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Utilization of the brief symptom inventory with homeless men: a convergent validity study of the depressive symptoms

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UTILIZATION OF THE BRIEF SYMPTOM INVENTORY WITH HOMELESS MEN: A CONVERGENT VALIDITY STUDY OF THE DEPRESSIVE SYMPTOMS DIMENSION

A clinical dissertation submitted in partial satisfaction

of the requirements for the degree of

Doctor of Psychology

by

Valerie Sims

January, 2010

Cary Mitchell, Ph.D. – Dissertation Chairperson

This clinical dissertation, written by

Valerie Sims

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

September 2, 2009

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ACKNOWLEDGEMENTS

This dissertation would not have been possible without the support and guidance of several individuals. First, I would like to heartily thank Dr. Cary Mitchell, my committee chair. His thoughtful feedback, encouragement, and careful editing made this project possible, as well as an enjoyable learning experience. I would also like to thank Dr. Carolyn Keatinge, whose thought-provoking input and recommendations helped organize and focus this study. I am also grateful to Dr. Michelle Zeller, who was an essential resource given her experience with the population and study environment. Finally, I would like to thank my husband, Michael Sims, whose strength, support, and encouragement sustained me throughout this challenging process.

VITA

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EDUCATION

09/06 – present Pepperdine University, Graduate School of Education and Psychology
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Dissertation Chair: Cary Mitchell, Ph.D.

09/04 – 05/06 University of Denver, Graduate School of Professional Psychology
Degree: M.A. in Forensic Psychology
Thesis Title: A study on the effect of educational level on support for the death penalty

08/01 – 05/04 Western Illinois University
Degree: B.S. in Psychology, Minor in Music

08/99 – 05/01 McHenry County College – Transferred to Western Illinois University

CLINICAL EXPERIENCE

09/09 – present Wisconsin Department of Corrections – Madison, WI
Psychology Intern

- Conduct mental health rounds on a segregation unit housed within a maximum security, male, state prison in order to determine the psychological needs of inmates housed in the unit
- Complete clinical monitoring meetings with inmates currently or recently prescribed psychotropic medications and/or inmates who recently indicated suicidal ideation housed in a maximum security state prison in order to monitor their mental health
- Conduct focused assessments with male inmates housed in a maximum security state prison to address issues such as cognitive ability, diagnostic questions, and potential risk utilizing assessment tools such as the PCL-R, SIRS, M-FAST MMPI-2, and WAIS-IV.
- Write report to referral source in order to address issues presented within the referral questions
- Address male inmate concerns or requests for mental health services in both a maximum security and minimum security state prison
- Conduct Existential and Cognitive Behavioral individual psychotherapy with male inmates housed in maximum and minimum security state prisons

- Co-facilitate process-oriented and Moral Reconation Therapy group psychotherapy sessions with male inmates housed in a minimum security state prison
- Participate in weekly group supervision in order to share experiences from the varying correctional facilities to which the interns are assigned as well as ensure appropriate treatment and assessment of inmates
- Present seminars on dissertation topic as well as other assigned readings and materials to other psychologists and interns employed in the state

09/08 – 06/09 Los Angeles County + University of Southern California Medical Center
Department of Psychiatry, Child and Adolescent Assessment Rotation – Los Angeles, CA
Psychology Clerk

- Completed focused assessments with children and adolescents in an outpatient psychiatry clinic. Measures utilized included the WISC-IV, WASI, WRAT-4, the Beery VMI, YSR, TSCC, CDI, and BYI
- Administered and interpreted self-report measures completed by parents of children and adolescents assessed at the outpatient psychiatry clinic such as the CBCL, GARS, and the Conner's Rating Scales
- Conducted personality assessments with severely mentally ill adolescents in an inpatient psychiatric hospital setting in order to clarify their current problems through the use of the MACI and MMPI Short Form
- Administered cognitive assessments including the WASI, WRAT-4, TONI-3, and the Beery VMI with severely mentally ill adolescents in an inpatient psychiatric hospital setting in order to determine their level of cognitive functioning
- Wrote reports regarding the adolescent's level of cognitive and/or personality functioning to be used in determining the most appropriate level and types of treatment and to provide recommendations for future treatment and assessment
- Reviewed chart records in order to gather history and current treatment information about the adolescent in order to incorporate in the report
- Attended grand rounds on an adolescent inpatient hospital unit in order to learn about the adolescents and determine who requires an assessment and the nature of the necessary assessment

