in an outpatient forensic setting for the purposes of improving the level of functioning of patients who had filed Workers' Compensation claims
- Administered, scored, and interpreted psychodiagnostic and neuropsychological assessment batteries to assess baseline neuropsychological functioning, as well as identify nature, impact and course of presenting psychopathology
- Provided psychoeducation regarding chronic pain management to increase overall patient wellbeing and quality of life; implementation of cognitive behavioral techniques (including cognitive restructuring and identification of cognitive distortions) to reframe dysfunctional thought patterns and maladaptive coping strategies; practiced mindfulness techniques related to chronic pain management to increase interpersonal and occupational functioning

TEACHING EXPERIENCE

Pepperdine University Graduate School of Education and Psychology: Los Angeles, CA

Advanced Psychological Assessment 9/2012 – 12/2012

Teaching Assistant, Doctoral Level course

Personality Assessment 9/2012 – 12/2012

Teaching Assistant, Masters level course

Personality Assessment 1/2012 – 4/2012

Teaching Assistant, Doctoral level course 9/2012 – 12/2012

Cognitive Assessment 9/2011 – 12/2011

Teaching Assistant, Doctoral level course

Psychopathology 9/2011 – 12/2011

Teaching Assistant, Masters level course

RESEARCH EXPERIENCE

“Factors that affect treatment initiation among individuals with serious mental illness and a substance abuse disorder” 10/11 – 1/2012

Research Assistant & Co-Author

Harbor-UCLA Medical Center Dual-Diagnosis Treatment Program: Torrance, CA

National Vietnam Veterans' Readjustment Study 5/2011 - 6/2011

Trauma Research Lab Participant

Pepperdine University Graduate School of Education and Psychology: Los Angeles, CA

ASSESSMENT TRAINING

Forensic Assessment

- PCL-R; TOMM; M-FAST; SIRS; Static-99R, VRAG; SRA-FV; Stable-2007; HCR-20; MacCAT-CA; CAST-MR; R-CAI; ECST-R

Personality Assessment

- MMPI-2; MMPI-2-RF; MCMI-III; PAI; TAT; HTP; RISB; Rorschach

Cognitive Assessment

- WAIS-IV; WISC-IV; Woodcock Johnson Tests of Cognitive Abilities-III; Woodcock Johnson Tests of Achievement-III

Neuropsychological Assessment

- RBANS; MoCA; Trail-Making Test; Bender Visual-Motor Gestalt; MSE; MMSE

LEADERSHIP EXPERIENCE

Forensic Psychological Association Founding Member Pepperdine University Graduate School of Education and Psychology	2010 – 2013
Forensic Psychological Association Executive Committee Member Pepperdine University Graduate School of Education and Psychology	2012 – 2013
GSEP Clinical Training Program Peer Supervisor Pepperdine University Graduate School of Education and Psychology	2012 – 2013
Steering Committee Representative Pepperdine University Student Government Association	2012 – 2013
Class Representative Pepperdine University Student Government Association	2010 – 2011

PUBLICATIONS

- McClellan, J.M., Anspikian, A., Winters, B.N., Tsuang, J.W. (2014). Factors that affect treatment initiation among individuals with serious mental illness and substance abuse disorder. *Journal of Addictive Disorders and Their Treatment*, 13(1). doi: 10.1097/ADT.0b013e31827914b3
- Bancroft, C.F., & Winters, B.N. (2012). GOGI from a clinical perspective. In M.L. Taylor & D. Martinez (Eds.). *How to GOGI: The self-help manual for the prisoner, facility, educator, and mental health professional* (pp. 469 – 488). Los Angeles, CA: Getting Out By Going In.

PRESENTATIONS

- Winters, B.N. (2014, February). Use of the Drug Abuse Screening Test-20 with inmates. Presented at Federal Correctional Institution Terminal Island, Terminal Island, CA.
- Blankevoort, O., & Winters, B. N. (2013, July). Introduction to Spanish language assessments in clinical and forensic settings. Presented at Patton State Hospital, Redlands, CA.
- Winters, B.N. (2012, March). Motivational interviewing: An introduction to theory and intervention techniques. Presented at Harbor UCLA Medical Center Dual Diagnosis Treatment Program, Los Angeles, CA.

SCHOLARSHIPS, HONORS & AWARDS

- | | |
|--|-------------|
| Pepperdine University Colleagues Grant Recipient | 2010 – 2013 |
| Eloise Howell Scholarship Recipient | 2011 |

PROFESSIONAL & ACADEMIC AFFILIATIONS

- | | |
|--|------------------|
| Forensic Mental Health Association of California | 9/2012 – Present |
| Forensic Psychology Association, Pepperdine University GSEP, Executive Committee | 9/2012 – 8/2013 |
| Forensic Psychology Association, Pepperdine University GSEP, Founding Member | 9/2011 – 8/2013 |
| Los Angeles County Psychological Association | 9/2011 – 3/2013 |
| American Psychological Association | 9/2010 – Present |
| American Psychological Association – Division 18 | 3/2013 – Present |
| American Psychological Association – Division 5 | 3/2013 – 3/2014 |
| American Psychological Association – Division 28 | 3/2013 – 3/2014 |
| California Psychological Association | 9/2010 – Present |
| Psi Chi International Honors Society in Psychology, Member | 9/2008 – Present |

ABSTRACT

Homelessness in the United States is recognized as a grave societal problem with longstanding and pervasive implications. A substantial body of research has shown that substance use disorders occur at higher rates among homeless adults than among housed persons. Mental disorders, particularly depressive disorders, are also known to occur at substantially higher rates among the homeless. Given the prevalence of these conditions, it is important that clinicians working with homeless adults have access to reliable and valid assessment tools. The purpose of this study was to examine the usefulness of the Drug Abuse Screening Test-20 (DAST-20) in a sample of treatment-seeking, homeless men engaged in a residential substance abuse recovery program. Other goals included analysis of the relationship of the DAST-20 to the Beck Depression Inventory, Second Edition (BDI-II). The participants were 86 males with a mean age of 43.08 years. The sample was ethnically diverse, tended to be single, and most participants had at least a high school education. This was an archival study. All participants had voluntarily sought psychological services in a university-affiliated clinic at the inner city mission that provided the substance abuse recovery program. In addition to the DAST-20 and BDI-II, the instruments included an intake application form for psychological services and the Alcohol Use Disorders Identification Test (AUDIT). Mean scores on the DAST-20 and BDI-II were 10.07 and 21.94, respectively. Internal consistency reliability was .862 for the DAST-20 and .91 for the BDI-II. There were no statistically significant differences across ethnic groups in mean DAST-20, BDI-II, or AUDIT scores. As predicted, DAST-20 scores were positively correlated with intake form-based measures of drug abuse, supporting the validity of the DAST-20 as a measure of substance-related concerns. The DAST-20 also correlated significantly with the BDI-II, consistent with other research findings. There was a trend ($p = .083$) for the DAST-20 to be correlated with the

AUDIT. Other findings, clinical implications, limitations, and suggestions for future research are also explored. The results supported the reliability and validity of the DAST-20 as a measure of problematic substance use among treatment-seeking homeless men.

Chapter 1: Problem Statement and Literature Review

Homelessness

Homelessness in the United States. Homelessness in the United States is recognized as a grave societal problem with longstanding and pervasive implications, affecting a large and diverse set of Americans. Three and a half million Americans will experience homelessness at some point in a given year (National Coalition for the Homeless, 2009). In Los Angeles County in 2011, 51,340 people were estimated to be homeless on a given night (Los Angeles Homeless Services Authority, 2011). Although the number of people homeless in the United States has recently been on the decline (a decrease of about 1%, or 7,000 people, between 2009 and 2011), the National Alliance to End Homelessness (2012) estimates that 636,017 people experienced homelessness on a given night in 2011. Nearly 400,000 of those who were homeless were individuals not a part of a family unit; 77,816 were homeless families; and 10.61% were military veterans (National Alliance to End Homelessness, 2012). Over 100,000 people were considered chronically homeless in 2011, which declined by 3% since 2009 (National Alliance to End Homelessness, 2012). Despite some promising overall declines in recent years, the nation's unsheltered homeless population increased by 2% in 2011 (from 239,759 to 243,701), and homelessness rose in 24 states and the District of Colombia (National Alliance to End Homelessness, 2012).

The Los Angeles Homeless Services Authority has identified and operationally defined three categories of homelessness. An unsheltered homeless person is defined as a person who “resides in a place not meant for human habitation, such as cars, parks, sidewalks, abandoned buildings, or on the street.” This is differentiated from a sheltered homeless person, which is defined as a person who “resides in an emergency shelter” or “transitional housing for homeless

persons who originally came from the streets or emergency shelters” (Los Angeles Homeless Services Authority, 2011). The third category of homelessness is primarily differentiated from the above two categories in temporality: chronic homelessness is defined as “an unaccompanied disabled person who has been continuously homeless for over one year or has had at least four episodes of homelessness in three years; or a family is considered chronically homeless if at least one member meets the definition of chronic homelessness” (Los Angeles Homeless Services Authority, 2011, p. 16). As of 2011, the vast majority of homeless individuals were identified as sheltered homeless (392,316), however approximately 38% of all homeless people across the United States live on the streets or in other places not intended for human habitation (National Alliance to End Homelessness, 2012).

With the recent recession and the current economic climate, the face of homelessness has changed dramatically: In 2010, a total of 241,951 homeless individuals were classified as “persons in families,” representing a 1.2% increase in the number of homeless families since 2009 (U.S. Department of Housing and Urban Development, 2011). Nearly 80% of all sheltered families included females, and 59.3% included children under the age of 18 (U.S. Department of Housing and Urban Development, 2011). Homeless children, dubbed, “America’s youngest outcasts” by a recent Summary Report from the National Center on Family Homelessness (2008), found that each year over 1.5 million children are homeless in the U.S., and 77.3% of these children are under the age of 13. In a recent national survey, one in five responding school districts reported having more homeless children in the fall of 2008 than over the entire course of the 2007-2008 school year (Duffield & Lovell, 2008). As many as 1.6 million unaccompanied youth experience homelessness each year in the United States (U.S. Department of Housing and Urban Development, 2011). The Los Angeles Homeless Services Authority (2011) reports, “the homeless population is aging, with nearly 34% of chronic homeless persons aged 55 or older” (p.

4). On any given night in Los Angeles County alone in 2010, 3,000 to 4,000 adults age 62 or older were homeless, 89% of whom also had a physical disability (U.S. Department of Housing and Urban Development, 2011).

Despite the recent changes in the face of homelessness, the vast majority of the nation's homeless population (407,966 people, comprising two-thirds of the homeless population) continues to be represented by individuals who do not identify as part of a family unit. On an average night in 23 cities surveyed by the U.S. Conference of Mayors, 94% of homeless people are single adults; 4% are part of family units; and 2% are unaccompanied minors (U.S. Department of Housing and Urban Development, 2010). In 2011, 62% of the national homeless population was male; 38% was female; and nearly 22% was under the age of 18 years (U.S. Department of Housing and Urban Development, 2011). The national homeless population is estimated to be 41.6% Caucasian, 37% African American, 9.7% Hispanic, 7.2% multiple races, and 4.5% other single races (U.S. Department of Housing and Urban Development, 2011). At least 26% percent of sheltered homeless are estimated to suffer from a severe mental illness, and nearly 35% from a substance use disorder (SUD) (U.S. Department of Housing and Urban Development, 2011).

Given the high rates of substance abuse problems among homeless persons, it is important that clinicians providing mental health services to the homeless have reliable, valid methods for assessing substance abuse. The purpose of this study was to examine the usefulness of the 20-item version of the Drug Abuse Screening Test (DAST-20; Skinner, 1982) among homeless men seeking psychological services. Before describing the study in detail, relevant literature on homelessness, mental illness, and substance use will be reviewed and considered.

Contributing factors: micro-level variables. The homeless are thought to experience significant levels of trauma prior to the initial episode of homelessness, in addition to the inherent trauma of homelessness itself (Mitchell, 2012). It is estimated that 19% of all homeless people have been victims of domestic violence; 13% are war veterans; and 2% have tested positive for the human immunodeficiency virus (HIV) (National Coalition for the Homeless, 2009). In one study comprised of 28 individuals ranging in age from 25 to 60 years of age, 100% of the participants endorsed having experienced "intense" levels of trauma, violence, and victimization both before and throughout their homelessness (McNaughton, 2008). The National Center on Family Homelessness found that 22% of homeless children become separated from their families; 25% witness violence; and almost one in 18 homeless children are "members of families where adults hit or throw things," causing increased rates of traumatic stress (2009, p. 4). Research has found a positive correlation between childhood trauma and homelessness, and has also identified domestic violence as a primary cause of homelessness in major cities all across the United States (Mitchell, 2012; Nooe & Patterson, 2010). Over 92% of mothers experiencing homelessness report having experienced severe lifetime physical and/or sexual abuse, and 63% report the perpetrator of such abuse was an intimate partner (U.S. Department of Housing and Urban Development, 2011). The vast majority of these women have escaped their violent relationships by turning to the street or to shelters (Bassuk & Rosenberg, 1988). When compared to low-income housed women, mothers who are homeless have three times the rate of posttraumatic stress disorder (36%) and double the rate of substance use dependence (41%) (U.S. Department of Housing and Urban Development, 2011). The "personal crisis" of domestic violence and trauma and its contribution to homelessness has "created a population of battered women and their children who must either remain housed in a potentially life-threatening situation or become homeless" (Somers, 1992, p. 265). One study found that over half (53%) of

all homeless women surveyed meet the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR; American Psychiatric Association, 2000) criteria for a diagnosis of PTSD (Goodman, Saxe, & Harvey, 1991).

Of course, homelessness is often, in itself, a traumatizing phenomenon. The absence of a stable place to rest, bathe, and keep one's belongings; the educational and occupational difficulties that often accompany the lack of a permanent mailing address; and the frequent theft and assault associated with being physically vulnerable while unsheltered can all have significant psychologically damaging effects. Koegal and Burnam (1992) determined that the experience of being homeless takes a detrimental toll and, like other traumas, can "catalyze and/or exacerbate mental illness, producing disorder where previously it did not exist" (p. 96). It has been suggested that the event of becoming homelessness, including negotiating the loss of one's property and belongings, accustomed social roles, regular routines and schedules, and sometimes even family members, can mimic symptoms of psychological trauma in some victims of homelessness; regular and repeated threat to bodily integrity, or threat of serious physical harm, injury, or death, may also serve to exacerbate the psychological trauma of being homeless (Goodman, Saxe, & Harvey, 1991; Mitchell, 2012).

Contributing factors: macro-level variables. In addition to individual factors that may contribute to homelessness, researchers have identified various systemic variables that may contribute to the problem. Some literature suggests that discrimination against African Americans dating back to the 17th Century American Colonies, the Civil War, the Reconstruction, and Roosevelt's New Deal may have planted the seeds for Black homelessness (Johnson, 2008). Acculturative stress, immigration status, and language barriers may also make an individual who has immigrated to the U.S. more susceptible to homelessness when compared to non-immigrants (Thomas, 1995). Several studies cite the role of deinstitutionalization and

hospital discharge rates in the 1950s and 1960s as a structural contributor to homelessness, particularly among the homeless mentally ill (Fazel, Khosla, Doll, & Geddes, 2008; Greenblatt, 1992; Nooe & Patterson, 2010; Morse, 1992; Stuart & Arboleada-Florez, 2000).

Still more research has found evidence suggesting family breakdown may be a primary cause of homelessness (Bassuk & Rosenberg, 1988). Poverty, low wages, underemployment, and unemployment also may contribute to an individual or family becoming homeless and remaining homeless (Morrell-Bellai, Goering, & Boydell, 2000). The National Alliance to End Homelessness (2012) reported that national unemployment increased from 14.3 million people in 2009 to 14.8 million people in 2010, while in 11 of the nation's 50 states unemployment increased a startling 10%. While the estimated odds of experiencing homelessness within the course of one year for the general population are one in approximately 195, the odds of becoming homeless for an individual living at or below the federal poverty line increase to one in 29 (National Alliance to End Homelessness, 2012). The 2011 Greater Los Angeles Homeless Count Report found that low wages and job loss may exacerbate mental illness in that "individuals may lose their ability to pay for and maintain critical prescription interventions that stabilize the disabling condition of mental illness" (Los Angeles Homeless Services Authority, 2011, p. 16). In 2011, the number of individuals in the United States who no longer had health insurance increased 4%, leaving 48.8 million people with little to no means for paying for the prescription medications or medical services they may need to remain healthy (National Alliance to End Homelessness, 2012).

Several researchers have investigated the role of gentrification and rising housing costs as critical factors in why individuals become or remain homeless (Morrell-Bellai, Goering, & Boydell, 2000; McCarthy & Hagan, 1991). Economic instability and housing instability combine to exacerbate the likelihood of an individual becoming homeless (Lehmann, Kass, Drake, &

Nichols, 2007). The increasing cost of housing, and concurrent decline in affordable or low-income housing contribute greatly to the problem of homelessness (Bassuk, Rubin & Lauriat, 1986; Bassuk & Rosenberg, 1988; National Alliance to End Homelessness, 2012). One study found that the number of households that are “severely housing cost burdened,” that is, households that spend more than 50% of total household income on rent, increased from 5.9 million households in 2009 to 6.2 million households in 2010, representing a 6% increase (as cited in National Alliance to End Homelessness, 2012). Nearly 50,000 more homes went into foreclosure in 2010 than in 2009, and there was a 2% increase in apartment complex closures due to foreclosure within the same time period (National Alliance to End Homelessness, 2012). In a study examining factors affecting homeless individuals trying to obtain supported housing, researchers found that the presence of drug or alcohol problems significantly mediated an individual’s opportunities for housing stability (Hurlburt, Hough, & Wood, 1996).

Governmental issues like welfare reform and decreases in health insurance benefits are cited as risk factors for becoming or remaining homelessness (Bassuk & Rosenberg, 1988; Morse, 1992; Nooe & Patterson, 2010). Research has established the impact that living with physical health problems, which can not only be costly but also can make employment difficult, can have on one’s ability to remain in one’s home (Bassuk & Rosenberg, 1988; Bassuk, Rubin & Lauriat, 1986; Struening & Padgett, 1990).

Finally, institutionalization associated with lengthy correctional sentences may lead to difficulty acclimating to social life following prison release. One Stanford University study found that approximately three-quarters of all prisoners have a history of substance abuse, and one in six suffers from mental illness (Petersilia, 2003). The high rate of “prison to shelter crossover,” the phenomenon by which an individual is released from jail or prison and moves into a homeless shelter, suggests the experience of having been incarcerated may pose significant

systemic barriers to independent living (Draine & Solomon, 1994; Gelbergg, Linn, & Leake, 1988; Metraux & Culhane, 2004). In 2012, over 5% of the sheltered homeless population reported prison, jail, or juvenile detention centers were their living accommodations prior to entering the shelter system, and the National Alliance to End Homelessness reported the odds for recently released prisoners to experience homelessness are one in 13 (National Alliance to End Homelessness, 2012). Employment becomes more difficult to come by not only by virtue of the stigma of incarceration, but due to the life circumstances of the typical inmate: one-third of all prisoners were unemployed at the time of their arrest, and just 60% of inmates hold a GED or high school diploma (compared to 85% of the U.S. adult non-incarcerated population) (Petersilia, 2003). Unemployment leading to increased likelihood of homelessness may also be due, at least in part, to the lack of ongoing skill development for individuals who have been removed from the open labor market for years or decades. One study exploring the extent of inmate impoverishment due to a lack of technological hardware found that, “while most of us are acclimatized to a world where time is speeded up, slowed down, suspended, repackaged, re-ordered and re-experienced through digital and satellite technologies, most prison inmates experience time in a more traditional, chronological sense and exist through time in a much more linear fashion, almost as if in a pre-media age. These obstacles arguably render prisoners, especially those serving long sentences, ‘cavemen in an era of speed-of-light technology’” (Jewkes & Johnston, 2009, pp. 134-135). This notion of emerging from prison as “Fred Flintstone” in a “Jetsons” world leaves individuals who were incarcerated and looking for gainful employment feeling like “second-class citizens in the Information Age” (Jewkes & Johnston, 2009). Their increased difficulty obtaining stable employment likely contributes to their increased likelihood of experiencing homelessness, highlighting the increasing need for systematic follow-up support after release.