09/07 – 08/08 Metropolitan State Hospital – Norwalk, CA
Psychology Practicum Student

- Completed focused assessments with severely mentally ill individuals in a forensic inpatient psychiatric hospital setting in order to clarify their diagnoses. Tests administered include the MMPI-2, MCMI-III, SCID-II, and WAIS-III
- Co-facilitated group therapy sessions with seriously mentally ill individuals housed in a forensic inpatient psychiatric hospital in order to foster change in their problem behaviors. Groups included Understanding Your Medication, Conflict Resolution, Anger Management, and Mind Over Mood
- Conducted cognitive screening assessments consisting of the WASI, RBANS, and WRAT-4 with severely mentally ill individuals in a forensic inpatient psychiatric

hospital setting in order to determine their level of cognitive functioning for placement in group treatment
- Completed cognitive and academic functioning assessments with severely mentally ill individuals in a forensic inpatient psychiatric hospital setting utilizing measures such as the WAIS-III, TONI-3, Color Trails, Rey 15-item, CVLT, and DKEFS
- Wrote brief reports regarding the individual's level of cognitive functioning to be used by their Wellness and Recovery Team in providing the most appropriate level and types of treatment for them
- Interviewed individuals and staff and review chart material in order to gather history of the individual in order to incorporate in the background information section of the individual's report
- Conducted individual psychotherapy with a severely mentally ill and physically disabled individual housed in the Skilled Nursing Unit in an inpatient psychiatric hospital setting in order to foster change in problem behaviors

09/06 – 02/08 Pepperdine University Community Counseling Clinic – Los Angeles, CA
Therapist
- Conducted Humanistic and Existential individual therapy with adults and families presenting with mood, anxiety, relational, and personality disorders to foster change in order to meet their goals
- Completed intake evaluations with new clients in order to gain relevant background information about the client to aid in the development of treatment plans
- Documented all client contact to ensure that records contain information about any events or situations
- Participated in group supervision in order to ensure appropriate treatment of clients and to gain and share ideas for treatment

09/05 – 06/06 18th Judicial District Juvenile Assessment Center – Englewood, CO
Intern/Intake Specialist
- Took custody of juveniles, ages 10 to 17, brought into the center by law enforcement to foster cooperation between the facility and law enforcement
- Performed extensive interviews to determine probability of recidivism and screen for abuse in order to determine proper placement for the youth after their departure from the facility
- Took phone calls and pages from law enforcement and concerned guardians to foster communications regarding the youth
- Wrote detailed reports to the courts in regards to the juvenile in order to aid the court in finding an appropriate punishment and placement for the juvenile

02/05 – 06/06 BI, Inc. – Lakewood, CO
Group Facilitator
- Facilitated a weekly Anger Management group with persons in the criminal justice system in order to teach and develop coping skills for their anger, primarily using a Cognitive Behavioral approach

- Facilitated two weekly Moral Reconation Therapy group with persons who have been convicted of a minimum of one felony to foster changes in their troublesome behaviors
- Collaborated with probation and parole officers to ensure that court mandated treatment and services were being provided
- Maintained notes on group activities and sessions to foster organization and well kept records

10/04 – 05/05 BI, Inc. – Lakewood, CO
Intern

- Co-facilitated two Cognitive-Behavioral, outpatient substance abuse groups consisting of males who have been convicted of at least one felony between the ages of 18 and 60 in order to create change in their alcohol and drug use behaviors
- Co-facilitated a psychoeducational, outpatient group for individuals charged with Driving Under the Influence in order to educate them about drinking and driving as well as attempting to decrease this behavior
- Maintained notes on group activities and filed paperwork with the State of Colorado in order to comply with state regulations
- Checked clients into the computer system and guided them through the orientation process to the program, resulting in well organized records of current and past clients
- Administered breathalyzers, urine analyses, and monitored Antabuse consumption in order to monitor clients' sobriety

TEACHING AND RESEARCH EXPERIENCE

06/07 – 05/09 Pepperdine University, Dr. Carolyn Keatinge – Los Angeles, CA
Teaching Assistant