Homeless veterans. It is estimated that approximately 160,000 veterans of the United States Armed Services experience homelessness over the course of a year, and between 44,000 and 66,000 veterans experience chronic homelessness (U.S. Department of Housing and Urban Development, 2011). According to the U.S. Department of Housing and Urban Development, nearly 50% of all homeless veterans across the country were located in one of four states, including California (2011). Between 2009 and 2011, Los Angeles County saw a 3% increase in the number of homeless individuals who had previously served in the U.S. Military, bringing the rate of veterans among the homeless to 18% (Los Angeles Homeless Services Authority, 2011). In addition, the rate of homeless veterans considered to be chronically homeless increased from 19% to 31% between 2009 and 2011 (Los Angeles Homeless Services Authority, 2011). Nationally, however, homelessness rates appear more promising for the same two-year time period: between 2009 and 2011, the number of homeless veterans nationally decreased from 75,518 to 67,495 (National Alliance to End Homelessness, 2012). Despite this decrease, however, the incidence of homelessness among veterans is 31 in 10,000, notably higher than the incidence of homelessness among the general population, 21 in 10,000 (National Alliance to End Homelessness, 2012). Among homeless veterans, approximately 45% experience mental illness, and as many as 70% experience significant alcohol or substance use problems (U.S. Department of Housing and Urban Development, 2011).

Sheltered and unsheltered homeless. The prevalence of sheltered homeless, including those who spend time in emergency shelters, transitional housing, or permanent supportive housing, also sheds light onto the seriousness of this issue. In 2010, 1.59 million people spent at least one night in an emergency shelter or transitional housing program (U.S. Department of Housing and Urban Development, 2010). The average length of stay in an emergency shelter is 69 days for single men; 51 days for single women; and 70 days for family units (National

Coalition for the Homeless, 2009). The fact that homeless individuals are almost equally as likely to stay on the street as in shelters may be partially explained by the insufficient resources that exist to serve the homeless population in its entirety (U.S. Department of Housing and Urban Development, 2010). A recent study of homelessness in 50 cities across the country found that in virtually every city, the city's official estimated number of homeless people "greatly exceeded" the number of emergency shelter and transitional housing spaces (National Law Center on Homelessness and Poverty, 2004). Another study found that 52% of cities across America surveyed had to turn people who were in need of shelter away due to lack of capacity (U.S. Department of Housing and Urban Development, 2010). While the Council for Affordable and Rural Housing estimates that nearly 10% of the nation's homeless are in rural areas, there are few or no rural homeless shelters available in the United States (Brown, 2002).

Homelessness in Los Angeles. Los Angeles, California is widely regarded as the "homeless capital of the United States" (Wolch, Blasi, & Dear, 2008). It was recently estimated that 51,340 people are homeless on a given night within Los Angeles County, 25,539 of whom are within city limits (Los Angeles Homeless Services Authority, 2011). Of the more than 50,000 homeless individuals in Los Angeles County in 2011, 59% (26,767) were adult males, 28% (12,589) were adult females, and approximately 14% (6,066) were children under the age of 18 years (Los Angeles Homeless Services Authority, 2011). An estimated 43.7% (19,868) of these individuals identified as African American (as compared to 8% of the general County population in 2011); 27.7% (12,573) Latino (as compared to 48% of the general County population in 2011); 24.9% (11,287) White/Caucasian (as compared to 28% of the general County population in 2011); 2.3% (1,058) Asian/Pacific Islander (as compared to 14% of the general County population in 2011); and 1.4% (636) American Indian and Alaskan Native (as compared to less than 1% of the general County population in 2011) (Los Angeles Homeless

Services Authority, 2011). In 2011, 33% (14,830) of all homeless people in the County suffered from a mental illness, 34% (15,489) had substance use disorders, and 22% (9,903) had a physical disability (Los Angeles Homeless Services Authority, 2011). In addition, 10% (4,610) reported being a survivor of domestic violence (Los Angeles Homeless Services Authority, 2011).

Homelessness on Los Angeles' "Skid Row." The approximately fifty-block area east of downtown Los Angeles, officially known as Central City East, though more commonly referred to as "Skid Row," has contained the largest stable population of homeless individuals in Los Angeles County for several decades (Los Angeles Homeless Services Authority, 2009). It is estimated that 4,315 persons were homeless on Skid Row in 2011, comprising 17% of the city's homeless population that year (Los Angeles Homeless Services Authority, 2011).

In 2009, 78% of Skid Row's homeless population was sheltered, leaving 22% of Skid Row's homeless population without refuge; this marked a substantial increase in the number of homeless people with temporary shelter from two years prior (in 2007, 65% of homeless individuals were sheltered and 35% were unsheltered) (Los Angeles Homeless Services Authority, 2009). It is believed that this recent increase is largely due to the significant amount of homeless service providers that operate in the Skid Row area. One of these service providers is the Union Rescue Mission (URM), the largest, private homeless shelter in the United States (URM, 2011). During 2011, URM was home to an average of 924 men, women and children each night, which included an average of 62 families per night (URM, 2011). In 2007, URM provided 735,909 meals to those individuals in need on Skid Row; 1,335 psychological counseling sessions were carried out; 959 Legal Aid Visits were made; 5,813 Health Center visits logged; and a total of 49,700 volunteer hours were donated (URM, 2011).

One study of treatment-seeking male residents residing at URM in 2010 found that 95% of participants reported having experienced at least one potentially traumatic event at some point

in their lives (Moriarty, 2010), which is consistent with McNaughton's 2008 figures. Moriarty pointed out these statistics are markedly higher than reports of potentially traumatic events among non-homeless males, where estimates hold at approximately 61%. Such data supports the hypothesis that the experience of trauma and the consequent repercussions are all too frequently a part of the homeless experience.

Homelessness and Mental Illness

Prevalence. Multiple studies have documented the significant relationship between homelessness and mental illness (Callicutt, 2006; Crane, 1998; Eyrich-Garg, Cacciola, Carise, Lynch, & McLellen, 2008; National Coalition for the Homeless, 2009; Fazel, Khosla, Doll, & Geddes, 2008; Fischer & Breakey, 1991; Greenblatt, 1992; Koegal & Burnam, 1992; Koegal, Burnam, & Farr, 1988; Lamb & Lamb, 1990; Martell, 1991; Schore & Cohen, 1992; Stergiopoulos, Dewa, Tanner, Chau, Pett, & Connelley, 2010; Unger, Kipke, Simon, Montgomery, & Johnson, 1997; Zuvekas & Hill, 2000). It has been estimated that as many as one-third of the national homeless population suffers from a mental illness, and nearly one-quarter from chronic mental illness (Koegel, Sullivan, Burman, Morton, & Wenzel, 1999; Nooe & Patterson, 2010). Apart from substance use disorders, one study found the most prevalent psychiatric disorders diagnosed among the homeless population are psychotic illnesses, major depression, and personality disorders (Fazel, Khosla, Doll, & Geddes, 2008). Yet another study found that 82% of their sample reported psychological symptoms, including depression, anxiety, and aggression, and 43% had previously attempted suicide (Klee & Reid, 1998). In Los Angeles County specifically, it is estimated that 33% of the homeless population suffers from a mental illness, which is consistent with estimates of the national population (Los Angeles Homeless Services Authority, 2011). It has been suggested that the prevalence of serious mental illness

among the homeless contributes to increased rates of violent victimization and criminality on America's streets (reviewed in Fazel, Khosla, Doll, & Geddes, 2008; McGuire & Rosenheck, 2004); such research points to potential societal and interpersonal implications of the phenomenon of homelessness.

Mental illness as a risk factor for homelessness. Current research remains inconclusive as to the directional nature of the relationship between homelessness and mental illness. Some research has suggested that living with mental illness is a primary risk factor for becoming homeless, as symptoms therefrom can make self-care, household management, problem solving, organized thinking, and self-mobilization extremely challenging (Anderson, 2001; Lamb & Lamb, 1990; National Coalition for the Homeless, 2009; Robertson, 1986; Sullivan, Burnam, & Koegel, 2000). Further research has pointed to the disabling functional deficits of major mental illness, such as disorganized thinking and actions; an inability to seek help; depressed mood; cognitive disorientation; and paranoia, all of which may contribute to an individual's path to homelessness (Lamb & Lamb, 1990). Mental illness may also contribute to a difficulty forming and maintaining stable interpersonal relationships, thereby causing an individual to forego social support networks that may keep him or her housed. In one national survey of homeless families, 12% of respondents cited mental illness as one of the top three causes of their current homelessness (National Coalition for the Homeless, 2009). One study looking at individuals whose first episode of homelessness occurred later in life (after age 65) concluded that older females were more likely than older males to have experienced psychiatric illness prior to homelessness, suggesting mental illness may be a causal factor of homelessness at least within this particular subset of the homeless population (Crane, 1998).

Homelessness as a risk factor for mental illness. Other research suggests homelessness itself might represent an entryway into mental illness, positing a reverse-directionality

hypothesis. Goodman, Saxe, and Harvey (1991) argue that the experience of homelessness is traumatic enough to push an individual toward mental illness. The bleak, isolating, hopeless, and traumatic aspects of living on the street, as well as the constant vigilance required to protect oneself, may be contributing factors for psychopathology. One study found that 60% of homeless adults surveyed who had experienced a major depressive episode had only done so after they first became homeless (Koegel & Burnam, 1992). These findings suggest that the stress and demoralization that accompany the experience of being homeless may precede episodes of mental illness for some persons. Sullivan, Burnam, and Koegel (2000) found that approximately one third of their sample of mentally ill homeless individuals experienced homelessness prior to experiencing mental illness. Even with this data, however, the authors clarify that due to these individuals' homeless status as children, their homelessness in adulthood was more likely "simply a continuation of earlier disruptive and deprived conditions, rather than the direct result of their mental illness" (p. 448). Therefore, existing data seems to only suggest the possibility of a causal relationship at best, and fails to support a hypothesis of homelessness in itself leading to the development of mental illness.

Goodman, Saxe, and Harvey (1991), however, argue there are three reasons homelessness may actually lead to mental illness: First, the loss of one's home is a stressor of such severity that psychological trauma might be indicated; second, the conditions of shelter life often are traumatic in and of themselves; and finally, research indicates many individuals become homeless subsequent to experiencing abuse or assault, leading to psychological trauma. Research on the psychological trauma involved in the experience of being homeless suggests that, "many homeless individuals and families may be suffering both short- and long-term psychological devastation wrought by homelessness itself" (Goodman, Saxe, & Harvey, 1991, p. 1224). While they do not claim outright that homelessness directly causes mental illness, Lamb

and Lamb (1990) report that at the very least homelessness appears to exacerbate mental illness over time.

Homelessness and depression. Some research has suggested that disorders of mood and affect, such as chronic depression or manic episodes, make an individual particularly vulnerable to homelessness (Shore & Cohen, 1992). Mood disorders can lead to lethargy, dysphoria, hopelessness, worthlessness, anhedonia, and even suicidality, which can make meaningful interaction with one's environment particularly challenging. Fischer and Breakey (1991) found that homeless individuals may experience symptoms related to depression and emotional stress approximately two to three times more frequently than their domiciled counterparts. Another study found that three out of four homeless people exhibited symptomatology characteristic of major depression, and 59% were determined to have “probable” major depression, labeling major depression as “perhaps one of the most prevalent mental health problems facing the homeless” (La Gory, Ritchey, & Mullis, 1990, p. 98). La Gory, Ritchey, and Mullis characterize homelessness as “one of the least desirable life circumstances one could imagine, presenting daily difficulties for the individual... leading us to expect significant prevalence levels of depression” (1990, p. 89). Similarly, Wong stated, “The elevated level of depressive symptoms is not an unexpected result given the profound physical deprivations and social isolation associated with the homeless condition and the high incidence of psychiatric disorders among members of this population” (2000, p. 69). Finally, it appears that disorders of mood afflict homeless individuals at higher rates across age brackets, as several studies have also shown significantly higher rates of clinical depression among homeless youth (Ayerst, 1999; Rohde, Noell, Ochs, & Seeley, 2001; Whitbeck, Hoyt, & Bao, 2000). In sum, there appears to be ample research supporting the presence of serious mental illness, particularly mood disorders, among homeless populations, and mental disorders may occur at higher rates and at more severe levels

than in non-homeless populations (Koegal, Burnam, & Farr, 1988).

Depression has been identified as one of the most prevalent psychiatric disorders among the nation's homeless (Ayerst, 1999; Fischer & Breakey, 1991; La Gory, Ritchey, & Mullis, 1990; Rohde, Noell, Ochs, & Seeley, 2001; Whitbeck, Hoy, & Bao, 2000). Depression has been empirically established to be associated with many risk factors, including prolonged periods of social isolation, decreased physical health, malnutrition, and such profound hopelessness as to lead to suicidal ideation and/or attempts (Beck, Steer, & Brown, 1996; Wong, 2000). Wong (2000) found that rates of depression among homeless adults (45% - 80%) are two to four times higher than the general population of the United States, while Schutt, Meschede, and Rierdan (1994) concluded the rates of clinical depression and suicide attempts may actually be two to five times more common among homeless adults than housed adults. One study examining young, homeless substance users concluded that 82% of participants reported symptoms of severe and often chronic depression accompanied by anxiety and aggression, and 43% of participants had previously attempted suicide (Klee & Reid, 1998). Adverse life events are associated with both acute and chronic psychological distress, helplessness, and hopelessness among the general population as well as among homeless persons; the realities of physical vulnerability while living and sleeping on the street, decreased access to health care services, poor health and nutrition, social stigma and marginalization, and exposure to substances and violence often increase the number of adverse life events faced by homeless individuals when compared to the general population (Schutt, Meschede, & Rierdan, 1994). Because of the chaos and instability living on the street often entails, individuals without a permanent residence are often unable to maintain meaningful interpersonal relationships, which have been shown to contribute to overall mental health (Sumerlin, 1995).

Homelessness and Substance Use

Prevalence. When compared to the general, housed population, research shows that adult homeless individuals have a significantly higher rate of substance abuse (Bassuk & Rosenberg, 1988; Mallett, Rosenthal, & Keys, 2005; Rosenthal, Mallett, Milburn, & Rotheram-Borus, 2008; Tam, Zlotnick, & Robertson, 2003). Some research even refers to illicit drug use as being a "common feature" of homelessness (Klee & Reid, 1998), with one study claiming, "homelessness and drug use clearly overlap" (Johnson & Fendrich, 2007, p. S215). Ample research has supported the notion that homeless individuals report a significantly higher rate of substance abuse and dependence than do their housed counterparts (Barber, 1995; Eyrich-Garg et al., 2008; Fazel, Khosla, Doll, & Geddes, 2008; Nooe & Patterson, 2010; Rosenthal et al., 2008). It is estimated that 26% to 57% of homeless individuals nationwide meet DSM-IV-TR criteria for a substance use disorder, and that 34% of homeless individuals in Los Angeles regularly abuse illicit substances (Los Angeles Homeless Services Authority, 2011; National Coalition for the Homeless, 2009; Vangeest & Johnson, 2002; Zuvekas & Hill, 2000). One Los Angeles-based study found that 77% of homeless individuals surveyed reported evidence of a diagnosable chronic substance use disorder (Koegel et al., 1999).

Commonly used substances among the homeless. While researchers have been unable to conclusively identify any one substance as predominant among the very heterogeneous homeless population, alcohol, marijuana, crack-cocaine, barbiturates, opiates, amphetamines, and hallucinogens have been found to be among the most frequently used substances by homeless individuals nationally (Fischer & Breakey, 1991; Moriarty, 2010). The Substance Abuse and Mental Health Services Administration (2006) identified alcohol as the most commonly used substance among the homeless (52%, compared to 42% within the non-homeless population), and found the most commonly used illicit substances among the homeless were

opiates (21%, as compared to 13% within the non-homeless population) and cocaine (17%, compared to 13% of the non-homeless population). One study carried out in both Melbourne and Los Angeles found that polysubstance use was a common practice among the homeless, particularly among homeless youth, as was the practice of drug injection (Rosenthal et al., 2008). A Canadian study determined that crack cocaine (58%) was the most commonly used substance among 196 homeless women, followed by alcohol (53%), cannabis (41%) and finally heroin (30%), and that 58.3% of their sample were dually diagnosed with another psychiatric illness (Torchalla, Strehlau, Li, & Krausz, 2011). A study carried out on Los Angeles' Skid Row which included only homeless males found that the most prevalent substances used were marijuana (56%) and crack cocaine (40%), followed by alcohol (38%) (Rhoades, Wenzel, Golinelli, Tucker, Kennedy, Green, & Zhou, 2011). Researchers from that study concluded that not only was mental illness associated with higher rates of substance use, but that PTSD was most common among those homeless males who used crack cocaine. It also appears that those males whose primary substance of use was marijuana experienced riskier lifestyles (their interpersonal networks comprised a larger proportion of substance users), while homeless male crack cocaine users experienced decreased ties to their families, and associated less with people who were employed or in school. Finally, a recent study carried out among treatment-seeking homeless males residing at URM found that the most frequently reported illicit substances used were crack/crack-cocaine (51.4%) and marijuana (47.3%) (Moriarty, 2010). It is evident there are some inter-study differences with respect to primary substance of abuse among the homeless, however what is clear is the extent to which an array of substances appear to be used among this population. A useful instrument for measuring the degree of use and impact drugs have on an individual's life is the Drug Abuse Screening Test – 20 (DAST-20; Skinner, 1982), a 20-item scale that screens for problematic drug use.

Group differences in substance use among the homeless. There appears to be some variation in primary substance of abuse by ethnicity, according to the Substance Abuse and Mental Health Services Administration's 2006 report on homeless admissions to substance abuse treatment. According to this study, American Indian/Alaskan Natives homeless tended to be admitted to substance treatment to a greater degree than any other ethnic group, and alcohol-related admissions represented 78% of all admissions in their study. Homeless Caucasians tended to abuse alcohol more frequently than other substances (54%), and were the second highest ethnic group to abuse alcohol, followed by Hispanic homeless individuals, 50% of whom were admitted to treatment for alcohol abuse. African American homeless individuals tended to use alcohol (50%) and cocaine (32%) as their primary substances of abuse, and represented the largest ethnic group to abuse cocaine. Finally, Asian/Pacific Islander homeless individuals abused alcohol and stimulants to a near equal degree (38% and 35%, respectively), and represented the ethnic group most likely to be admitted for treatment for abuse of stimulants in this study. Socioeconomic, contextual, and other systemic factors are also likely important in influencing the differences in what substances are abused across major ethnic groups in the United States.

Substance use and alcohol use among the homeless. As previously mentioned, alcohol has been widely reported as the single most frequently used psychoactive substance by the homeless population as a whole (Baer, Ginzler, & Peterson, 2003; Fischer & Breakey, 1991). There is ample research showing that problematic drug use (including misuse of prescription medications) often co-occurs alongside problematic alcohol use (Fischer & Breakey, 1991; Gelberg, Linn, & Leake, 1998; Tessler & Dennis, 1989). As many as one third of all homeless people have concurrent substance and alcohol use disorders, highlighting the significant overlap between alcohol and illicit substance use within this population (Fischer & Breakey, 1991). A

useful instrument for measuring the degree of use and impact alcohol has on an individual's life is the Alcohol Use Disorders Identification Test (AUDIT; World Health Organization (WHO), 2001), a 10-item scale that assesses three conceptual domains: alcohol intake, dependence, and adverse consequences. Reinert and Allen (2002) found the AUDIT to be a reliable, valid, and practical screening tool for alcohol problems with strong sensitivity and specificity.

Course of substance use among the homeless. Substance abuse has been shown to be highly correlated with first-time episodes of homelessness, supporting the notion of a relationship between the variables (Johnson et al., 1997). Interestingly, research has indicated that drug abuse is more strongly associated with first-time homelessness than is alcohol abuse, which may be, at least in part, a reflection of the difference in legal status between these classes of substances (Johnson et al., 1997). Single homeless men are also at higher risk for a substance use disorder than other subgroups of homeless (Toro, Bellavia, Daeschler, Owens, Wall, Passero, & Thomas, 1995). Such high incidence of substance use is particularly concerning for younger homeless populations: National figures indicate illicit drug use is higher for emerging adults (aged 15 to 25 years) than for adolescents or for adults above the age of 26 years, and that these rates are as much as twice as high as those found among non-homeless emerging adults (Baer et al., 2002; Christiani, Hudson, Nyamathi, Mutere, & Sweat, 2008; Thompson, Barczyk, Gomez, Dreyer, & Popham, 2010). Use of substances appears to increase the longer an individual remains homeless, as does a tendency for polysubstance experimentation (Rosenthal et al., 2008).

Substance use as a risk factor for homelessness. Much like the relationship between homelessness and mental illness, the directionality between homelessness and substance continues to be debated (Mallett et al., 2005). Numerous studies have found that the majority of homeless people who are dually diagnosed reported their first episodes of substance use

preceded their first episode of homelessness by at least five years (Drake & Wallach, 1989; Drake, O'Neal, & Wallach, 2008; Lamb & Lamb, 1990). This research also suggests that people who are dually diagnosed are "strongly predisposed to homelessness because their substance abuse and treatment noncompliance lead to disruptive behaviors, loss of social supports, and housing instability" (Drake et al., 2008, p. 1150). Other studies have also proposed substance use may be a strong risk factor for homelessness. In one sample of 28 British participants, all but two of the individuals surveyed specifically cited their substance use as the primary cause of their homelessness (McNaughton, 2008). Participants in the McNaughton study frequently described their substance use as interacting with the episodes of trauma experienced throughout their lives. Another study found that respondents cited their parents' substance use as frequently as they cited their own substance use in explaining their homeless status (Johnson & Fendrich, 2007). Finally, a study by Lawless and Corr (2005) found that 19% of their sample identified substance use as the single primary reason for their becoming homeless.

The "Social Disability" and "Drift Down" hypotheses of the social selection model contend that substance abuse is a direct pathway to homelessness (Johnson et al., 1997). From this perspective, homelessness can essentially be understood as the ultimate culmination of a process during which one's interpersonal, societal, and financial resources are drained as a consequence of substance use (Baum & Burnes, 1993). Eventual homelessness as a result of substance use is understood by some to be the nexus at which ineffective coping with psychological trauma combines with the erosion of material resources (McNaughton, 2008). The "Social Selection" approach also supports the notion that problematic drug users are at increased risk for homelessness due to the exhaustion of resources (Spinner & Leaf, 1992). Further research still cites evidence to suggest that substance use typically precedes homelessness in individuals who are dually diagnosed with certain psychiatric disorders (specifically,

schizophrenia) (Tiet, Finney, & Moos, 2008). Finally, research has suggested that drugs may have actually displaced alcohol as a significant precursor of homelessness for some homeless individuals (Johnson et al., 1997).

Homelessness as a risk factor for substance abuse. Other research suggests that the experience of becoming homeless is a critical factor in an individual's first time substance use, in exacerbating existing substance use behavior, or in the decision to start using substances (Neale, 2001). In one study, one-quarter of all participants indicated that they only began using substances following the onset of their homelessness (Mallett et al., 2005). One possible explanation for this phenomenon is that as individuals stay in temporary or emergency housing shelters, they may be in more regular contact with other substance users and therefore have easier access to illicit drugs (Rhoades et al., 2011). Others support the notion that the loss of one's home, and the subsequent displacement that follows, have been shown to increase the likelihood of substance use (McCarty, Argeriou, Huebner, & Lubran, 1991). The "Social Adaptation Hypothesis" interprets homelessness as a primary risk factor for substance use initiation following the initial episode of homelessness, suggesting early homeless experiences are predictive of subsequent drug use behavior (Johnson & Fendrich, 2007; Neale, 2001). This theory views substance use as a means for adapting to one's experience of being homeless. Finally, some researchers have suggested the "self-medication hypothesis," contending that substance use among the homeless serves as a means of mediating the stress inherent to the homeless experience (Khantzian, 1997; Klee & Reid, 1998; Neale, 2001). Khantzian's Self-Medication Hypothesis of Substance Use Disorders (1997) suggests that substances are taken not necessarily for pleasure-seeking purposes, but rather also "as a particularly successful attempt to assuage painful feelings" (p. 231). One study found that homeless youth reported using substances primarily to relieve stress, anxiety and fear associated with living on the street, as

well as a method by which to establish and maintain interpersonal relationships with other homeless individuals (Mallett et al., 2005). Reliant on principles of operant conditioning, such as reinforcement, this theory suggests that homeless individuals experiencing significant distress may receive positive reinforcement through self-medication using illicit substances.

Several researchers contend that there is a bidirectional relationship between substance use and homelessness, wherein the use of drugs both precedes and follows one's experience of becoming homeless (Fischer & Breakey, 1991; Johnson et al., 1997; McCarty et al., 1991; Neale, 2001; Nooe & Patterson, 2010). Whether research can conclude at the present time the directional nature between homelessness and substance use, McNaughton states, "research into the causes of homelessness highlights that substance use is a key factor that precipitates and exacerbates it" (2008, p. 178).

Impact of substance use among the homeless. Whether the use of substances leads to or is the result of homelessness, what is clear is the immense impact substance use among the homeless has on individuals, their families, and society. The impact of substance abuse among the homeless has financial implications as well as interpersonal ones. It is estimated that the average homeless person spends, on average, four days longer per hospital visit than the housed individual, a cost that averages \$2,414 per hospitalization (National Alliance to End Homelessness, 2011). Lengthier hospitalization times are required for the treatment of substance addiction; one study found that the average cost to hospitals in the state of California nearly doubles when treating a substance-using individual who is not in treatment (\$14,740) when compared to an individual in treatment (\$8,360) (National Alliance to End Homelessness, 2011). These figures extend to the homeless population, the vast majority of whom are not actively involved in substance abuse treatment programs, either by choice, lack of insurance, lack of opportunity, or other barriers to treatment (Koegel et al., 1999; Tucker, Wenzel, Golinelli, Zhou,

& Green, 2011; Wenzel et al., 2001). A recent study carried out in Los Angeles found that taxpayers save nearly \$80,000 annually in substance abuse and mental health costs for every four chronically homeless people who are placed into permanent supportive housing (Sadowski, Kee, VanderWeele, & Buchanan, 2009).

In addition to the costly financial burden of substance-addicted homeless individuals, there also appears to be a significant societal impact. Research has repeatedly suggested substances are likely a primary player in the prevalence of violence, for both homeless and housed individuals alike (Friedman, 1998; Johnson, Williams, Dei, & Sanabria, 1990; McBride & McCoy, 1993; Testa, 2004; White, Loeber, Stouthamer-Loeber, & Farrington, 1999). The Psychopharmacological Model of Violence posits that individuals' impulses to act out violently are a direct result of either short- or long-term substance abuse (Goldstein, 1985). Other theories point to the illegal nature of drugs, and the means by which individuals attain them, as essential components of the "crime-terror nexus" (Cornell, 2007; Coumans & Spreen, 2003; McCarthy & Hagan, 1991). Additionally, low-paying but legal jobs may give way to the enticements of the high, fast returns of dealing drugs (Fairlie, 2002; Johnson et al., 1990). Finally, research has suggested the weakening of family relationships may be due in part to the increase in substance use, especially among low socioeconomic populations, which may be a contributing factor to the presence of violence among the homeless (Johnson et al., 1990; Kaplan, Martin, & Robbins, 1984).

Homelessness and Dual Diagnosis

Definition and prevalence. While homeless individuals diagnosed with either a psychiatric illness or a substance use disorder appear to already be at a significantly higher risk for homelessness, those dually diagnosed with both a psychiatric illness and a substance use

disorder may face even graver obstacles. The term "dual diagnosis" refers to the presence of both a substance use disorder and any other major psychiatric disorder, and is believed to afflict at least 10%-20% of the homeless population (Drake, O'Neal, & Wallach, 2008; Sheehan, 1993). Tsemberis, Gulcur, and Nakae (2004) posit that, particularly with members of the chronically homeless, co-occurring mental illness compounded by substance use disorders is "typical" (p. 651). Three studies analyzing the rate of mental disorders co-occurring with substance use disorders nationally among the general population ranged from 1.7% to 2.5%, while mental disorders co-occurring with alcohol or drug use disorders ranged in prevalence from 8% to 31.1% among the homeless (Tessler & Dennis, 1989). One Los Angeles-based study found that as many as 77% of homeless individuals surveyed who reported chronic mental illness also reported chronic substance use disorders (Koegel et al., 1999), evidencing the tremendous crossover among psychiatric illness and substance abuse among the homeless. In Los Angeles, it has been estimated that homeless people are more than twice as likely than non-homeless people to have both a six-month and a lifetime incidence of a DSM-III substance use disorder (Koegel et al., 1988). RachBeisel, Scott and Dixon (1999) found that while estimates of the prevalence of substance use disorders among the homeless may vary to a certain extent, "a higher prevalence [of substance use disorders] among persons with severe mental illness has been confirmed" (p. 1427), further supporting the notion that there is a strong prevalence of dually diagnosed individuals among the homeless.

Theorized causes of dual diagnosis among the homeless. There are multiple theorized causes of dual diagnosis, which include self-medication, biological or genetic vulnerabilities, underlying shared origins, shared neural pathways, environment, and an individual's chosen lifestyle (Buckley, 2006). One hypothesis about the development of dual diagnosis is that mental disorders lead to the onset, maintenance, or persistence of substance use disorders primarily

through exposure mechanisms (often associated with Axis I disorders, such as Conduct Disorder, as well as Axis II disorders, such as Antisocial Personality Disorder), disinhibition (associated primarily with impulse control disorders), dysphoria (associated primarily with major mood disorders), and self-medication (associated with a decreased tolerance of uncomfortable affect states) (Kessler, 2004). Another hypothesis that has been supported by empirical research identifies the interaction of biological and environmental factors as the mechanism of dual diagnosis development; specifically, biological mechanisms (for example, heavy and prolonged use of methamphetamine resulting in a panic attack) combined with environmental mechanisms (increased substance use resulting in increased distress, worry, and panic, and decreased opportunities for developing effective coping strategies for managing such distress) (Kessler, 2004). Finally, deinstitutionalization has been cited as a primary reason for the increase in dually diagnosed homeless individuals in the twentieth century, with some blaming the exposure of cognitively or emotionally unstable individuals to such drugs as crack cocaine (Dixon, 1999).

Consequences of dual diagnosis among the homeless. There appear to be as many consequences of dual diagnosis as there are possible contributing factors. The identified consequences of living with dual diagnosis disorders have included: poor treatment compliance (Buckley, 2006; Drake et al., 2008; Pristach & Smith, 1990), poor response to psychiatric medication (Bowers, Mazure, Nelson, & Jatlow, 1990), poor health and an array of physical comorbidities (such as damage to the liver or brain function) (Buckley, 2006), decreased self-care (Buckley, 2006; Drake et al., 2008), increased vulnerability for mood disorders (Drake et al., 2008), heightened psychiatric symptomatology (Carey, Carey, & Meisler, 1991), increased risk for suicidality or aggressive acting out (Buckley, 2006), higher rates of rehospitalization (Brady, Anton, Ballenger, Lydiard, Adinoff, & Selander, 1990; Drake & Wallach, 1989), increased high-risk sexual behavior (Buckley, 2006; Drake et al., 2008), increased likelihood of

incarceration (Buckley, 2006), and significantly increased likelihood of attempting suicide (Dhosshe, Meloukheia, & Chakravorty, 2000). Other studies have found that dually diagnosed homeless individuals are more likely to experience "extremely harsh living conditions" and to live on the street, versus in a shelter, than non-dually diagnosed homeless individuals (Drake et al., 2008). Psychological distress and demoralization have been identified as direct consequences of being homeless and dually diagnosed, and are associated with granting sexual favors for food and money, resisting help or intervention, and a decreased ability to recognize potential victimization by others (Drake et al., 2008; Koegel et al., 1988). The course of illness tends to be longer in duration in dually diagnosed homeless individuals, which results in even more devastating effects, as treatment interventions are often less effective with dual diagnoses than singular diagnoses (Kessler, 2004).

Drug Abuse Screening Test-20 (DAST-20)

Given the pervasiveness of substance abuse problems among the homeless, it is essential that psychologists working with the homeless have access to valid and reliable measures for the assessment of substance abuse. The Drug Abuse Screening Test-20 (DAST-20; Gavin, Ross, & Skinner, 1989) is widely regarded as a promising screening tool for the detection of problematic substance abuse among treatment-seeking individuals (Cocco & Carey, 1998). The DAST-20 has been found to have excellent internal consistency ($\alpha = .95$), good test-retest reliability (.78), good discriminant validity, near perfect concurrent validity with the original, longer version of the test, the DAST-28 ($r = .99$), and strong sensitivity (89% to 74%) and specificity (68% to 83%) (Cocco & Carey, 1998; Staley & El-Guebaly, 1990). The DAST-20 has also been shown to correlate significantly with the Alcohol Use Disorders Identification Test (AUDIT) ($r = .41$), considered an effective screening method for alcohol-related problems (Reinert & Allen, 2002;

Yudko, Lozhkina, & Fouts, 2007). Research has evaluated the psychometric utility of various versions of the DAST with a variety of populations, including psychiatric inpatients (Cocco & Carey, 1998; Maisto, Carey, Carey, Gordon, & Gleason, 2000; Staley & El Guebaly, 1990); prison inmates (Peters et al., 2000); individuals seeking substance-abuse treatment (Gavin et al., 1989); persons in professional and workplace settings (El-Bassel et al., 1997); primary care patients (Maly, 1993); and also among homeless men in residential treatment for substance abuse (Moriarty, 2010). Despite several evaluations of the measure among a variety of populations, more research is still warranted with respect to the DAST-20's utility among the homeless. Specifically, additional consideration of the test's reliability and validity when used among ethnically diverse homeless persons is needed. The purpose of this study was to examine this widely used measure of drug use and in a sample of treatment-seeking homeless males in a Christian-based homeless shelter on Los Angeles' Skid Row.

Research Questions and Hypotheses

There were several goals for this study. The first goal was to obtain current demographic and psychosocial information pertaining to treatment-seeking homeless men residing in a faith-based shelter. More research is needed on homeless persons in treatment, so collecting such data will permit the researcher to compare her findings with other published studies. Therefore, the research question associated with this goal was: What are some of the pertinent demographic and psychosocial characteristics of homeless men seeking psychological services at a homeless shelter in Los Angeles?

Secondly, the study sought to understand how treatment-seeking homeless men perform on the DAST-20. Given the abundance of research suggesting a strong correlation between homelessness and substance abuse, the research question associated with this goal was: How do

homeless men seeking services at a homeless shelter in Los Angeles perform on a measure of illicit substance abuse?

A third goal of the study was to evaluate evidence for the reliability and validity of the DAST-20 as a measure of illegal drug abuse among homeless men seeking mental health treatment. The specific research question associated with this goal was: To what extent do DAST-20 scores administered to treatment-seeking homeless males align with reported substance use on an intake application form? The associated hypothesis for this research question was: DAST-20 scores will be positively associated with the intake form's self-report ratings of severity of illicit drug abuse.

As depression has been shown to be a prominent mental disorder experienced by homeless persons, a goal of the study was to investigate the extent to which symptoms of depression correlate with reported drug abuse among treatment-seeking homeless men. The related research question aimed at this goal was: How do DAST-20 scores relate to a widely used measure of depressive symptoms among treatment-seeking homeless men? The depression measure utilized for this study was the Beck Depression Inventory, Second Edition (BDI-II; Beck et al., 1996). It was hypothesized that DAST-20 scores will be positively correlated with BDI-II scores.

Research has pointed to the strong overlap between illegal drug use and alcohol use among homeless individuals. The study explored the extent to which self-reported drug use history overlapped with self-reported alcohol use history among treatment-seeking homeless men. The research question was: How do DAST-20 scores relate to a widely used measure of alcohol abuse among treatment-seeking homeless males? The alcohol abuse measure utilized was the Alcohol Use Disorders Identification Test (AUDIT; WHO, 2001). It was hypothesized that DAST-20 scores will be positively correlated with AUDIT scores.

Chapter 2: Method

Research Design

An important goal of the present study was to provide descriptive information about homeless men in residential treatment who are seeking psychological services. More research is needed on the homeless, so this study provided an opportunity to add to our understanding of demographic and background variables among the homeless. This study implemented a correlational design. This method of research allows the researcher to observe covariation between variables and examine whether the variables correlate or vary together (Cozby, 2009). Correlational research design is considered nonexperimental research, as variables are not under the researcher's direct manipulation or control. This archival study examined covariation in three main areas: First, the relationship between DAST-20 scores and self-report ratings of severity substance abuse from an Intake Evaluation Form was examined. Second, the study examined the relationship between DAST-20 scores and BDI-II scores. Finally, the study explored the relationship between DAST-20 and AUDIT scores. Other analyses were also conducted, including calculation of internal consistency reliability of the DAST-20.

Setting

The present study was carried out at the Union Rescue Mission (URM), a Christian-based homeless shelter in the Central City East area of Los Angeles. The researcher obtained access to a de-identified database that was gathered from shelter residents who sought psychological treatment at the Jerry Butler/URM-Pepperdine University Community Counseling Center. The center is open to all residents and guests of the mission, though most counseling center clients are engaged in the Christian Life Discipleship Program (CLDP). CLDP is a one-year, residential substance abuse treatment program for men. The counseling center, which opened in January 2001, is staffed by Doctor of Psychology (Psy.D.) students from Pepperdine University's

Graduate School of Education and Psychology (GSEP). Each student is supervised by a licensed clinical psychologist for the duration of her or his clinical training at URM.

Participants

This study gathered archival data from a de-identified database that contained intake information and supporting materials for 86 adult males. Each of the men represented in the archive completed, either partially or in full, the DAST-20, AUDIT, and BDI-II, in addition to the intake evaluation form. Assuming a medium effect size and the .05 level of significance, a power analysis (Cohen, 1992) indicated that 64 subjects would be needed to have adequate power to conduct a mean difference test, and 85 would be needed to detect a significant correlation. Therefore, it appeared that the archival database had a sufficient number of subjects for the present study.

All Intake Application Forms were completed by the treatment-seeking homeless men prior to the initial intake interview. Seeking psychological services at the center was an optional, voluntary activity, though in some cases program directors, chaplains, or other staff members at the mission encouraged guests or residents to obtain counseling as part of their substance abuse recovery program. Only those individuals who voluntarily consented to allow their deidentified data to be available for future research studies were included in the database.