- Review and correct APA format of references used in a future edition of an assessment textbook to ensure accurate references in the final publication
- Score and correct assessments completed by students in Cognitive and Personality Assessment masters and doctoral level classes including the WAIS-III, WAIS-IV, WISC-IV, WRAT-4, Bender Gestalt II, Beery VMI, MMPI-2, MCMI-III, HTP, RISB, TAT, and Rorschach to foster advancement of knowledge in students
- Conduct mock assessments using the WAIS-III, WAIS-IV, WISC-IV, and Rorschach with doctoral level students in order to assist in their learning and further their understanding of the instruments
- Assist professor in scoring exams completed by students in Cognitive and Personality Assessment masters and doctoral level classes to ensure accuracy of scoring and decrease error
- Answer questions posed by students in Cognitive and Personality Assessment masters and doctoral level classes in order to further their understanding of the subject matter

06/08 – 08/08 Pepperdine University, Dr. Carolyn O'Keefe – Los Angeles, CA
06/09 – 07/09 Teaching Assistant

- Score and correct assessments completed by students in Personality Assessment masters level classes including the MMPI-2 and Rorschach to foster advancement of knowledge in students
- Answer questions posed by students in Cognitive and Personality Assessment masters level classes in order to further their understanding of the subject matter

05/08 – 05/08 Pepperdine University, Dr. Carolyn Keatinge – Los Angeles, CA
Research Assistant

- Rewrite chapter in graduate level assessment textbook on the assessment of suicidality, dangerousness, substance-related disorders, abuse, and eating disorders in order to update the information for future publication
- Add section to chapter providing information on the assessment of competency
- Review chapters for a graduate level textbook focusing on assessment to ensure accuracy of information
- Update information on assessments that have newer editions and add information on that which has changed in order to provide the latest assessment information
- Review chapters in graduate level assessment textbook adding references to sections discussing diagnoses related to specific assessment results

11/03 – 05/04 Western Illinois University, Psychology and Law Lab – Macomb, IL
Undergraduate Research Project

Supervisor: Kimberley McClure, Ph.D.
Study conducted to determine if men are punished more harshly than women when they commit similar crimes. Hypothesis found to be true in McDonough County; men are punished more harshly than women when they commit similar crimes.
The study has been extended and is being continued by the Psychology and Law Lab at Western Illinois University.

- Compiled data through extensive research at the McDonough County Courthouse in order to compare punishment severity between genders
- Compared types of crimes committed, number of felonies committed, gender, and length of time sentenced to incarceration in order to sample, if any, differences in sentencing existed
- Wrote up and presented preliminary results of study to aid in the continuing study of the phenomenon

OTHER RELATED WORK EXPERIENCE

01/07 – 07/09 Pepperdine University, Dr. J.L., Fortson – Los Angeles, CA
Graduate Assistant

- Create and update databases with information from masters level student teachers
- Process and send paperwork in order to assist in the supervision of masters level student teacher's placements
- Create powerpoint presentations and handouts for use in seminars and classes for masters level education students

- Teach one class, of masters level student teachers, per semester about stress management
- Photocopy handouts for use in masters level education classes
- Answer and return phone calls, as well as check emails in order to assist the Director of Student Teaching

PUBLICATIONS AND PRESENTATIONS

Sims, V.D. (2010). Self-control: Suicidality, dangerousness, substance-related disorders, abuse, eating disorders, and competency. In C. Keatinge, S. Himmelstein, & C. O'Keefe (2010). *Rapid psychological assessment.* New York: Wiley & Sons. (In Prep.).

Shasteen, V.D. & Flauaus, M. (2004, April). *Differences in sentencing decisions based on gender.* Presentation at the 31st Annual Iowa-Illinois Undergraduate Psychology Conference, Rock Island, IL.

PROFESSIONAL ACTIVITIES

April 26-29, 2007. American College of Forensic Psychiatry 25th Annual Symposium. Santa Fe, NM.

- 23 hours of CE credits earned
- Attended presentations on various topics including, but not limited to Traumatic brain injury and PTSD: Can they coexist?, Forensic evaluations with the non-English speaking defendant: Complexities of practice, Use of psychological testing in custody evaluations, Ethical issues in assessment selection for forensic evaluations, and Atascadero State Hospital: Applying a recovery model of mental health enhancement.

September 27, 2007. Patton Forensic Conference. Patton, CA.

September 17, 2009. Ethics for Psychologists in Prison Conference. Madison, WI.