The first goal of the present study was to identify pertinent demographic and psychosocial characteristics of homeless men seeking psychological services at a homeless shelter in Los Angeles. Of the 86 subjects who reported their age at the time of intake, the mean age was 43.08 years ($SD = 11.556$), and the range was 20 to 64 years. Thirty-seven (43.0%) of the subjects identified as African American, 21 (24.4%) indicated they were Caucasian, 18 (20.9%) identified as Hispanic/Latino, five (5.8%) indicated they were Native American, and

five (5.8%) identified as multiethnic. Of the 85 participants who reported their educational history, one participant (1.2%) reported completing elementary school; 10 (11.8%) reported completing junior high school; 19 (22.4%) reported completing senior high school; 30 (35.3%) reported obtaining a Graduate Equivalency Diploma (GED), 18 (21.2%) reported completing some college courses, , and seven (8.2%) reported obtaining a college degree and one. Of the 84 participants who reported their marital status, nine (10.7%) stated they were married; nine (10.7%) identified as separated; 21 (25.0%) reported being divorced; and 45 (53.6%) indicated they were single at the time of intake.

Sixty-nine of the study subjects reported their occupational history in the three years prior to the time of intake. Please see Table 1 for participants' occupational history as recorded at time of intake. The most frequently mentioned types of employment in the prior three years were service industry and professional/technical/managerial jobs, while 23% of those reporting indicated they had been unemployed.

Table 1

Participants' Occupational History

Service Industry	Unemployed	Professional, Technical, Managerial	Clerical/Sales
21 (30.4%)	16 (23.2%)	14 (20.3%)	7 (10.1%)
Miscellaneous	Processing	Machine Trade	Structural Labor
4 (5.8%)	3 (4.3%)	3 (4.3%)	1 (1.4%)

Seventy-three participants indicated their legal history at the time the initial intake was conducted. Forty-seven (65.3%) reported a history of having been incarcerated at some point in the past, while seven (9.7%) indicated they had been arrested but never been to jail, and 18 (25.0%) stated they had no history of arrests or incarcerations.

Eighty-five of the participants responded to an item asking them to list “the drugs and substances, including alcohol and prescription medications, that you have used and abused the most in your life.” Thirty-two (37.6%) identified alcohol, 12 (14.1%) listed crystal methamphetamine, 11 (12.9%) reported marijuana, ten (11.8%) identified crack cocaine, nine (10.6%) listed [powder] cocaine, five (5.9%) reported heroin, two (2.4%) identified hallucinogens, one (1.2%) listed “other,” and three (3.5%) indicated they had not used or abused drugs and substances in the past.

Of the 86 subjects included in this study, 66 reported specific psychological concerns to the mental health provider at the time of the intake evaluation. Fifteen (22.7%) presented with mood complaints, 11 (16.7%) with concerns related to substance use, 11 (16.7%) with identity and existential issues, eight (12.1%) with relational difficulties, three (4.5%) with concerns about anger, three (4.5%) with interpersonal problems, and one (1.5%) with issues related to a trauma. Fourteen (21.2%) of these 66 respondents presented with a primary concern that did not fall into these categories, nor did they fall into several of the other commonly reported presenting problems (such as anxiety, psychosis, somatic complaints, grief, or religious concerns). The sample utilized in the present study was found to be demographically similar to the sample utilized in a prior study carried out at the URM that analyzed the relationship of trauma history, substance abuse, and religious coping style to trauma symptoms among homeless men in residential treatment (Moriarty, 2011).

At the time of intake for all participants, the version of the Diagnostic and Statistical Manual utilized was the Fourth Edition, Text Revision (DSM-IV-TR). Sixty-three of the participants were diagnosed with a primary diagnosis on Axis I. Sixty-two of the subjects were also coded for a second, third, and/or fourth diagnostic impression on Axis I, and 61 participants for a fifth Axis I diagnosis. Please see Table 2 for the Axis I diagnoses assigned. Substance use disorders and major depressive disorders were the most frequently occurring primary diagnoses.

Table 2

DSM-IV-TR Axis I Diagnoses at Time of Intake

Diagnosis	Primary Axis I Diagnosis Freq (%)	2nd Axis I Diagnosis Freq (%)	3rd Axis I Diagnosis Freq (%)	4th Axis I Diagnosis Freq (%)	5th Axis I Diagnosis Freq (%)
Substance Dependence	32 (50.8)	20 (32.3)	14 (22.6)	3 (4.8)	1 (1.6)
Major Depressive Disorder	6 (9.5)	5 (8.1)	2 (3.2)	3 (4.8)	0 (0.0)
Substance Abuse	5 (7.9)	6 (9.7)	4 (6.5)	2 (3.2)	0 (0.0)
V-Code	4 (6.3)	3 (4.8)	2 (3.2)	2 (3.2)	1 (1.6)
Schizophrenia	3 (4.8)	2 (3.2)	0 (0.0)	0 (0.0)	0 (0.0)
Other	3 (4.8)	2 (3.2)	0 (0.0)	1 (1.6)	0 (0.0)
Posttraumatic Stress Disorder	2 (3.2)	0 (0.0)	1 (1.6)	0 (0.0)	0 (0.0)
No Diagnosis	2 (3.2)	16 (25.8)	35 (56.5)	51 (82.3)	57 (93.4)
Rule Out	2 (3.2)	6 (9.7)	3 (4.8)	0 (0.0)	2 (3.3)
Diagnosis Deferred	2 (3.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

Depressive Disorder	1 (1.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Not Otherwise Specified					
Psychotic Disorder Not Otherwise Specified	1 (1.6)	1 (1.6)	1 (1.6)	0 (0.0)	0 (0.0)
Bipolar I Disorder	0 (0.0)	1 (1.6)	0 (0.0)	0 (0.0)	0 (0.0)

Sixty-two participants also had a diagnostic impression or some other entry regarding Axis II at the time of the initial intake. Please see Table 3 for Axis II diagnoses and entries assigned at intake. Most commonly, the diagnosis was deferred on Axis II, though four participants were diagnosed with antisocial personality disorder.

Table 3

DSM-IV-TR Axis II Diagnoses at Time of Intake

Diagnosis	Axis II Diagnosis Frequency (%)
Diagnosis Deferred	25 (40.3)
No Diagnosis	23 (37.1)
Antisocial Personality Disorder	4 (6.5)
Rule Out	3 (4.8)
Other	2 (3.2)
Paranoid Personality Disorder	1 (1.6)
Schizoid Personality Disorder	1 (1.6)
Schizotypal Personality Disorder	1 (1.6)

Borderline Personality Disorder	1 (1.6)
Narcissistic Personality Disorder	1 (1.6)

Instruments

Counseling Center Intake Application Form (IAF). The Intake Application Form (IAF) refers to the intake document utilized at the counseling center during the time of this study. It is a four-page questionnaire each individual seeking psychotherapy services at the center completed prior to the commencement of treatment. Responses are provided in the form of fill-in-the-blank, Likert-scales, yes-no/true-false responses, and problem checklists. In addition to demographic data, the IAF asks for information regarding psychosocial history, substance use history, educational and vocational history, legal history, and presenting problems. The purposes of the IAF are to summarize presenting and background information that can be used by clinicians to help determine if psychotherapeutic services are appropriate for the applicant at that time; aid the intake therapist in obtaining more detailed information during the subsequent intake interview; aid the treating therapist in determining treatment goals and treatment planning; and to serve as a record of baseline functioning at the time mental health services were sought.

The second page of the IAF inquires about the treatment-seeking individual's mental health and substance use history. In addition to asking the applicant whether he/she has a substance abuse problem, the application asks him or her to rate how serious his/her alcohol problems have been during the past 12 months, and how serious his/her drug problems have been in the past 12 months. The Likert scale ranges from 1 (No problems at all/not applicable), to 3 (Moderate problems), to 5 (Severe problems). The application form asks the applicant to specifically list the drugs and substances, including alcohol and prescription medications, that

he/she has most used and abused throughout his/her life. The applicant also indicates whether he/she has attended any recovery programs, such as Alcoholics Anonymous (AA), Narcotics Anonymous (NA), prison drug treatment programs, or while residing at other shelters. Finally, the IAF provides the applicant with a checklist of 38 common problems or concerns for which people seek therapy, and asks the applicant to rate his/her current problems and reasons for seeking treatment. Two of the “current problems” listed are “Use/abuse of alcohol or drugs,” and “Concerns about staying clean & sober.”

Drug Abuse Screening Test-20 (DAST-20). One of the most widely used instruments for assessing the extent of an individual's substance use in a clinical setting was developed by Harvey Skinner, Ph.D., in 1982. The Drug Abuse Screening Test (DAST) is a 28-item self-report measure designed to identify the various consequences of substance use, and formulate a quantitative index of an individual's problems related to drug misuse (Skinner, 1982). The items selected for inclusion on the DAST were pulled primarily from the Michigan Alcoholism Screening Test (MAST), which, although shown to be effective in the assessment of alcohol misuse, provides no information regarding other substances (Skinner, 1982). The DAST is considered a "generic" drug screen, in that the instructions indicate "drugs" as applying to twelve broad categories of drugs (excluding alcohol), rather than any one substance in particular (Alexander & Leung, 2006). The DAST-20, a 20-item version of the original 28-item measure, consists of items the respondent answers “yes” or “no.” Eighteen of the 20 items are keyed in the “yes” direction; items 4 and 5 are keyed “no.” All DAST-20 items are related to substance misuse and yield a quantitative index of distress or disturbance related to such misuse.

The DAST was originally evaluated using a clinical sample of 223 individuals (72% male, 28% female) at the Addiction Research Foundation Clinical Institute (Skinner, 1982). All of the individuals included in the sample were voluntarily seeking treatment at the time of the

study: 58.6% for problems related to alcohol, 25.4% for problems related to substances, and 16% for problems related to both alcohol and substances. The normative sample had a mean age of 32.47 years (SD = 11.17). The modal relationship status classification was single, identified by 40% of the subjects. Just under 29% identified as divorced or separated, while 18% indicated they were never married. Nearly 47% of the sample had completed some high school, while 17% were high school graduates at the time of the evaluation. Additionally, 47.6% of the sample reported they were unemployed at the time the evaluation was carried out. In regard to current and past employment, 36% were laborers, 19% were clerical workers, and 17% were skilled workers. Of those individuals seeking treatment for problems related to both alcohol and substances, the mean age of “first steady use of drugs” was 20.75 years (range = 11-59 years). Of the sample, 193 individuals (86.5%) reported having used substances at some time in the past. The most frequently reported “drugs first used” included cannabis (43.5%); barbiturates, sedatives, and tranquilizers (20.2%); hallucinogens (13.5%); and amphetamines (11.9%).

The DAST-20 utilized at URM presents straightforward instructions for completion, making explicit the assessment’s definition of “drug abuse,” as well as specific inclusion and exclusion criteria:

The following questions concern information about your potential involvement with drugs, not including alcoholic beverages, during the past 12 months (before you came to the mission). Carefully read each statement and decide if your answer is answer is “Yes” or “No”. Then, circle the appropriate response beside the question.

The DAST-20 includes a variety of questions designed to address physiological dependence and withdrawal symptoms as a result of substance use, increased consumption of substances over time, unsuccessful efforts to decrease or control substance use, the amount of time an individual spends obtaining, using, or recovering from the effects of substances,

impairment in social, occupational, or recreational activities as a result of substance use, and failure to discontinue use despite knowledge of adverse effects of the substance (American Psychiatric Association, 2000). Staley and El-Guebaly (1990) determined the DAST-20 to be a predominantly unidimensional scale reflecting a five-factor continuum of drug abuse: (1) self-recognition of a drug problem, (2) serious social consequences of drug use, (3) help-seeking for drug abuse, (4) illegal drug-related activities, and (5) inability to control drug use. Examples of questions on the DAST-20 include, “Are you always able to stop using drugs when you want to?” “Have you had ‘blackouts’ or ‘flashbacks’ as a result of drug use?” “Have you even been in trouble at work because of your drug use?” and “Have you ever engaged in illegal activities in order to obtain drugs?” (Skinner, 1982).

Scores on the DAST-20 are broken into five discrete categories: a score of 0 out of 20 indicates “None,” indicating there is no evidence of substance abuse according to the individual’s self-report. Recommended actions for this level of severity are to “Monitor” the individual. Scores of 1 to 5 out of 20 indicate a “Low” level of problems related to drug abuse, and suggested actions include “Brief Counseling” for the individual. Scores of 6 to 10 out of 20 indicate there may be an “Intermediate” level of problems related to drug abuse, and accordingly recommend “Intensive Outpatient” treatment. Scores of 11 to 15 out of 20 are indicative of “Substantial” problems that may be related to drug abuse, and “Intensive” treatment may be warranted. Finally, scores of 16 to 20 out of 20 suggest “Severe” problems related to substance abuse and likewise warrant “Intensive” treatment interventions (Skinner, 1982).

The DAST-20 has been shown to correlate almost perfectly ($r = .99$) with the original DAST, but in a briefer, and therefore easier to administer form (Cocco & Carey, 1998; Skinner, 1982). In addition, it appears the DAST-20 and an even briefer version, the DAST-10 (a 10-item adaptation of the original DAST), are also highly correlated with one another ($r = .97$) (Cocco &

Carey, 1998; Skinner, 1982). Whereas the DAST-20 has been shown to have very strong internal consistency reliability (alpha) with both a general sample and a drug-abuse sample (0.95 and 0.86, respectively), the DAST-10, on the other hand, does not have as strong an internal consistency reliability as the DAST-20, with respect to both a general sample and a drug-abuse sample (0.92 and 0.74, respectively) (Cocco & Carey, 1998). Staley and El-Guebaly (1990) conclude the DAST-20 has “exhibited valid psychometric properties” and is a “sensitive screening instrument for the abuse of drugs other than alcohol” (p. 260). Given the excellent internal consistency reliability, and the near perfect correlation with the parent scale, the briefer DAST-20 emerges as an especially promising tool for the assessment of drug abuse.

In addition to its brevity and excellent internal consistency reliability, Cocco and Carey (1998) demonstrated that the DAST-20 is highly correlated with other assessment tools measuring alcohol and drug use (i.e., Michigan Alcohol Screening Test, the CAGE Questionnaire, and Addiction Severity Index). The properties of the assessment measure were standardized on a clinical sample of 256 individuals seeking treatment for drug and alcohol misuse; 25.4% of the sample were referred for comprehensive assessment at the Clinical Institute of the Addiction Research Foundation, and 16% for both drug and alcohol struggles (Skinner, 1982). Multiple reviews of the measure have determined that the DAST demonstrates strong construct, criterion, and discriminative validity, as well as reliability measures such as coefficient α , inter-item and item-total correlations, and test-retest reliability (Bohn, Babor, & Kranzler, 1991; Cocco & Carey, 1998; Maisto et al., 2000; Staley & El-Guebaly, 1990; Yudko et al., 2007). Given strong validity and reliability properties have been evidenced for the DAST, Bohn et al. (1991) concluded, “routine DAST screening of patients seeking substance abuse treatment is warranted.”

The DAST, DAST-20, DAST-10, Drug Abuse Screening Test-Adolescent (DAST-A), as well as the DAST Spanish Language and DAST French Language, both in development, have been shown to be valid and reliable instruments for quantifying substance use within a wide variety of diverse populations, including people with substance or alcohol disorders (Gavin et al., 1989; Skinner, 1982), psychiatric inpatients and outpatients receiving psychiatric care (Carey, Carey, & Chandra, 2003; Cocco & Carey, 1998; Maisto et al., 2000; Staley & El-Guebaly, 1990), treatment-seeking adults at a clinic specializing in adult attention-deficit/hyperactivity disorder (ADHD) (McCann, Simpson, Ries, & Roy-Byrne, 2000), union workers who either admitted or denied substance use (El-Bassel et al., 1997), narcotics users (Skinner & Goldberg, 1986), Canadian female offenders in jail or on probation (Saltstone, Halliwell, & Hayslip, 1994), pre-adolescent and adolescent youth both enrolled in a substance abuse treatment program and those from a private pediatric practice (Klitzner, Schwartz, Gruenwald, & Blasinsky, 1987; Martino, Grilo, & Fehon, 2000), minority women engaged in relationships characterized by intimate partner violence (El-Bassel et al., 2003), mothers of young children with a substance use disorder (Kemper, Greteman, Bennett, & Babonis, 1993), inpatient substance abusers (Bohn et al., 1991), and individuals diagnosed with depressive disorders comorbid with cocaine dependence (Kush & Sowers, 1997).

One of the foremost studies on the psychometric properties of the DAST suggests the sensitivity of the DAST-20 may vary significantly according to the population being studied, positing, "Another area of future research may attempt to expand the utility of the DAST by measuring its validity in nonclinical populations" (Yudko et al., 2007, p. 197). The results from Yudko, Lozhkina, and Fouts' study suggest that the development of unique DAST cutoff score ranges for certain populations is critical, as those cutoff guidelines presently implemented may not be accurate for all populations. While the validity of the DAST-20 has been tested among

homeless populations in Canada and Ireland, such studies are minimal among homeless populations in the U.S. (Aubry, Klodawsky, Coulombe, & Mills, 2004; Lawless & Corr, 2005). One recent study at URM measured the prevalence of trauma, the extent of trauma symptoms, religious coping styles, and the degree of self-reported substance abuse among homeless men in residential treatment (Moriarty, 2010). The sample included 98 male participants between the ages of 21 and 61 years, with a mean age of 42.54 years ($SD = 10.719$). Forty-nine (50.5%) of the sample identified as African-American, 22 (22.4%) identified as Caucasian, 23 (23.5%) identified as Latino, three (3.1%) identified as Asian/Pacific Islander, and one (1%) identified as Native American. Alcohol was the most frequently reported substance among the sample (82.8%), followed by crack-cocaine (51.6%), marijuana (47.3%), methamphetamines (13.9%), speed (11.8%), heroin (7.5%), hallucinogens (4.3%), and ecstasy (2.2%). Just over 3% of the sample indicated they did not use or abuse any substances. Over half of the sample (52%) reported having sought previous alcohol or substance abuse treatment in the past. DAST-20 scores ranged from 0 to 20 out of 20, with a mean of 12.31 ($SD = 5.116$), indicating a “Substantial” level of problems that may be related to drug abuse, according to interpretation guidelines. Most (86.6%) of the participants’ scores fell within the interpretive ranges of “Moderate,” “Substantial,” or “Severe” drug abuse.

Results were similar for measures of problematic alcohol use, with 34.7% of the sample reporting “High” levels of alcohol abuse and 35.7% reporting “Medium” levels of alcohol abuse, congruent with research supporting the high rate of overlap between drug and alcohol use among homeless individuals. The mean AUDIT score for Moriarty’s (2010) sample was 13.08 ($SD = 9.791$), indicating “Moderate” alcohol problems (WHO, 2001). Additionally, the DAST-20 was shown to be positively correlated with measures of trauma in treatment-seeking homeless males, specifically, with measures of anger/irritability, sexual concerns, impaired self-reference,

dysfunctional sexual behaviors, and tension reduction behaviors. Despite this important evaluation of the DAST-20 with treatment-seeking homeless males, a limitation of the study was that it did not report internal consistency reliability of the measure.

Alcohol Use Disorder Identification Test (AUDIT). The AUDIT is widely used instrument used for distinguishing low-risk drinkers from those who engage in harmful drinking behaviors (WHO, 2001). In fact, it has been determined to be a particularly strong screening tool for a wide range of alcohol problems when compared to other alcohol use screeners, such as the CAGE Questionnaire or the Michigan Alcohol Screening Test (MAST) (Fiellin, Carrington, & O'Connor, 2000). The AUDIT consists of 10 questions related to recent alcohol use, symptoms indicative of alcohol dependence, and problems related to one's use of alcohol (WHO, 2001). Rather than answer in a "yes" or "no" manner, the AUDIT asks respondents to score their answers on a 0 to 4 scale; accordingly, scores on this measure can range from 0 to 40. Research supports cut-offs between 0 to 7 as indicating an absence of alcohol problems to a low degree of alcohol problems, 8-15 indicating moderate alcohol problems, and scores of 16 to 40 indicating a high level of alcohol problems (WHO, 2001).