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American Psychological Association since 09/04
American Psychology and Law Association since 09/04

REFERENCES AVAILABLE UPON REQUEST

ABSTRACT

The Brief Symptom Inventory (BSI) is a 53-item, self-report measure of psychological symptoms that was developed as a screening tool for use in a variety of clinical settings. The purpose of the present archival study was to examine the usefulness of the BSI depressive symptoms subscale in a sample of homeless men. Given that homelessness represents a grave problem in the U.S., and that homeless persons are at greater risk for a broad range of mental health problems, the study was conceived to provide additional information about the usefulness of the BSI as a screener of depressive symptoms among the homeless. The sample consisted of 100 homeless men, most of whom were participating in a 12-month, residential substance abuse rehabilitation program offered at a religiously affiliated, inner-city mission. Moreover, all the participants were seeking psychological services at the time they were evaluated. In addition to the BSI, scores from the Beck Depression Inventory, 2nd Edition (BDI-II) and selected demographic variables were collected. It was predicted that the BSI depressive symptoms subscale score and the Global Severity Index (GSI) would be positively correlated with the BDI-II. Correlational analysis revealed a statistically significant relationship, in the predicted direction, between the BSI depressive symptoms subscale and the BDI-II (r = .74). A strong, positive relationship between the GSI and BDI-II was also obtained (r = .75). These findings supported the convergent validity of the BSI depression dimension. Support for the discriminant validity of the BSI depression scale was also obtained. Participants who had a primary complaint or presenting problem of mood symptoms at the time of assessment obtained a significantly higher mean score on the BSI depression scale than participants with other primary complaints. These findings were interpreted as

strong support for the usefulness of the BSI in screening for depressive symptoms in an ethnically diverse sample of homeless men. Other findings, clinical implications, study limitations, and suggestions for future research are also explored.

Introduction

The convergent validity of a psychological assessment measure is important to establish, especially when that measure is being used for various clinical purposes. Convergent validity is a type of construct validity which "refers to examining the relationship between a test and another measure of the same construct" (Archer & Smith, 2008, p. 22). It allows one to show evidence for the validity of a test by comparing it with a measure that has already been validated.

The two measures that were focused on in this study were the Brief Symptom Inventory (BSI; Derogatis, 1993) and the Beck Depression Inventory – Second Edition (BDI-II; Beck, Steer, & Brown, 1996). Specifically, the focus of the study was to explore how the depression subscale of the BSI compared to the BDI-II in a vulnerable and under-studied population. The raw data utilized were gathered from archival data that were collected from a sample of homeless, adult males receiving psychological services at a faith-based mission located in central Los Angeles, California.

Homelessness

Homelessness is a serious problem that impacts more than 3 million people in the United States of America (National Law Center on Homelessness and Poverty [NLCHP], 2007). Such a wide spread predicament cannot and should not be ignored. The McKinney-Vento Homeless Assistance Act defined a homeless person as "an individual who lacks a fixed, regular, and adequate night-time residence or a person who resides in a shelter, welfare hotel, transitional program, or place not ordinarily used as regular sleeping accommodations, such as streets, cars, movie theatres, abandoned buildings,

etc." (Institute for the Study of Homelessness and Poverty, 2004, p. 1). The Act also indicates that individuals housed in jail are not considered homeless.

According to NLCHP (2007), one of the major causes of homelessness is the lack of mental health care and services available. Morse and Calsyn (1986) found that negative life events, including unemployment, loss of income, debt, being fired from one's job, death of a friend, sexual abuse, and assault, were experienced more often by their homeless sample prior to becoming homeless than by the general population. Furthermore, Kingree, Stephens, Braithwaite, and Griffin (1999) identified the level of friend support as a predictor of homelessness following substance abuse treatment. Other risk factors for homelessness include poverty, mental illness, substance abuse, chronic health problems, domestic violence, lack of affordable housing, loss or interruption of public assistance, and discrimination (Institute for the Study of Homelessness and Poverty, 2004).

It has been widely reported in the popular media that Los Angeles County has substantially more homeless persons that any other county in the U.S. (e.g., Archibold, 2006). The mayor of Los Angeles, Antonio R. Villaraigosa, stated in 2006 that Los Angeles is "the capital of homelessness in America" (Archibold, p.1). This fact was confirmed again in a recent census and survey. In January 2007, the Los Angeles Homeless Services Authority [LAHSA], completed the Greater Los Angeles Homeless Count, which was performed using United States Department of Housing and Urban Development-recommended practices to count and estimate the number of people "on any given time and over the course of the year" who become homeless (LAHSA, 2007, p.

253). The study included a street count, a shelter and institution count, a homeless demographic survey, a general population telephone survey, and a statistical projection.