The AUDIT is organized into three domains, each of which contains unique items indicative of harmful or hazardous alcohol consumption or alcohol dependence: (1) Hazardous Alcohol Use (frequency of drinking, typical quantity, and frequency of heavy drinking); (2) Dependence Symptoms (impaired control over drinking, increased salience of drinking, and morning drinking); and (3) Harmful Alcohol Use (guilt after drinking, blackouts, alcohol-related injuries, and others concerned about drinking) (WHO, 2001, p. 11).

Sensitivity and specificity analyses of the AUDIT have proven promising. Overall sensitivity for "hazardous alcohol use" (defined as "a pattern of alcohol consumption that increases the risk of harmful consequences for the user or others") and "harmful alcohol use"

(defined as “alcohol consumption that results in consequences to physical and mental health) (WHO, 2001, p. 5) is 87% to 96%, with an overall value of 92% (Saunders, Aasland, Babor, de la Fuente, & Grant, 1993). The AUDIT’s demonstrated specificity for hazardous and harmful alcohol use was 81% to 98%, with an overall value of 94% (Saunders et al., 1993). The AUDIT also demonstrated a strong capacity for discriminating between known alcoholics and non-users, as well as between individuals with hazardous or harmful alcohol use and those who consumed alcohol in a non-hazardous or non-harmful manner (Saunders et al., 1993).

One of the features that makes the AUDIT particularly unique when compared to other alcohol screening measures is its cross-national standardization. The AUDIT was validated on patients in six countries around the world, and is currently the only alcohol screening test specifically designed for international use (WHO, 2001). This cross-national data set is a unique feature of the AUDIT, and sensitivity and specificity analyses have shown to be similar from country to country, with “no evidence of dominance by any particular culture as judged by these parameters” (Saunders et al., 1993, p. 800). Another advantage of the AUDIT is its ability to identify less severe problem drinkers, as opposed to simply identifying only people with established alcohol dependence (Saunders et al., 1993). This may be due to the fact that answers are not given in a “yes” or “no” format, but are rather quantified on a frequency scale, from “never” to “daily.” It is possible such frequency reporting may reduce under-reporting of adverse effects (Saunders et al., 1993). Additionally, the AUDIT places decreased emphasis on drinking behavior and adverse consequences of drinking behavior, and more emphasis on hazardous consumption and frequency of intoxication (Saunders et al., 1993). In sum, it has been determined that the “AUDIT provides a simple method of early detection of hazardous and harmful alcohol use” (Saunders et al., 1993, p. 791).

Beck Depression Inventory-II (BDI-II). The Beck Depression Inventory (BDI) is a 21-item, multiple-choice, self-report measure of depression severity originally authored by Aaron T. Beck (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961; Beck, Steer, & Garbin, 1988). The scale is used to measure depressive symptoms in individuals over the age of 13 years, and requires a fifth- to sixth-grade minimum reading level (Groth-Marnat, 2003). The original Beck Depression Inventory (BDI) was created in 1961; the first revision, known as the BDI-1A, was published in 1978 (Beck, Rush, Shaw, & Emery, 1979). The most recent version, known as the BDI-II, was published in 1996, and has been translated into many languages, including Spanish, Japanese and Arabic (Johnson, Neal, Brems, & Fisher, 2006). The BDI-II asks respondents to consider each of the 21 statements as they relate to “the past two weeks, including today,” and provides a four-point response scale (0 to 3 points) (Beck et al., 1961, p. 8). The BDI-II is currently considered “one of the most widely used instruments not only for assessing the intensity of depression in psychiatrically diagnosed patients, but also for detecting depression in normal populations” (Beck et al., 1988, p. 78).

The BDI-II has been shown to have a coefficient alpha of .91, indicating it possesses a high level of internal consistency and an internal consistency similar to that of the original BDI ($\alpha = .93$) (Dozois, Dobson, & Anhberg, 1998). The measure also has good sensitivity (81%) and specificity (92%), and improved test-retest reliability over the original BDI (Dozois et al., 1998). Storch, Roberti, and Roth (2004) found that the BDI-II correlated positively and significantly with similar measures of depressive symptomatology and anxious symptomatology (State-Trait Anxiety Inventory – anxiety), supporting the convergent validity of the BDI-II as an assessment measure of mood and psychological distress.

The BDI, BDI-1A, and BDI-II have received a good degree of psychometric attention and have been tested for appropriateness across a variety of populations. The BDI-II, for

example, has been studied among psychiatric outpatients, college students, geriatric inpatients, and ethnic minority outpatients (Johnson et al., 2006). There is also strong evidence for the reliability and validity of the BDI-II across various cultural and ethnic samples, and appears consistent with the original psychometric findings normed primarily on Caucasian samples (Grothe et al., 2005).

Seignourel, Green, and Schmitz (2008) found the BDI-II is a valid and reliable instrument for measuring depression among substance users. The BDI-II was found to be a reliable psychometric instrument for measuring symptoms of depression among treatment-seeking, male patients in a residential substance abuse program, lending credibility to its use in the present study (Buckley, Parker, & Heggie, 2001). Even more specifically still, Johnson et al. (2006) validated the use of the BDI-II with illicit substance users who may be seeking treatment but have not yet received intervention at the time the BDI-II was administered, supporting its use within the present study's setting and population.

Procedures

Following dissertation committee approval, the researcher obtained approval from the Graduate and Professional Schools Institutional Review Board of Pepperdine University to carry out the present study. The URM clinic director provided the researcher with a de-identified database for the purposes of conducting the proposed study. All data in the database came directly from the clinic archives. A research assistant performed a reliability check on the data by randomly selecting twenty cases (23% of the sample) to ensure information was entered correctly. During data analysis, the database itself was password-protected, and was stored on a password-protected personal computer located at the researcher's residence. Following completion of the study, the database was destroyed.

Chapter 3: Results

Data Analysis

Statistical analysis for the present study was conducted utilizing the Statistical Package for the Social Sciences (SPSS). Descriptive statistics were calculated for all measures and demographic variables included in the study. Coefficient alpha was examined for the DAST-20, to determine its internal consistency reliability, as well as for the AUDIT and BDI-II. Pearson product moment correlations were calculated between the variables of interest analyzing for degrees of covariance, specifically, between (1) DAST-20 scores and AUDIT scores; (2) DAST-20 scores and BDI-II scores; and (3) DAST-20 scores and reports of illicit substance abuse on the Intake Application Form (IAF). Analysis of variance (ANOVA) was also utilized.

A reliability check was conducted on 23% of the database to ensure accuracy and identify the presence of errors. A research assistant not involved with the study conducted this reliability check by independently reviewing data entry associated with 20 randomly-chosen cases. For each of the 20 cases, data was input for 119 cells, resulting in a total of 2,380 cells. Of these, 59 (2.5%) required minor edits. However, when specifically looking at the reliability of data entry for the most significant variables, the figures reflect an even higher measure of accuracy. Specifically, for each of the 20 cases reviewed in the reliability check, DAST-20 data was input for 22 variables, resulting in a total of 440 cells containing DAST-20 data. The reliability check reflected zero (0.0%) errors in data entered pertaining to DAST-20 data. Additionally, for each of the 20 cases reviewed in the reliability check, AUDIT data was input for 12 variables, resulting in a total of 240 cells containing AUDIT data. The reliability check likewise reflected zero (0.0%) errors in data entered pertaining to AUDIT data. Similarly, for each of the 20 cases reviewed in the reliability check, BDI-II data was input for 23 variables, resulting in a total of 460 cells containing BDI-II data. The reliability check reflected 22 (4.8%) errors in data entered

pertaining to BDI-II data. Finally, IAF measures of substance-related problems were reviewed. For each of the 20 cases reviewed in the reliability check, data pulled from the two substance-related IAF checklist items were input for two variables, resulting in a total of 40 cells containing IAF data. The reliability check reflected zero (0.0%) errors in data entered pertaining to IAF checklist data (i.e., “Concerns about use/abuse of alcohol or drugs” and “Concerns about staying clean & sober”). The reliability check likewise reflected zero (0.0%) errors in data entered pertaining to the IAF drug and alcohol problem rating scale items (i.e., “During the past 12 months, how serious have your drug problems been?” and, “During the past 12 months, how serious have your alcohol problems been?”).

Ethnicity and DAST-20, AUDIT, and BDI-II scores. Before considering any of the study’s hypotheses, the relationship of ethnicity to scores on the DAST-20, AUDIT, and BDI-II was examined. The African American subjects ($n = 37$) had a mean DAST-20 score of 10.0 ($SD = 5.2$), indicating intermediate drug problems; a mean AUDIT score of 11.6 ($SD = 10.7$), indicating moderate alcohol problems; and a mean BDI-II score of 22.3 ($SD = 11.0$), indicating moderate depressive symptoms. The Caucasian subjects ($n = 21$) had a mean DAST-20 score of 9.9 ($SD = 5.4$), indicating intermediate drug problems; a mean AUDIT score of 15.7 ($SD = 13.4$), indicating a high level of alcohol problems; and a mean BDI-II score of 17.2 ($SD = 12.2$), indicating mild depressive symptoms. The Hispanic/Latino subjects ($n = 18$) had a mean DAST-20 score of 11.1 ($SD = 4.9$), indicating substantial drug problems; a mean AUDIT score of 19.3 ($SD = 13.5$), indicating a high level of alcohol problems; and a mean BDI-II score of 21.2 ($SD = 11.6$), indicating moderate depressive symptoms. The Native American subjects ($n = 5$) had a mean DAST-20 score of 7.4 ($SD = 4.5$), indicating intermediate drug problems; a mean AUDIT score of 17.4 ($SD = 13.5$), indicating a high level of alcohol problems; and a mean BDI-II score of 23.8 ($SD = 20.3$), indicating moderate depressive symptoms. Finally, those subjects

identifying as “multi-ethnic” ($n = 5$) had a mean DAST-20 score of 8.4 ($SD = 5.5$), indicating intermediate drug problems; a mean AUDIT score of 14.8 ($SD = 12.6$), indicating moderate alcohol problems; and a mean BDI-II score of 18.6 ($SD = 12.5$), indicating mild depressive symptoms. Despite these slight variations in DAST-20, AUDIT, and BDI-II scores across groups, analysis of variance (ANOVA) determined that no statistically significant relationships existed between ethnicity and the DAST-20, $F(4,81) = .62$, $p = .65$; the AUDIT, $F(4,81) = 1.30$, $p = .28$; or the BDI-II, $F(4,81) = .73$, $p = .57$).

Drug Abuse Screening Test – 20. A second goal of this study was to better understand how homeless men seeking treatment services at a homeless shelter in Los Angeles perform on a measure of illicit substance abuse. Scores on the DAST-20 ranged from 0 to 18 with a mean value of 10.07 ($SD = 5.132$). This score indicates an Intermediate to Substantial level of problems associated with substance abuse, and warrants intensive outpatient treatment, according to the authors of the measure. The findings of this sample were slightly lower than Moriarty’s (2011) findings, in which the mean score was 12.31 ($SD = 5.116$) and indicative of Substantial problems that may be related to substance use with intensive treatment recommended. Of the 86 participants who completed the DAST-20, two (2.32%) reported no evidence of drug abuse problems (scores of 0); 18 (20.93%) reported low levels of problems (scores of 1 – 5); 22 (25.58%) reported an intermediate level of problems (scores of 6 – 10); 30 (34.88%) reported a substantial level of problems (scores of 11 – 15); and 14 (16.28%) reported a severe level of substance problems (scores of 16 – 20). The internal consistency reliability of the DAST-20 was very good (Cronbach’s $\alpha = .862$). Please see Table 8 for problem severity level findings related to the DAST-20 among this sample.

Table 4

DAST-20 Problem Severity Level

	<u>Frequency</u>	<u>Percentage</u>
None (0)	2	2.32
Low (1 – 5)	18	20.93
Intermediate (6 – 10)	22	25.58
Substantial (11 – 15)	30	34.88
Severe (16 – 20)	14	16.28

Intake Application Form. A third goal of the present study was to observe the extent to which DAST-20 scores aligned with reported substance use on the IAF. It was hypothesized that DAST-20 scores would be positively associated with IAF scores of self-reported ratings of severity of illicit drug abuse. On the IAF, participants were asked to make two ratings regarding the seriousness of their substance-related problems in the past 12 months: one question addressed drug problems and the other, alcohol problems. The ratings were made on a 5-point scale, with a rating of 1 indicating, “No problems at all/not applicable”; a rating of 3 indicating, “Moderate problems”; and a 5 rating indicating, “Severe problems.” Among the 82 participants who completed this self-report scale, the mean self-reported score with respect to seriousness of drug problems was 2.85 (SD = 1.66). This suggested an overall mean rating of moderate drug problems in the past 12 months for this sample. The sample also obtained a mean rating of 2.61 (SD = 1.54) in regard to recent alcohol problems. This suggested an overall level of mild to moderate alcohol problems in the prior three years. Please see Table 9 for the frequencies of all ratings regarding the seriousness of participants’ drug and alcohol problems from the IAF.

In addition, two IAF checklist items, “Concerns about staying clean & sober” and “Use/abuse of alcohol or drugs,” represented additional opportunities for respondents to indicate substance-related concerns at the intake. When checked once, these items indicated current

problem areas for the respondents and reasons for seeking therapy. Respondents were instructed they could check items twice to indicate their “most important concern/s.” For the purposes of this study, these two checklist items were summed. Each item could be checked 0, 1, or 2 times, meaning the total checklist summed score ranged from 0 to 4 for each participant. The “Concerns about staying clean & sober” item had a mean of .59 (SD = .64). The “Use/abuse of alcohol or drugs” item had a mean of .62 (SD = .67). The mean score for the summed checklist items was 1.2 (SD = 1.21). Most participants checked at least one item and one-third of the sample had a total of two checks. Please see Table 10 for all of the frequencies regarding the IAF substance-related checklist items.

As predicted, there was a statistically significant positive relationship between the DAST-20 and the IAF drug problems rating scale item, $r(80) = .573, p < .000$. This indicated good convergent validity between the DAST-20 and the corresponding IAF rating scale item that measured self-reported drug problems in the past year.

There was also a statistically significant positive relationship between the DAST-20 and the substance-related, summed checklist score from the IAF, $r(81) = .369, p < .001$. Once again, this supported the validity of the DAST-20 as a measure of drug concerns in the present sample.

Table 5

IAF Self-Ratings of Drug and Alcohol Problems

	<u>Drug Problems</u>	<u>Alcohol Problems</u>
1. No problems	30 (36.5%)	33 (39.8%)
2.	6 (7.3%)	5 (6.0%)
3. Moderate problems	15 (18.3%)	21 (25.3%)
4.	8 (9.8%)	9 (10.8%)
5. Severe problems	23 (28.0%)	15 (18.1%)

Table 6

IAF Substance-Related Summed Checklist Items

	<u>Frequency</u>
0 checks	34 (41%)
1 check	12 (14.5%)
2 checks	28 (33.7%)
3 checks	4 (4.8%)
4 checks	5 (6.0%)

Beck Depression Inventory-II. A fourth goal of this study was to observe how scores on the DAST-20 relate to BDI-II scores among treatment-seeking homeless males. It was hypothesized that DAST-20 scores would be positively correlated with BDI-II scores among this sample. Scores on the BDI-II ranged from 0-52 with an overall mean of 21.94 (SD = 11.84). This mean score is indicative of moderate depressive symptoms (Beck et al., 1996). This is very similar to the findings of a previous study looking at depressive symptoms among treatment-seeking homeless males, in which the researcher found a mean BDI-II score of 21.68 (Joy, 2013), also indicative of moderate severity. Of the 86 participants who completed the BDI-II, 28 (32.6%) reported scores that fell within a range indicating minimal depressive symptoms according to interpretation guidelines of the manual (Beck et al., 1996). Fourteen (16.3%) respondents reported scores that fell within a range indicating mild symptoms; 18 (20.9%) respondents reported scores that fell within a range indicating moderate severity; and 26 (30.2%) respondents reported scores that fell within a range indicating severe depressive symptoms. The internal consistency reliability of the BDI-II was excellent (Cronbach's $\alpha = .91$).

As predicted, a statistically significant positive relationship was found between the DAST-20 and the BDI-II, $r(84) = .360$, $p < .001$. This supported the researcher's hypothesis that severity of drug abuse problems would be associated with severity of depressive symptoms. Please see Table 11 for symptom severity level findings related to the BDI-II among this sample.

Table 7

BDI-II Symptom Severity Level

	<u>Frequency</u>	<u>Percentage</u>
Minimal (0-13)	28	32.6
Mild (14-19)	14	16.3
Moderate (20-28)	18	20.9
Severe (29-63)	26	30.2

Alcohol Use Disorders Identification Test. The final purpose of this study was to measure how DAST-20 scores relate to AUDIT scores among treatment-seeking, homeless males. It was hypothesized that DAST-20 scores would be positively correlated with AUDIT scores among this sample. Scores on the AUDIT ranged from 0 to 40 with an overall mean of 14.73 (SD = 12.36). This mean score was indicative of moderate alcohol problems. The findings of this sample were similar to the statistics that were reported for the sample from Moriarty's (2010) research, 13.08 (SD= 9.79). Of the 86 participants who completed the AUDIT, 32 (37.21%) men reported an absence of alcohol problems or a low degree of alcohol problems (scores of 0-7); 19 (22.09%) indicated a medium degree of alcohol problems (8-15); and 35 (40.70%) individuals reported high levels of alcohol problems (16-40) (Table 5). The internal consistency reliability of the AUDIT was excellent (Cronbach's $\alpha = .93$).

Interestingly, while there was a trend demonstrated between DAST-20 scores and AUDIT scores, the correlation between the two measures was not statistically significant at the .05 level, $r(84) = .188$, $p = .083$. Therefore, the researcher's hypothesis was not supported. Please see Table 12 for problem severity level findings related to the AUDIT among this sample.

Table 8

AUDIT Problem Severity Level

	<u>Frequency</u>	<u>Percentage</u>
Absence/Low (0-7)	32	37.21
Medium (8-15)	19	22.09
High (16-40)	35	40.7

Other Correlations. As predicted, statistically significant positive correlations were found between most of the measures considered in the present study. Please see Table 8 for correlational findings described above between the DAST-20 and the AUDIT, BDI-II, IAF checklist items, IAF self-report rating of alcohol problems, and the IAF self-report rating of drug problems.

Table 9:

Correlations Between the DAST-20 and the AUDIT, BDI-II, IAF Summed Checklist Items, IAF Alcohol Problems Rating, and IAF Drug Problems Rating

		<u>DAST-20</u>
AUDIT	Pearson Correlation	0.188
	Sig. (2-tailed)	0.083
	N	86
BDI-II	Pearson Correlation	0.36
	Sig. (2-tailed)	0.001
	N	86
IAF Summed Checklist Items	Pearson Correlation	0.369
	Sig. (2-tailed)	0.001
	N	83
IAF Alcohol Problems Rating	Pearson Correlation	0.151
	Sig. (2-tailed)	0.172
	N	83
IAF Drug Problems Rating	Pearson Correlation	0.573
	Sig. (2-tailed)	0.001
	N	82

Additional analyses. The relationship of legal history to DAST-20 scores was examined in an exploratory fashion, with no specific hypotheses made. However, it was the researcher's general expectation that more serious legal histories would be associated with more severe drug problems. As noted earlier, of the 72 subjects who provided information regarding their past legal history, seven (9.7%) reported they had been previously arrested but never incarcerated; 47 (65.3%) indicated they had been previously incarcerated; and 18 (25%) reported no legal history. The mean DAST-20 scores for these three groups were 9.00 (SD = 4.65), 11.149 (SD = 5.27), and 7.333 (SD = 4.43), respectively.

Analysis of variance (ANOVA) revealed a statistically significant overall relationship between participants' legal history and their DAST-20 scores, $F(2,69) = 3.90$, $p = .025$. Tukey's HSD was utilized to determine which mean differences were significant at the .05 level. The findings showed that the history of incarceration group's DAST-20 mean score of 11.149 ($n = 47$) was significantly higher than the no legal history group's mean of 7.333 ($n = 18$). The arrest only group's mean of 9.00 was not significantly different than that of either of the other groups. This indicated that a history of incarceration was in fact associated with higher DAST-20 scores.

Chapter 4: Discussion

Summary of Research Findings

A goal of this study was to better understand the demographic and psychosocial characteristics of homeless males seeking psychological services at a Los Angeles homeless shelter. The findings of this study were generally consistent with the descriptions that have been reported elsewhere about homeless men in Los Angeles County. The men seeking mental health services at the Union Rescue Mission whose data were used for this study had a mean age of 43, were ethnically diverse, tended to be single, often had the equivalent of a high school education or higher, and had recently worked in a variety of occupations. Given that the present study was conducted in a mental health clinic affiliated with a residential substance abuse recovery program, it was not surprising that the men in this study tended to have histories of drug and alcohol problems and well as mental health treatment needs. The results demonstrated that men residing in a homeless shelter seeking treatment represent a range of age groups, ethnicities, and educational and vocational backgrounds. These individuals also showed variation in marital status and legal history. The present findings highlighted the fact that problematic drug use can negatively impact individuals of widely varying backgrounds.

In addition to gathering demographic data pertaining to treatment-seeking, homeless males residing at a Los Angeles homeless shelter, this study sought to better understand how these individuals performed on a measure of illicit substance abuse, namely, the DAST-20. It also sought to explore the usefulness of this instrument among homeless, treatment-seeking men. The data demonstrated strong evidence of the viability and usefulness of the DAST-20, both in terms of reliability and validity, among treatment seeking homeless males, as well as very good internal consistency reliability. This study found that the validity and reliability of the DAST-20 were supported for use among an ethnically diverse sample of homeless males in a residential

substance abuse recovery program. The DAST-20 therefore emerges as a useful, promising measure that sheds light on drug abuse among homeless men in recovery. This finding indicates continued use of the measure is warranted to assess problematic substance use within this population.

The results also suggested that treatment-seeking homeless men at the shelter surveyed reported intermediate to substantial drug abuse problems (Skinner, 1982). Developers of the DAST-20 suggest this level of drug problems warrants at least intensive outpatient treatment. The men in this study were engaged in a residential substance abuse program that included a variety of services, such as recovery groups and 12-step meetings. These individuals were taking the initiative to seek additional psychological services at the shelter's mental health clinic. As a result, they would have had access to both individual and group psychotherapy modalities. Therefore, the findings suggested that participants of the present study were likely receiving at least the level of care recommended by DAST-20 developers.

Thirdly, this study sought to measure the psychometric utility of the DAST-20 by comparing it to selected items from the IAF, as both are administered to each new client seeking treatment at the mental health clinic where the data originated. The findings showed that the DAST-20 operated as expected in that it corresponded to a significant degree with the face valid, substance-related items on the IAF. This evidence of the convergent validity of the DAST-20, its strong internal consistency reliability, and the fact that there were no significant differences in DAST-20 scores across ethnic groups all speak to the psychometric utility of the test. The findings can also be viewed as supporting the usefulness of the substance-related items from the IAF.

A fourth goal of this study was to explore the relationship between self-reported drug abuse problems and self-reported symptoms of clinical depression. The results of the present

study showed that among treatment-seeking homeless males at a Los Angeles shelter, the more severe an individual's drug abuse problem, the more likely he was to also experience symptoms of clinical depression. The treatment implications for this finding are of course far-reaching. First, this appears consistent with published reports regarding the high rate of comorbidity between substance use and depressive symptoms, and it emphasizes the importance of treating both substance use disorders and mood disorders when they co-occur. In addition, it suggests that clinicians working with homeless men should consider assessing for a mood disorder when treating a substance use disorder, and a substance use disorder when treating a mood disorder. Analysis of the relationship between DAST-20 scores and BDI-II scores highlights the critical need for dual diagnosis treatment among homeless males in recovery.

A fifth goal of this study was to more clearly ascertain the nature of the relationship between illicit drug use and alcohol use among treatment-seeking homeless males. With respect to the relationship between the DAST-20 and the AUDIT, the correlation was positive (.188), but did not reach the .05 level of statistical significance. The finding suggested a trend ($p < .10$) toward positive association between problematic drug use and problematic alcohol use. The lack of statistical significance may have been impacted by the relatively small sample size and therefore somewhat limited statistical power of the present study. It may have been that the different response formats used in the two tests (Yes/No vs. 0-4 scale) and the differing item lengths (20 items vs. 10 items) impacted the magnitude of the correlation obtained. The relationship between the DAST-20 and the AUDIT needs to be examined in future studies with larger samples of homeless persons seeking treatment.

However, the lack of strong support for the researcher's hypothesis suggested that in the present sample, individuals may have had a preference for either drugs (i.e., illicit substances other than alcohol) or alcohol, rather than a preference for both. Certainly more research with

larger samples is needed before any conclusions can be drawn. However, the present finding may be important for treatment planning in that a “one size fits all” approach to both drug and alcohol use disorders may not be the most effective intervention. Instead, it would appear that tailoring intervention techniques specifically for either drugs or alcohol may be more appropriate, at least among homeless men in shelters such as the one where this study was conducted. These findings support the specificity of the DAST-20 as an instrument capable of identifying non-alcohol related substance use disorders, rather than simply identifying problematic substance use in general. These results also suggest additional research exploring the characteristics of individuals who abuse alcohol or drugs, to compare and contrast with individuals who abuse both alcohol and drugs, is warranted.

In addition to the five principal research questions and hypotheses laid out by the researcher prior to data collection, two further relationships were analyzed post hoc. The first of these additional areas was the relationship between participants’ legal history and their problematic drug use, problematic alcohol use, and symptoms of clinical depression. Results of this study demonstrated a relationship did exist between an individual’s substance use and alcohol use history and his legal history. Specifically, the findings showed that the greater severity of problematic drug use an individual endorsed, the more likely he was to have previously been incarcerated. Similarly, the greater the severity of problematic alcohol use an individual endorsed, the more likely he was to have been incarcerated.

There are several clinical implications involved in this finding. First, while the present study did not attempt to identify causation between these variables, what is known is that these variables correlated. That is to say, it cannot be determined from the present findings whether using substances and/or alcohol leads to incarceration, or incarceration leads to using substances and/or alcohol, but it can be stated that the two correlate to a statistically significant degree.

Second, these findings have implications from a treatment and intervention perspective. Clinicians relying on psychotherapeutic models emphasizing personal values (such as Acceptance and Commitment Therapy, for example) and which address ambivalence about personal goals (such as Motivational Interviewing, for example), could utilize such findings to discuss with their clients their substance and/or alcohol use in the context of risk for incarceration, and whether incarceration is in line with their personal values and goals. It also indicates that clinicians may be of additional service to their clients by inquiring further about drug and alcohol use when a substantial legal history is noted. The significant associations among self-reported substance use, self-reported alcohol use, and legal history furthermore underscore the critical importance of providing substance and alcohol treatment to treatment-seeking homeless males who are incarcerated or who have previously been incarcerated. Taken together, this study supported the usefulness of the DAST-20 among treatment-seeking homeless males who have a history of previous arrest and/or incarceration, and suggests further use with this population is warranted.

The second post hoc analysis brought forth critical findings regarding the relationship of ethnicity to DAST-20, AUDIT, and BDI-II scores in the present sample. This study revealed that among treatment-seeking homeless males, there were no significant differences across groups on these three measures. This result was consistent with other published research indicating the usefulness of these measures in ethnically and socioeconomically diverse settings. This finding supports the continued use of the DAST-20, AUDIT, and BDI-II in similarly diverse settings providing services to treatment seeking homeless men. It should be noted, however, that due to the relatively small sample size for some of the ethnic groups in this sample, the generalizability of this finding is limited and should be interpreted cautiously.

Limitations

There are a number of limitations to the present study that are worth noting. First, the study was an archival study. This limited the researcher's ability to alter the data collection process, introduce new, potentially salient measures, or change procedures. For example, it would have been helpful to this researcher to know the age of first use of alcohol and drugs in order to have a better conceptualization of the course of problematic use within this sample. Second, the study had a correlational design rather than a true experimental design. Research based on correlational design does not allow the researcher to infer cause and effect relationships between variables. For example, a different type of study might have allowed the researcher to determine whether increased severity of depressive symptoms caused increased drug or alcohol use, or whether increased drug or alcohol use caused increased symptoms of depression in this population. It might have also allowed the researcher to comment upon whether drug or alcohol abuse contributes to becoming incarcerated, or whether having been incarcerated contributes to drug or alcohol abuse. Third, the measures included in this study were all self-report measures, which are inherently vulnerable to reporter bias or inaccuracy. It is not known the extent to which respondents answered in an honest, unbiased fashion, or the extent to which their subjective interpretation of the questions influenced their responses. Additionally, the constructs included in the measures (specifically, drug abuse, alcohol abuse, and depressive symptoms) may have carried social stigma for the participants, thereby resulting in motivation for under-reporting. Alternatively, an individual's efforts to be taken seriously in his symptom complaints may have resulted in over-reporting symptoms, which could have also compromised the accuracy of the data. Fourth, there may be limitations associated with the diagnostic impressions assigned at the time of intake. Considering the diagnoses listed in Tables 2 and 3 were based on a limited amount of contact with each subject, such diagnoses were based on initial clinical

impressions and should be considered with some caution. Fifth, the study was limited by gender, in that only archival data of men was analyzed. Therefore, results from this study may not generalize to homeless women seeking treatment or engaged in residential substance abuse treatment. Sixth, the database this study used was collected at a Christian homeless shelter. Despite the fact that persons of all faith backgrounds or worldviews are welcomed for psychological services at the clinic where this study was conducted, a faith-based shelter is likely to attract homeless persons of the same faith tradition. Therefore, results from the present study may not be generalizable to settings where there is more diversity in regard to religion or worldview. Seventh, the data analyzed in this study was limited to a single geographical setting, namely, a homeless shelter on Los Angeles' Skid Row. As such, results of the study may not be generalizable to other communities or geographic locations. Eighth, it was noteworthy that over 21% of the sample reported completion of some college courses, however the researcher had no further knowledge or information as to the nature of these courses due to the archival nature of the study. For example, an individual who nearly completed a Bachelor's degree at a four-year university may have a notably different educational background than an individual who completed one college course while incarcerated. It is likely such information would further enrich the researcher's understanding of the demographics of treatment-seeking homeless males. Similarly, while the results revealed 65.3% of the sample had previously been incarcerated, this study was not able to provide any information on sentence length as related to DAST-20 scores. Such information might have shed valuable light onto possible relationships between length of incarceration and severity of problematic substance use history. It might also have been useful to have had information on whether exposure to jail- and prison-based substance treatment programs was related to current or past severity of substance abuse problems. Finally, the reliability check performed on 23% of the cases indicated some very minor inputting errors on a

small percentage of BDI-II scores. To the extent there were uncorrected errors in any of the remaining 77% of cases, they could have influenced the BDI-II analyses in unknown ways.

Suggestions for Future Research

This study identified several areas for future research related to the psychometric utility of the DAST-20. Perhaps most notably, the current body of research would benefit from replicating this study in other settings and populations, ideally with larger samples. Specifically, future research may be warranted on homeless males and females, as well as in non-religious based facilities outside of Southern California. What is more, this study analyzed homeless males who were actively seeking treatment for their substance abuse and/or mental health concerns. Future research investigating the psychometric utility of the DAST-20 with a more generalized homeless population (that is, both treatment-seeking and non-treatment-seeking individuals) would increase the generalizability of the findings. Additionally, given the self-report nature of this study, next steps in the assessment of drug use among homeless persons might include biological measures of substance use, such as urinary or hair analysis. Such biophysiological techniques could also be beneficial in comparing homeless individuals' self-report of drug use behavior with actual drug use behavior.

Considering the study's limited ability to identify any educational differences within categories (specifically, the quality, location, or extent of the "Some College Courses" category of educational history), future research would benefit from obtaining more specific information about educational experiences and background. For example, it might be worthwhile to determine with more precision the type of college credits obtained, the number of units, and the participants' satisfaction with their educational experiences. It may be worthwhile to explore whether certain kinds of educational experiences are associated with reduced risk for drug abuse

problems.

As this study confirmed a relationship between a history of incarceration and problematic drug use, future research identifying sentence length and its relationship to DAST-20 scores would be useful. Research is needed on what types of substance-related programs or interventions might be useful in helping reduce the risk for homelessness faced by individuals being discharged from prisons or jails. Research has also indicated that persons who experience foster care are at greater risk for homelessness. The DAST-20 might be a useful tool in studying the extent to which drug problems increase the risk for homelessness among persons coming out of foster care. Such research might help shed light on the unique needs of persons in foster care and how to better manage the transition from foster care to independent living so that risk levels for drug problems and homelessness are reduced.

This study supported a large body of existing research demonstrating the relationship between substance abuse and mood symptoms. However, future research exploring the possible relationship between substance use and psychiatric diagnoses other than major depression among homeless persons appears warranted. Additionally, it was noteworthy that results of the present investigation demonstrated a trend, though no statistically significant relationship, between drug and alcohol use among homeless men. Further research appears warranted as to possible mitigating factors that may contribute to the apparent lack of a relationship between drug and alcohol use among homeless men. Finally, future research appears needed on characteristics associated with homeless men who choose to abuse drugs only, alcohol only, or drugs and alcohol in conjunction with one another.

Conclusion

This study endeavored to explore the widespread issue of homelessness in the United States, with particular attention to issues of substance abuse and depressive symptoms among homeless men. The present study examined the utility of the DAST-20 with treatment-seeking homeless males at a faith-based shelter in Los Angeles, and found the measure to perform quite well as a measure of problematic substance use. The DAST-20 represents a clinical tool that mental health providers can use in addressing the grave problem of drug abuse among the homeless. In addition, the findings of this study suggest the DAST-20 can help ensure that drug-related concerns are accurately assessed by clinicians at the time of intake. The DAST-20 may further assist clinicians in understanding the nature and severity of a client's drug problem by identifying specific realms of the client's life that have been negatively impacted by substance use. In conclusion, this study found that the DAST-20 represented a valid, reliable, and useful clinical tool for assessment of drug abuse within an ethnically diverse group of treatment-seeking, homeless men.

REFERENCES

- Alexander, D., & Leung, P. (2006). The Marijuana Screening Inventory (MSI-X): Concurrent, convergent and discriminant validity with multiple measures. *The American Journal of Drug and Alcohol Abuse, 32*(3), 351–78. doi:10.1080/00952990600753594
- American Psychiatric Association. (2000). *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text rev.). Washington DC: American Psychiatric Association.
- Anderson, J. A. (2001). Understanding homeless adults by testing the theory of self-care. *Nursing Science Quarterly, 14*(1), 59–67. doi:10.1177/08943180122108067
- Aubry, T., Klodawsky, F., Coulombe, D., & Mills, L. (2014, June). *Identifying different subgroups within the homeless population: Implications for housing policy and programs*. Poster session presented at the meeting of the International Research Conference, Toronto.
- Ayerst, S. L. (1999). Depression and stress in street youth. *Journal of Adolescence, 34*(135), 567–575. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/10658864>
- Barber, J. G. (1995). Working with resistant drug abusers. *Social Work, 40*(1), 17–23. Retrieved from <http://web.ebscohost.com.lib.pepperdine.edu/ehost/pdfviewer/pdfviewer?sid=b6f15e20-2852-484c-8970-28416111dd87%40sessionmgr15&vid=11&hid=24>
- Bassuk, E. L., & Rosenberg, L. (1988). Why does family homelessness occur? A case-control study. *American Journal of Public Health, 78*(7), 783–788. Retrieved from <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1350333&tool=pmcentrez&rendertype=abstract>

- Bassuk, E. L., Rubin, L., & Lauriat, A. S. (1986). Characteristics of sheltered homeless families. *American Journal of Public Health, 76*(9), 1097–1101. Retrieved from <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1646563&tool=pmcentrez&rendertype=abstract>
- Baer, J. S., Ginzler, J. A., & Peterson, P. L. (2003). DSM-IV alcohol and substance abuse and dependence in homeless youth. *Journal of Studies on Alcohol, 64*(1), 5–14. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/12608478>
- Baum, A. S., & Burnes, D. W. (1993). *A Nation in Denial: The Truth about Homelessness*. Boulder, CO: Westview Press.
- Beck, A. T., Rush, J. A., Shaw, B. F., & Emery, G. (1979). *Cognitive Therapy for Depression*. New York, NY: The Guilford Press.
- Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *BDI-II Manual*. San Antonio, TX: The Psychological Corporation.
- Beck, A. T., Steer, R. A., & Garbin, M. G. (1988). Psychometric properties of the Beck Depression Inventory: Twenty-five years of evaluation. *Clinical Psychology Review, 8*(1), 77–100. doi:10.1016/0272-7358(88)90050-5
- Beck, A. T., Ward, C. H., Mendelson, M., Mock, J., & Erbaugh, J. (1961). An inventory for measuring depression. *Archives of General Psychiatry, 4*(6), 561–571. doi:10.1001/archpsyc.1961.01710120031004

- Bohn, M.J., Babor T.F., & Kranzler, H.R. (1991) Validity of the Drug Abuse Screening Test (DAST-10) in Inpatient Substance Abusers. *Problems of Drug Dependence, 199*, 233–235. Retrieved from <http://www.sbirtraining.com/node/6642>
- Bowers, M. B., Mazure, C. M., Nelson, J. C., & Jatlow, P. I. (1990). Psychotogenic drug use and neuroleptic response. *Schizophrenia Bulletin, 16*(1), 81–85. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/1970670>
- Brady, K., Anton, R., Ballenger, J. C., Lydiard, R. B., Adinoff, B., & Selander, J. (1990). Cocaine abuse among schizophrenic patients. *American Journal of Psychiatry, 147*(9), 1164–1167. Retrieved from <http://ajp.psychiatryonline.org.lib.pepperdine.edu/data/Journals/AJP/3539/1164.pdf>
- Buckley, P. F. (2006). Prevalence and consequences of the dual diagnosis of substance abuse and severe mental illness. *The Journal of Clinical Psychiatry, 67*(7), 5–9. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/16961418>
- Buckley, T. C., Parker, J. D., & Heggie, J. (2001). A psychometric evaluation of the BDI-II in treatment-seeking substance abusers. *Journal of Substance Abuse Treatment, 20*(3), 197–204. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/11516588>
- Callicut, J. W. (2006). Homeless shelters: An uneasy component of the de facto mental health system. In J. Rosenberg and S. Rosenberg (Eds.). *Community Mental Health: Challenges of the 21st Century* (pp. 169-180). New York, NY: Routledge.