The findings showed that, on any given day, there are about 73,702 homeless individuals in the County of Los Angeles, 15% of whom are children (LAHSA, 2007). Seventeen percent (17%) of the homeless individuals are living in shelters and the other 83% are unsheltered. A demographic profile was gathered by use of surveys given to 3,230 homeless respondents in Los Angeles County. About 59% of the homeless in Los Angeles were adult males and 85% of those were unsheltered (LAHSA). Also, of the nearly 74,000 homeless, over 50% were African American, 19% were Caucasian, almost 24% were Hispanic, 2% were American Indian or Alaskan Native, 1% were of Asian or Pacific Islander decent, and 4% reported they were of multiple ethnic groups. Their median age was 45; the largest age group was the 41 to 50-year-olds, who made up 34% of the respondents, while the 51 to 60-year-olds represented 24% of the respondents (LAHSA). Of the individuals responding, 14% reported to be United States military veterans (LAHSA).

Mental Illness among the Homeless

A consistent finding has been that homeless persons have higher prevalence rates of mental illness and substance abuse than the rest of the general population; in addition, problems of mental illness and substance abuse are more common among homeless individuals than homeless families (Institute for the Study of Homelessness and Poverty, 2004). Reported rates of substance abuse and mental illness among homeless persons vary greatly and often rely on self-report by the homeless individuals themselves. Also, homeless persons with substance use concerns show high rates of comorbid mental

disorders (Institute for the Study of Homelessness and Poverty, 2004). Substances play a significant role in the development of mood symptoms. According to Tate et al. (2008), "alcohol and drug use can cause or exacerbate depression symptoms, either through direct effects (e.g., alcohol, sedatives) or during withdrawal states (e.g., cocaine, amphetamines)" (p. 47). Furthermore, Davis et al. (2006) noted the rate for comorbidity of major depressive disorder and a substance use disorder ranges from 8.5% to 21.4%, while Weiss and Wong (1995) indicated the frequency of substance use disorders among individuals with mood disorders is twice that of the general population.

The reported percentage of homeless individuals that abuse substances ranges in the literature from 34% to 67% and, likewise, the percentage of homeless individuals that have mental illnesses varies from 14% to 25% (Institute for the Study of Homelessness and Poverty, 2004). A striking finding from the 2007 Greater Los Angeles Homeless Count was that 74% of survey respondents reported one or more disabling conditions; 52% reported they were suffering from depression and over 42% revealed they were abusing alcohol and/or drugs (LAHSA, 2007).

Psychological distress, especially depressive symptoms, is exceptionally common among homeless persons. Based on their literature review, Wong and Piliavin (2001) reported that the prevalence of "possible clinical depression" among homeless adults in the U.S. is between 46 and 80%, which they determined to be two to four times the prevalence found in the general community (p. 1037). Cohen and Burt (1990) utilized a modified version of the Center for Epidemiological Studies- Depression Scale (CES-D; Radloff, 1977) to study current, serious distress among homeless persons. They found that 70% of those with mental hospitalization histories, 51% of those with chemical

dependency treatment histories, and 39% of all other homeless people scored above the clinical cutoff for depression, where only about 20% of all adults in the United States score at this level (Cohen & Burt). This is further evidence of the significantly higher rate of depressive symptoms present among homeless adults. Given that depression appears to be a major concern among the homeless, it is critically important that clinicians have access to effective means for assessing depressive symptoms in homeless persons.

Assessment with the Homeless Population

The need for greater availability of psychological services for the homeless is apparent, according to the research (Clarke, Williams, Percy, & Kim, 1995; Morse & Calsyn, 1986; Solorio, Milburn, Andersen, Trifskin, & Rodriguez, 2006). Moreover, with expanded mental health services one can expect more psychological assessment. Therefore, it is important to analyze the quality of information the assessment measures gather and provide, including the reliability and validity of the measures when they are used with homeless persons.

Hogg, Hall, and Marshall (1990) identify "three potential areas of development of assessment approaches" with the homeless (p. 2). The first is to assess the clients' own views of their care. The authors state that mental health professionals should "have a format informal enough to encourage compliance, but be structured enough to allow comparison of views" (p. 3). Second, they indicate that mental health professionals should focus on the homeless' needs for care. Finally, they report that we should focus on assessing changes in mental state in order to detect transient changes. Brief measures, that target important symptoms, show good promise for the assessment of changes in mental state among homeless persons. The purpose of the present study was to examine

such a measure, the Brief Symptom Inventory (BSI), in a sample of homeless persons seeking psychological services. In addition, particular emphasis was paid to the measure's depression scale.