- Carey, K. B., Carey, M. P., & Chandra, P. S. (2003). Psychometric evaluation of the alcohol use disorders identification test and short drug abuse screening test with psychiatric patients in India. *The Journal of Clinical Psychiatry*, *64*(7), 767–74. Retrieved from <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2441940&tool=pmcentrez&rendertype=abstract>
- Carey, M. P., Carey, K. B., & Meisler, A. W. (1991). Psychiatric symptoms in mentally ill chemical abusers. *Journal of Nervous and Mental Disease*, *179*(3), 136 – 138. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/1997660>
- Christiani, A., Hudson, A. L., Nyamathi, A., Mutere, M., & Sweat, J. (2008). Attitudes of homeless and drug-using youth regarding barriers and facilitators in delivery of quality and culturally sensitive health care. *Journal of Child and Adolescent Psychiatric Nursing*, *21*(3), 154–163. doi: 10.1111/j.1744-6171.2008.00139.x.
- Cocco, K. M., & Carey, K. B. (1998). Psychometric properties of the Drug Abuse Screening Test in psychiatric outpatients. *Psychological Assessment*, *10*(4), 408–414. doi:10.1037//1040-3590.10.4.408
- Cohen, J. (1992). A power primer. *Psychological Bulletin*, *112*(1), 155–159. doi: 10.1037/0033-2909.112.1.155
- Cornell, S. E. (2007). Narcotics and armed conflict: Interaction and implications. *Studies in Conflict & Terrorism*, *30*(3), 207–227. doi:10.1080/10576100601148449
- Cozby, P. (2009). *Methods in Behavioral Research* (10th ed.). New York, NY: McGraw-Hill.

- Crane, M. (1998). The associations between mental illness and homelessness among older people: An exploratory study. *Aging and Mental Health*, 2(3), 171–180.
doi:10.1080/13607869856641
- Coumans, M., & Spreen, M. (2003). Drug use and the role of homelessness in the process of marginalization. *Substance Use & Misuse*, 38(3-6), 311–338. doi:10.1081/JA-120017376
- Dhossche, D. M., Meloukheia, A. M., & Chakravorty, S. (2000). The association of suicide attempts and comorbid depression and substance abuse in psychiatric consultation patients. *General Hospital Psychiatry*, 22(4), 281–288. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/10936636>
- Dixon, L. (1999). Dual diagnosis of substance abuse in schizophrenia: Prevalence and impact on outcomes. *Schizophrenia Research*, 35, S93–S100. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/10190230>
- Dozois, D. J. A., Dobson, K. S., & Ahnberg, J. L. (1998). A psychometric evaluation of the Beck Depression Inventory-II. *Psychological Assessment*, 10(2), 83–89. doi:10.1037//1040-3590.10.2.83
- Draine, J., & Solomon, P. (1994). Jail recidivism and the intensity of case management services among homeless persons with mental illness leaving jail. *The Journal of Psychiatry & Law*, 22(2), 245–261. Retrieved from <http://heinonline.org/HOL/LandingPage?collection=journals&handle=hein.journals/jpsych22&div=20&id=&page=>

- Drake, R. E., O'Neal, E. L., & Wallach, M. A. (2008). A systematic review of psychosocial research on psychosocial interventions for people with co-occurring severe mental and substance use disorders. *Journal of Substance Abuse Treatment, 34*(1), 123–38. doi:10.1016/j.jsat.2007.01.011
- Drake, R. E., & Wallach, M. A. (1989). Substance abuse among the chronically mentally ill. *Hospital and Community Psychiatry 40*(10), 1041-1046. doi: 10.1007/BF02188753
- Duffield, B. & Lovell, P. (2008). *The economic crisis hits home: The unfolding increase in child and youth homelessness* (Research Report, December, 2008). Retrieved from First Focus website: <http://www.naehcy.org/dl/TheEconomicCrisisHitsHome.pdf>
- El-Bassel, N., Gilbert, L., Witte, S., Wu, E., Gaeta, T., Schilling, R., & Wada, T. (2003). Intimate partner violence and substance abuse among minority women receiving care from an inner-city emergency department. *Women's Health Issues: Official Publication of the Jacobs Institute of Women's Health, 13*(1), 16–22. doi: 10.1016/A1049-3867(02)00142-1
- El-Bassel, N., Schilling, R., Schinke, S., Orlandi, M., Wei-Huei, S., & Back, S. (1997). Assessing the utility of the Drug Abuse Screening Test in the workplace. *Research on Social Work Practice, 7*(1), 99 – 114. doi: 10.1177/104973159700700106
- Eyrich-Garg, K. M., Cacciola, J. S., Carise, D., Lynch, K. G., & McLellan, A. T. (2008). Individual characteristics of the literally homeless, marginally housed, and impoverished in a U.S. substance abuse treatment-seeking sample. *Social Psychiatry and Psychiatric Epidemiology, 43*(10), 831–42. doi:10.1007/s00127-008-0371-8

- Fairlie, R. W. (2002). Drug dealing and legitimate self-employment. *Journal of Labor Economics*, 20(3), 538–567. Retrieved from <http://www.jstor.org.lib.pepperdine.edu/sici?sici=0734-306X%28200207%2920%3A3%3C538%3ADDALS%3E2.0.CO%3B2-C&origin=oclc;oclc;worldcat.org>
- Fazel, S., Khosla, V., Doll, H., & Geddes, J. (2008). The prevalence of mental disorders among the homeless in western countries: Systematic review and meta-regression analysis. *Public Library of Science Journal of Medicine*, 5(12), 1670–1681. doi:10.1371/journal.pmed.0050225
- Fiellin, D. A., Carrington, R., & O'Connor, P. G. (2000). Screening for alcohol problems in primary care. *Archives of Internal Medicine*, 160, 1977–1989. Retrieved from <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2443100&tool=pmcentrez&endertype=abstract>
- Fischer, P. J., & Breakey, W. R. (1991). The epidemiology of alcohol, drug, and mental disorders among homeless persons. *The American Psychologist*, 46(11), 1115–1128. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/1772149>
- Friedman, A. S. (1998). Substance use/abuse as a predictor to illegal and violent behavior: A review of the relevant literature. *Aggression and Violent Behavior*, 3(4), 339–355. doi:10.1016/S1359-1789(01)00057-X

- Gavin, D. R., Ross, H. E., & Skinner, H. A. (1989). Diagnostic validity of the Drug Abuse Screening Test in the assessment of DSM-III drug disorders. *British Journal of Addiction*, 84(3), 301–307. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=1989-35121-001&lang=fr&site=ehost-live>
- Gelberg, L., Linn, L. S., & Leake, B. D. (1988). Mental health, alcohol and drug use, and criminal history among homeless adults. *American Journal of Psychiatry*, 145(2), 191–196. Retrieved from <http://ajp.psychiatryonline.org.lib.pepperdine.edu/data/Journals/AJP/3483/191.pdf>
- Goldstein, P. J. (1985). The drugs/violence nexus: A tripartite conceptual framework. *Journal of Drug Issues*, 39, 143-174. Retrieved from <http://maintenance5.com/download.php?id=33363>
- Goodman, L., Saxe, L., & Harvey, M. (1991). Homelessness as psychological trauma: Broadening perspectives. *The American Psychologist*, 46(11), 1219–1225. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/1772159>
- Greenblatt, M. (1992). Deinstitutionalization and reinstitutionalization of the mentally ill. In M. J. Robertson and M. Greenblatt (Eds.), *Homelessness: A National Perspective* (pp. 47–56). New York, NY: Plenum.
- Groth-Marnat, G. (2003). *Handbook of Psychological Assessment* (4th ed.). Hoboken, NJ: John Wiley & Sons, Inc.

- Grothe, K. B., Dutton, G. R., Jones, G. N., Bodenlos, J., Ancona, M., & Brantley, P. J. (2005). Validation of the Beck Depression Inventory-II in a low-income African American sample of medical outpatients. *Psychological Assessment, 17*(1), 110–114.
doi:10.1037/1040-3590.17.1.110
- Hurlburt, M. S., Hough, R. L., & Wood, P. A. (1996). Effects of substance abuse on housing stability of homeless mentally ill persons in supported housing. *Psychiatric Services, 47*(7), 731–736. Retrieved from <http://ps.psychiatryonline.org/article.aspx?articleid=79439>
- Jewkes, Y., & Johnston, H. (2009). ‘Cavemen in an era of speed-of-light technology’: Historical and contemporary perspectives on communication with prisoners. *The Howard Journal of Criminal Justice, 48*(2), 132-143. doi: 10.1111.j.1468-2311.2009.00559.x
- Johnson, B. D., Williams, D., Dei, K. A., & Sanabria, H. (1990). Drug abuse in the inner city: Impact on hard-drug users and the community. *Crime and Justice: A Review of Research, 13*, 9–67. Retrieved from <http://www.jstor.org/stable/1147482>
- Johnson, R. A. (2008). African Americans and homelessness: Moving through history. *Journal of Black Studies, 40*(4), 583–605. doi:10.1177/0021934708315487
- Johnson, T. P., & Fendrich, M. (2007). Homelessness and drug use: Evidence from a community sample. *American Journal of Preventive Medicine, 32*(6), S211–S218.
doi:10.1016/j.amepre.2007.02.015

- Johnson, T. P., Freels, S. A., Parsons, J. A., & Vangeest, J. B. (1997). Substance abuse and homelessness: Social selection or social adaptation? *Journal of Addiction, 92*(4), 437–445. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/9177065>
- Johnson, M. E., Neal, D. B., Brems, C., & Fisher, D. G. (2006). Depression as measured by the Beck Depression Inventory-II among injecting drug users. *Journal of Assessment, 13*(2), 168–177. doi:10.1177/1073191106286951
- Joy, A. (2013). *The relationship of individual therapy to depressive symptoms among treatment-seeking homeless men* (Doctoral dissertation). Retrieved from Pepperdine University Electronic Theses and Dissertations. (Order No. 3568592)
- Kaplan, H. B., Martin, S. S., & Robbins, C. (1984). Pathways to adolescent drug use: Self-derogation, peer influence, weakening of social controls, and early substance use. *Journal of Health and Social Behavior, 25*(3), 270–289. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/6501839>
- Kemper, K. J., Greteman, A., Bennet, E., & Babonis, T. R. (1993). Screening mothers of young children for substance abuse. *Journal of Developmental and Behavioral Pediatrics, 14*(5), 308–312. doi: 10.1097/00004703-199310000-00003
- Kessler, R. C. (2004). The epidemiology of dual diagnosis. *Biological Psychiatry, 56*(10), 730–737. doi:10.1016/j.biopsych.2004.06.034
- Khantzian, E. J. (1997). The self-medication hypothesis of substance use disorders: A reconsideration and recent applications. *Harvard Review of Psychiatry, 4*(5), 231–244. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/9385000>

- Klee, H., & Reid, P. (1998). Drug use among the young homeless: Coping through self-medication. *Health, 2*(2), 115–134. doi: 10.1177/136345939800200201
- Klitzner, M., Schwartz, R. H., Gruenwald, P., & Blasinsky, M. (1987). Screening for risk factors for adolescent alcohol and drug use. *Archives of Pediatrics and Adolescent Medicine, 141*(1), 45-49. doi: 10.1001/archpedi.1987.04460010045021
- Koegel, P., & Burnam, M. A. (1992). Problems in the assessment of mental disorders among the homeless: An empirical approach. In M. J. Robertson and M. Greenblatt (Eds.), *Homelessness: A National Perspective* (pp. 77–99). New York, NY: Plenum. Retrieved from http://link.springer.com/chapter/10.1007/978-1-4899-0679-3_7
- Koegel, P., Burnam, M. A., & Farr, R. K. (1988). The prevalence of specific psychiatric disorders among homeless individuals in the inner city of Los Angeles. *Archives of General Psychiatry, 45*(12), 1085–1092. doi: 10.1001.1988.01800360033005
- Koegel, P., Sullivan, G., Burman, A., Morton, S. C., & Wenzel, S. (1999). Utilization of mental health and substance abuse services among homeless adults in Los Angeles. *Medical Care, 37*(3), 306–317. Retrieved from http://journals.lww.com/lww-medicalcare/Fulltext/1999/03000/Utilization_of_Mental_Health_and_Substance_Abuse.10.aspx
- Kush, F. R., & Sowers, W. (1997). Acute dually diagnosed inpatients: The use of self-report symptom severity instruments in persons with depressive disorders and cocaine dependence. *Journal of Substance Abuse Treatment, 14*(1), 61–66. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/9218238>

- La Gory, M., Ritchey, F. J., & Mullis, J. (1990). Depression among the homeless. *Journal of Health and Social Behavior*, 31(1), 87–102. Retrieved from <http://www.jstor.org/stable/2137047>
- Lamb, H. R., & Lamb, D. M. (1990). Factors contributing to homelessness among the chronically and severely mentally ill. *Hospital and Community Psychiatry*, 41(3), 301–305. Retrieved from <http://ps.psychiatryonline.org.lib.pepperdine.edu/article.aspx?articleid=74053>
- Lawless, I., & Corr, L. K. (2005). Prevalence of alcohol and drug use among the homeless population in Ireland. *Newsletters of the Drug Misuse Research Division*, 14, 8–9. Retrieved from http://www.drugsandalcohol.ie/11173/1/Drugnet_14.pdf
- Lehmann, E. R., Kass, P. H., Drake, C. M., & Nichols, S. B. (2007). Risk factors for first-time homelessness in low-income women. *American Journal of Orthopsychiatry*, 77(1), 20–28. doi:10.1037/0002-9432.77.1.10
- Los Angeles Homeless Services Authority. (2011). *2011 Greater Los Angeles Homeless Count Report*. Retrieved from <http://documents.lahsa.org/planning/homelesscount/2011/HC11-detailed-geography-report.PDF>
- Los Angeles Homeless Services Authority. (2009). *2009 Greater Los Angeles Homeless Count Report*. Retrieved from <http://www.lafla.org/pdf/Homeless2009Report.pdf>

- Maisto, S. A., Carey, M. P., Carey, K. B., Gordon, C. M., & Gleason, J. R. (2000). Use of the AUDIT and the DAST-10 to identify alcohol and drug use disorders among adults with a severe and persistent mental illness. *Psychological Assessment, 12*(2), 186–192.
doi:10.1037//1040-3590.12.2.186
- Maly, R. C. (1993). Early recognition of chemical dependence. *Primary Care, 20*(1), 33-50.
Retrieved from <http://ukpmc.ac.uk/abstract/MED/8464947>
- Mallett, S., Rosenthal, D., & Keys, D. (2005). Young people, drug use and family conflict: Pathways into homelessness. *Journal of Adolescence, 28*(2), 185–99.
doi:10.1016/j.adolescence.2005.02.002
- Martell, D. A. (1991). Homeless mentally disordered offenders and violent crimes: Preliminary research findings. *Law and Human Behavior, 15*(4), 333–347. doi:10.1007/BF02074075
- Martino, S., Grilo, C. M., & Fehon, D. C. (2000). Development of the Drug Abuse Screening Test for Adolescents (DAST-A). *Addictive Behaviors, 25*(1), 57–70. doi:10.1016/S0306-4603(99)00030-1
- McBride, D. C., & McCoy, C. B. (1993). The drugs-crime relationship: An analytical framework. *The Prison Journal, 73*(3), 257-278. doi: 10.1177/0032855593073003002
- McCann, B. S., Simpson, T. L., Ries, R., & Roy-Byrne, P. (2000). Reliability and validity of screening instruments for drug and alcohol abuse in adults seeking evaluation for attention-deficit/hyperactivity disorder. *The American Journal on Addictions, 9*(1), 1–9.
doi:10.1080/10550490050172173

- McCarthy, B. & Hagan, J. (1991). 'Homelessness: A Criminogenic Situation?' *British Journal of Criminology*, 31, 393–410. Retrieved from <http://bjc.oxfordjournals.org.lib.pepperdine.edu/content/31/4/393.full.pdf>
- McCarty, D., Argeriou, M., Huebner, R. B., & Lubran, B. (1991). Alcoholism, drug abuse, and the homeless. *The American psychologist*, 46(11), 1139–1148. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/1772151>
- McGuire, J. F., & Rosenheck, R. A. (2004). Criminal history as a prognostic indicator in the treatment of homeless people with severe mental illness. *Psychiatric Services*, 55(1), 42–48. doi:10.1176/appi.ps.55.1.42
- McNaughton, C. C. (2008). Transitions through homelessness, substance use, and the effect of material marginalization and psychological trauma. *Drugs: Education, Prevention, and Policy*, 15(2), 177–188. doi:10.1080/09687630701377587
- Metraux, S., & Culhane, D. P. (2004). Homeless shelter use and reincarceration following prison release. *Criminology and Public Policy*, 3(2), 139–160. doi:10.1111/j.1745-9133.2004.tb00031.x
- Mitchell, C. M. (2012). Trauma and homelessness. In C. Figley (Ed.), *Encyclopedia of Trauma*. Thousand Oaks, CA: Sage Publications.
- Moriarty, T. M. (2010). The relationship of trauma history, substance abuse, and religious coping style to trauma symptoms among homeless men in residential treatment. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, 71(7-B), 4504.

Morrell-Bellai, T., Goering, P. N., & Boydell, K. M. (2000). Becoming and remaining homeless: A qualitative investigation. *Issues in Mental Health Nursing, 21*(6), 581–604.
doi:10.1080/01612840050110290

Morse, G. A. (1992). Causes of homelessness. In M. J. Robertson & M. Greenblatt (Eds.), *Homelessness: A National Perspective* (pp. 3–17). New York, NY: Plenum Press.

National Alliance to End Homelessness. (2012). *The state of homelessness in America 2012*. Retrieved from http://b.3cdn.net/NationalAlliancetoEndHomelessness/9892745b6de8a5ef59_q2m6yc53b.pdf

National Alliance to End Homelessness. (2011). *Cost of homelessness*. Retrieved from http://www.endhomelessness.org/section/about_homelessness/cost_of_homelessness

National Center on Family Homelessness. (2008). *The characteristics and needs of families experiencing homelessness*. Retrieved from <http://www.familyhomelessness.org/media/147.pdf>

National Coalition for the Homeless. (2009). *How many people experience homelessness?* Retrieved from http://www.nationalhomless.org/factsheets/How_Many.html

National Law Center on Homelessness and Poverty. (2004). *Homelessness in the United States and the right to human housing*. Retrieved from <http://www.nlchp.org/content/pubs/HomelessnessintheUSandRightstoHousing.pdf>

Neale, J. (2001). Homelessness amongst drug users: A double jeopardy explored. *International Journal of Drug Policy, 12*(4), 353–369. doi:10.1016/S0955-3959(01)00097-4

- Nooe, R. M., & Patterson, D. A. (2010). The ecology of homelessness. *Journal of Human Behavior in the Social Environment, 20*(2), 105-152. Doi: 10.1080/10911350903269757
- Peters, R. H., Greenbaum, P. E., Steinberg, M. L., Carter, C. R., Ortiz, M. M., Fry, B. C., & Valle, S. K. (2000). Effectiveness of screening instruments in detecting substance use disorders among prisoners. *Journal of Substance Abuse Treatment, 18*(4), 349–358.
Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/10812308>
- Petersilia, J. (2003). *When prisoners come home*. New York, NY: Oxford University Press, Inc.
- Pristach, C. A., & Smith, C. M. (1990). Medication compliance and substance abuse among schizophrenic patients. *Hospital and Community Psychiatry, 41*(12), 1345-1348.
Retrieved from <http://ps.psychiatryonline.org.lib.pepperdine.edu/data/Journals/PSS/3350/1345.pdf>
- RachBeisel, J., Scott, J., & Dixon, L. (1999). Co-occurring severe mental illness and substance use disorders: A review of recent research. *Psychiatric Services, 50*(11), 1427–1434.
Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/10543851>
- Reinert, D. F., & Allen, J. P. (2002). The Alcohol Use Disorders Identification Test (AUDIT): A review of recent research. *Alcoholism: Clinical and Experimental Research, 26*(2), 272–279. doi: 10.1111/j.1530-0277.2002.tb02534.x
- Rhoades, H., Wenzel, S. L., Golinelli, D., Tucker, J. S., Kennedy, D. P., Green, H. D., & Zhou, A. (2011). The social context of homeless men's substance use. *Drug and Alcohol Dependence, 118*(2-3), 320–325. doi:10.1016/j.drugalcdep.2011.04.011

Rohde, P., Noell, J., Ochs, L., & Seeley, J. R. (2001). Depression, suicidal ideation and STD-related risk in homeless older adolescents. *Journal of Adolescence*, *24*(4), 447–60.

doi:10.1006/jado.2001.0382

Robertson, M. J. (1986). Mental disorder among homeless persons in the United States: An overview of recent empirical literature. *Administration in Mental Health*, *14*(1), 14–27.

doi: 10.1007/BF00822036

Rosenthal, D., Mallett, S., Milburn, N., & Rotheram-Borus, M. J. (2008). Drug use among homeless young people in Los Angeles and Melbourne. *The Journal of Adolescent Health: Official Publication of the Society for Adolescent Medicine*, *43*(3), 296–305.

doi:10.1016/j.jadohealth.2008.06.002

Sadowski, L. S., Kee, R. A., VanderWeele, T. J., & Buchanan, D. (2009). Effect of a housing and case management program on emergency department visits and hospitalizations among chronically ill homeless adults: A randomized trial. *Journal of the American Medical Association*, *301*(17), 1771–1778. doi:10.1001/jama.2009.561

Saltstone, R., Halliwell, S., & Hayslip, M. A. (1994). A multivariate evaluation of the Michigan Alcoholism Screening Test and the Drug Abuse Screening Test in a female offender population. *Addictive Behaviors*, *19*(5), 455–462. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/7832004>

nlm.nih.gov/pubmed/7832004

- Saunders, J. B., Aasland, O. G., Babor, T. F., de la Fuente, J. R., & Grant, M. (1993). Development of the Alcohol Use Disorders Identification Test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption-II. *Addiction*, *88*(6), 791–804. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/8329970>
- Schore, M. F., & Cohen, M. D. (1992). Homelessness and the chronically mentally ill. In M. J. Robertson & M. Greenblatt (Eds.), *Homelessness: A National Perspective* (pp. 65–75). New York: Plenum Press.
- Schutt, R. K., Meschede, T., & Rierdan, J. (1994). Distress, suicidal thoughts, and social support among homeless adults. *Journal of Health and Social Behavior*, *35*(2), 134–142. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/8064121>
- Seignourel, P. J., Green, C., & Schmitz, J. M. (2008). Factor structure and diagnostic efficiency of the BDI-II in treatment-seeking substance users. *Drug and Alcohol Dependence*, *93*(3), 271–278. doi:10.1016/j.drugalcdep.2007.10.016
- Sheehan, M. F. (1993). Dual diagnosis. *Psychiatric Quarterly*, *64*(2), 107–134. doi:10.1007/BF01065865
- Skinner, H. A. (1982). The Drug Abuse Screening Test. *Addictive Behaviors*, *7*, 363–371. Retrieved from http://ac.els-cdn.com/0306460382900053/1-s2.0-0306460382900053-main.pdf?_tid=db20a30c-d3b4-11e3-909f-100000aab0f6c&acdnat=1399226127_9fd4049300bebc39e64d8171c1f9045

- Skinner, H. A., & Goldberg, A. E. (1986). Evidence for a drug dependence syndrome among narcotic users. *British Journal of Addiction*, *81*(4), 479–484. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/3463347>
- Somers, A. (1992). Domestic violence survivors. In M. J. Robertson and M. Greenblatt (Eds.), *Homelessness: A National Perspective* (pp. 265–272). New York, NY: Plenum.
- Spinner, G. F., & Leaf, P. J. (1992). Homelessness and drug abuse in New Haven. *Hospital and Community Psychiatry*, *43*, 166–168. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/1572614>
- Staley, D., & El-Guebaly, N. (1990). Psychometric properties of the Drug Abuse Screening Test in a psychiatric patient population. *Addictive Behaviors*, *15*, 257–264. doi: 10.1016/0306-4603(90)90068-9
- Stergiopoulos, V., Dewa, C. S., Tanner, G., Chau, N., Pett, M., & Connelly, J. L. (2010). Addressing the needs of the street homeless. *International Journal of Mental Health*, *39*(1), 3–15. doi:10.2753/IMH0020-7411390101
- Storch, E. A., Roberti, J. W., & Roth, D. A. (2004). Factor structure, concurrent validity, and internal consistency of the Beck Depression Inventory - Second Edition in a sample of college students. *Depression and Anxiety*, *19*(3), 187–189. doi:10.1002/da.20002
- Struening, E. L., & Padgett, D. K. (1990). Physical health status, substance use and abuse, and mental disorders among homeless adults. *Journal of Social Issues*, *46*(4), 65–81. doi:10.1111/j.1540-4560.1990.tb01799.x

- Stuart, H. L., & Arboleada-Florez, J. A. (2000). Homeless shelter users in the postdeinstitutionalization era. *Canadian Journal of Psychiatry, 45*(9), 844–845. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/11143837>
- Substance Abuse and Mental Health Services Administration. (2006). Homeless admissions to substance abuse treatment: 2004. *Drug and Alcohol Services Information System, 26*, 1–6. Retrieved from <http://www.samhsa.gov/data/2k6/homeless/homeless.pdf>
- Sullivan, G., Burnam, A., & Koegel, P. (2000). Pathways to homelessness among the mentally ill. *Journal of Social Psychiatry and Psychiatric Epidemiology, 35*(10), 444-450. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/11127718>
- Sumerlin, J. R. (1995). Adaptation to homelessness: self-actualization, loneliness, and depression in street homeless men. *Psychological Reports, 77*(1), 295–314. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/7501770>
- Tam, T. W., Zlotnick, C., & Robertson, M. J. (2003). Longitudinal perspective: Adverse childhood events, substance use, and labor force participation among homeless adults. *The American Journal of Drug and Alcohol Abuse, 29*(4), 829–846. doi:10.1081/ADA-120026263
- Tessler, R. C. & Dennis, D. L. (1989). *A synthesis of NIMH-funded research concerning persons who are homeless and mentally ill*. Washington, DC: NIMH Division of Education and Service System Liaison.

- Testa, M. (2004). The role of substance use in male-to-female physical and sexual violence: A brief review and recommendations for future research. *Journal of Interpersonal Violence, 19*(12), 1494–1505. doi:10.1177/0886260504269701
- Thomas, T. N. (1995). Acculturative stress in the adjustment of immigrant families. *Journal of Social Distress and the Homeless 4*(2), 131–142. doi: 10.1007/BF02094613
- Thompson, S. J., Barczyk, A. N., Gomez, R., Dreyer, L., & Popham, A. (2010). Homeless, street-involved emerging adults: Attitudes toward substance use. *Journal of Adolescent Research, 25*(2), 231–257. doi:10.1177/0743558409350502
- Tiet, Q. Q., Finney, J. W., & Moos, R. H. (2008). Screening psychiatric patients for illicit drug use disorders and problems. *Clinical Psychology Review, 28*(4), 578–591. doi:10.1016/j.cpr.2007.08.002
- Torchalla, I., Strehlau, V., Li, K., & Krausz, M. (2011). Substance use and predictors of substance dependence in homeless women. *Drug and Alcohol Dependence, 118*(2-3), 173–179. doi:10.1016/j.drugalcdep.2011.03.016
- Toro, P. A., Bellavia, C. W., Daeschler, C. V., Owens, B. J., Wall, D. D., Passero, J. M., & Thomas, D. M. (1995). Distinguishing homelessness from poverty: A comparative study. *Journal of Consulting and Clinical Psychology, 63*(2), 280–289. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/7751489>

- Tsemberis, S., Gulcur, L., & Nakae, M. (2004). Housing first, consumer choice, and harm reduction for homeless individuals with a dual diagnosis. *American Journal of Public Health, 94*(4), 651–656. Retrieved from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1448313/>
- Tucker, J. S., Wenzel, S. L., Golinelli, D., Zhou, A., & Green, H. D. (2011). Predictors of substance abuse treatment need and receipt among homeless women. *Journal of Substance Abuse Treatment, 40*(3), 287–294. doi:10.1016/j.jsat.2010.11.006
- Union Rescue Mission. (2011). *About*. Retrieved from www.urm.org/about/
- Unger, J. B., Kipke, M. D., Simon, T. R., Montgomery, S. B., & Johnson, C. J. (1997). Homeless youths and young adults in Los Angeles: Prevalence of mental health problems and the relationship between mental health and substance abuse disorders. *American Journal of Community Psychology, 25*(3), 371–394. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/9332967>
- U.S. Department of Housing and Urban Development. (2010). *The 2010 Annual Homeless Assessment Report to Congress*. Retrieved from <http://www.hudhre.info/documents/2010HomelessAssessmentReport.pdf>
- U.S. Department of Housing and Urban Development. (2011). *Current Statistics on the Prevalence and Characteristics of People Experiencing Homelessness in the United States*. Retrieved from http://homeless.samhsa.gov/ResourceFiles/hrc_factsheet.pdf

- Vangeest, J. B., & Johnson, T. P. (2002). Substance abuse and homelessness: Direct or indirect effects? *Annals of Epidemiology*, *12*(7), 455–461. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/12377422>
- Wenzel, S. L., Burnam, A. M., Koegel, P., Morton, S. C., Miu, A., Jinnett, K. J., & Greer, Sullivan, K. J.,...& Greer, J. (2001). Access to inpatient or residential substance abuse treatment among homeless adults with alcohol or other drug use disorders. *Medical Care*, *39*(11), 1158-1169. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/11606870>
- Whitbeck, L. B., Hoyt, D. R., & Bao, W. N. (2000). Depressive symptoms and co-occurring depressive symptoms, substance abuse, and conduct problems among runaway and homeless adolescents. *Child Development*, *71*(3), 721–732. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/10953939>
- White, H. R., Loeber, R., Stouthamer-Loeber, M., & Farrington, D. P. (1999). Developmental associations between substance use and violence. *Development and Psychopathology*, *11*, 785-803. Retrieved from <http://journals.cambridge.org.lib.pepperdine.edu/action/displayFulltext?type=1&pdftype=1&fid=43708&jid=DPP&volumeId=11&issueId=04&aid=43707>
- Wolch, J., Blasi, G., & Dear, M. (2008) *L.A.'s Homeless: A Progress Report*. Retrieved from <http://articles.latimes.com/2008/jun/22/opinion/op-dear22>
- Wong, Y. L. I. (2000). Measurement properties of the Center for Epidemiologic studies--Depression Scale in a homeless population. *Psychological Assessment*, *12*(1), 69–76. doi:10.1037//1040-3590.12.1.69

World Health Organization, Department of Mental Health and Substance Dependence. (2001).

The Alcohol Use Disorders Identification Test: Guidelines for Use in Primary Care

(WHO Publication No. WHO/MSD/MSB/01.6a). Retrieved from [http://whqlibdoc.](http://whqlibdoc.who.int/hq/2001/WHO_MSD_MSB_01.6a.pdf)

[who.int/hq/2001/WHO_MSD_MSB_01.6a.pdf](http://whqlibdoc.who.int/hq/2001/WHO_MSD_MSB_01.6a.pdf)

Yudko, E., Lozhkina, O., & Fouts, A. (2007). A comprehensive review of the psychometric properties of the Drug Abuse Screening Test. *Journal of Substance Abuse Treatment*, 32(2), 189–198. doi:10.1016/j.jsat.2006.08.002

Zuvekas, S. H., & Hill, S. C. (2000). Income and employment among homeless people: The role of mental health, health and substance abuse. *The Journal of Mental Health Policy and Economics*, 3(3), 153–163. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/11967>

APPENDIX A

Union Rescue Mission – Pepperdine Counseling Center Intake Application

Union Rescue Mission – Pepperdine Counseling Center Intake Application

This form is intended to gather basic information in the interest of providing you with the best service possible. All information on this form is considered confidential. If you do not wish to answer a question, just leave it blank or speak to the Clinic Coordinator.

Applicant Name: _____ Date: _____

Age: _____ Birth date: _____ Sex: Male _____ Female _____

URM Program Name: _____ Room/Bed # _____

Chaplain/Case manager: _____ Referred By: _____

If not living at the Union Rescue Mission, please provide the following information-

Address: _____

Telephone number: _____

Personal Information:

Ethnicity (please check): African American _____; Asian/Pacific Islander _____;
Caucasian _____; Hispanic _____; Native American _____; Multi-racial _____;
Other (please indicate) _____

Marital Status: Married _____; Separated _____; Divorced _____; Widowed _____;
Never married _____; Currently in a relationship _____; Living together _____

How long have you been a part of the Union Rescue Mission program? _____

Have you served in the U.S. armed services? _____ Specify Branch: _____

If living outside of the Union Rescue Mission, please list the people living with you:

<u>Name</u>	<u>Relationship</u>	<u>Age</u>	<u>Occupation</u>

Person to be contacted in case of emergency:

Name: _____

Address: _____

Telephone: _____

Relationship to you: _____

Medical History:

Last medical exam: _____ Current Physician: _____

Last visit to physician: _____ Where: _____

Current medical and physical health problems (e.g., diabetes, high blood pressure, headaches,

etc.): _____

Medications being taken: _____

Mental Health and Substance Use History:

Do you have a history of substance abuse problems? Yes _____ No _____

During the past 12 months, how serious have your alcohol problems been? (circle one)

1	2	3	4	5
No problems at all/ not applicable		Moderate problems		Severe problems

During the past 12 months, how serious have your drug problems been? (circle one)

1	2	3	4	5
No problems at all/ not applicable		Moderate problems		Severe problems

Please list the drugs and substances, including alcohol and prescription medications, that you have used and abused the most in your life: _____

List other recovery programs you have attended. For example: AA, NA, prison, drug programs, other Missions. Please state where and when: _____

What are the main concerns you are seeking help for in the counseling center?

Have you ever been in therapy before? _____ If so, please describe: _____

Are you now or have you been on any medications related to emotional or mental difficulties? _____ If so, please list: _____

Have you ever made a suicide attempt? _____ If so, when and how many times?

Please list any previous hospitalizations (medical or psychiatric):

<u>Date</u>	<u>Hospital Name</u>	<u>Reason</u>	<u>Length of stay</u>

Other serious illnesses:

<u>Date</u>	<u>Nature of condition</u>	<u>Duration</u>

Previous history of mental health care:

<u>Date</u>	<u>Type of services</u>	<u>Describe problem</u>	<u>Duration</u>

List any past Legal Problems (arrests, incarcerations, etc.)

Are you currently court mandated to attend counseling? _____

Family Data:

Is Father living? _____ If yes, his current age: _____ His residence _____
 His occupation: _____ How often do you have contact? _____
 If he is not living, his age at death: _____ Your age at his death: _____
 Cause of death: _____

Is Mother living? _____ If yes, her current age: _____ Her residence _____
 Her occupation: _____ How often do you have contact? _____
 If she is not living, her age at death: _____ Your age at her death: _____
 Cause of death: _____

Children:

<u>Name</u>	<u>Age</u>	<u>Current Residence</u>	<u>Contact how often?</u>

Brother and Sisters: _____

List any other people you lived with for a significant time period during childhood:

<u>Name</u>	<u>Relationship to you</u>	<u>Still in contact?</u>

Educational and Occupational History:

Highest grade or year of education completed _____

Please list any professional, technical, or vocational training:

Are you currently in school? _____ School/Location: _____

Current and previous jobs:

<u>Job Title</u>	<u>Employer Name</u>	<u>Dates/Duration</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

Please check boxes to indicate which of the following areas are current problems for you and reasons for counseling. Place TWO check marks to indicate the most important concern(s).

- | | |
|---|---|
| <input type="checkbox"/> Feeling nervous or anxious | <input type="checkbox"/> Difficulty with school or work |
| <input type="checkbox"/> Under pressure & feeling stressed | <input type="checkbox"/> Concern about finances |
| <input type="checkbox"/> Needing to learn to relax | <input type="checkbox"/> Having difficulty being honest/open |
| <input type="checkbox"/> Afraid of being on my own | <input type="checkbox"/> Trouble communicating sometimes |
| <input type="checkbox"/> Feeling angry much of the time | <input type="checkbox"/> Having a hard time making friends |
| <input type="checkbox"/> Difficulty expressing emotions | <input type="checkbox"/> Having a hard time keeping friends |
| <input type="checkbox"/> Feeling inferior to others | <input type="checkbox"/> Feeling pressured by others |
| <input type="checkbox"/> Lacking self confidence | <input type="checkbox"/> Feeling controlled/manipulated |
| <input type="checkbox"/> Feeling down or unhappy | <input type="checkbox"/> Pre-marital counseling |
| <input type="checkbox"/> Feeling lonely | <input type="checkbox"/> Marital problems |
| <input type="checkbox"/> Experiencing guilt feelings | <input type="checkbox"/> Family difficulties |
| <input type="checkbox"/> Feeling down on myself | <input type="checkbox"/> Difficulties with children |
| <input type="checkbox"/> Thoughts about taking own life | <input type="checkbox"/> Break-up of relationship |
| <input type="checkbox"/> Concerns about emotional stability | <input type="checkbox"/> Difficulties in sexual relationship |
| <input type="checkbox"/> Feeling cut off from emotions | <input type="checkbox"/> Feeling guilty about sexual activities |
| <input type="checkbox"/> Wondering "Who am I?" | <input type="checkbox"/> Concerns about physical health |
| <input type="checkbox"/> Difficulty controlling my thoughts | <input type="checkbox"/> Feeling fat even if weight is average |
| <input type="checkbox"/> Being suspicious of others | <input type="checkbox"/> Use/abuse of alcohol or drugs |
| <input type="checkbox"/> Getting into trouble | <input type="checkbox"/> Concerns about staying clean & sober |

Additional concerns (if not covered above):

APPENDIX B

GPS-IRB Exemption Notice

PEPPERDINE UNIVERSITY

Graduate & Professional Schools Institutional Review Board

May 29, 2013

Brittany Winters
1206 1st Street
Hermosa Beach, CA 90254

Protocol #: P0413D02
Project Title: The Psychometric Utility of the Drug Abuse Screening Test Among Treatment-Seeking, Homeless Men

Dear Ms. Winters,

Thank you for submitting the Non-Human Subjects Verification Form and supporting documents for your above referenced study. As required by the Code of Federal Regulations for the Protect for Human Subjects (Title 45 Part 46) any activity that is research and involves human subjects requires review and approval by the Graduate and Professional Schools IRB (GPS-IRB) prior to initiation.

After review of the Non-Human Subjects Verification Form and supporting documents, GPS IRB has determined that your proposed research¹ activity does not involve human subjects. Human subject is defined as a living individual about whom an investigator (whether professional or student) conducting research obtains

- (1) Data through intervention or interaction with the individual, or
- (2) Identifiable private information. (45 CFR 46102(f))

GPS IRB review and approval of your above referenced research is not required as it does not involve human subjects. We wish you success on your non-human subject research.

Sincerely,



Doug Leigh
Graduate School of Education & Psychology
6100 Center Dr. 5th Floor
Los Angeles, CA 90045
jean.kang@pepperdine.edu
W: 310-568-5753
F: 310-568-5755

cc: Dr. Lee Kats, Associate Provost for Research & Assistant Dean of Research
Ms. Alexandra Roosa, Human Protections Administrator
Dr. Cary Mitchell, Graduate School of Education and Psychology

¹ *Research* means a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge. Activities which meet this definition constitute research for purposes of this policy, whether or not they are conducted or supported un-der a program which is considered research for other purposes. (45 CFR 46.102(d)).