Toro and Wall (1991) compared the use of three different types of measures used to assess mental health status in the homeless. The three types included a structured diagnostic measure, history of psychiatric hospitalization, and a symptom checklist. When just examining the history of psychiatric hospitalization across the lifetime, the authors found a 33% rate of mental illness; however, of those found to have a history of psychiatric hospitalization, 73% did not receive a diagnosis on the diagnostic measure. This raised questions about the adequacy and appropriateness of the measure used. The authors also found that 41% of the homeless sample they studied would be considered mentally ill according to the symptom checklist. They go on to add that symptom checklists, when used with the homeless population, should be considered measures of current psychological distress, not measures of mental illness (Toro & Wall). They also state, however, that "because of their reactive nature, these measures may be especially suitable as outcome indices assessing change as a function of intervention" and that hospitalization and diagnostic measures would be less useful in this context (Toro & Wall, p. 485). It is clear that careful attention needs to be paid to the types of psychological measures used with homeless persons. Consistent with these concerns, the emphasis in the current study was on the measurement of symptoms, not on diagnosed mental disorders.

Calsyn, Morse, Klinkenberg, and Trusty (1997) analyzed the reliability and validity of self-report data in a sample of 165 homeless mentally ill individuals. The

participants were administered a number of self-report assessments used to measure variables such as self-esteem, alienation, interpersonal adjustment, client satisfaction, psychiatric symptoms, substance abuse, and service utilization. Overall, the authors discovered that self-report measures used with the homeless were generally reliable and valid. However, it should be noted that this study was conducted on a sample of homeless mentally ill individuals from St. Louis, Missouri who participated in the study on a volunteer basis.

Brief Symptom Inventory (BSI)

The BSI, according to the manual by Derogatis (1993), is a 53-item self-report scale used to measure nine primary symptom dimensions (somatization, obsessive-compulsive behavior, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism), and it also yields three global indices [Global Severity Index (GSI), Positive Symptom Distress Index (PSDI), and Positive Symptom Total (PST)]. It was developed from its longer parent instrument, the Symptom Checklist 90, Revised (SCL-90-R; Derogatis, 1977), which has been widely cited in the clinical literature. Respondents are asked to rate the extent to which various problems have "distressed or bothered" them in the past week, including the day of testing. The BSI provides a 5-point response scale, ranging from 0, which equals "not at all," to 4, which equals "extremely." The test takes approximately 8 to 10 minutes to complete and can be used with participants 13 years old and older. Separate norms for adults and adolescents have been developed and the BSI is intended for use with psychiatric patients, medical patients, and individuals in the community in order to reflect psychological symptoms (Derogatis, 1993).

Yamada (1999) states the BSI's strengths as the following: "(a) applicability across a wide range of symptomatology; (b) feasibility of use in clinical settings; (c) utility with consumers with a range of educational backgrounds and intellectual levels; (d) focus on a brief time period that reduces retrospective memory error, and (e) coverage of attitudes and behaviors that provide measurement of the consumers' subjective experiences and objective functioning" (p. 32). These attributes suggest that the BSI may be well suited to use with homeless persons.

BSI Findings among Homeless Persons

While a handful of studies have been published, more research is needed on the usefulness of the BSI among homeless persons. Klinkenberg, Calsyn, and Morse (1998) used the BSI with a sample of 105 severely mentally ill individuals who were currently homeless or at risk for becoming homeless. Specifically, the researchers analyzed the GSI scores and used them to represent the participants' reported severity of symptoms. They found that low GSI scores correlated with a positive helping alliance in case management. More recently, Reback, Kamien, and Amass (2007) studied 20 homeless, substance-abusing men. They administered the BSI and the BDI, among other measures. The men had a mean score of 19.1 and a standard deviation of 9.2 on the BDI and a mean GSI score of 1.5 with a standard deviation of .8 (Reback et al.). The authors noted that the participants reported many "positive psychiatric symptoms" on the BSI (M = 35.6, SD = 12.3), as measured by the BSI Positive Symptom Total (Reback et al., p. 652).

Lewis (2001) focused on children's resilience and attachment to their mothers in homeless mother-child pairs. The author utilized the BSI to screen mothers for appropriateness to participate in the study. Lewis focused on the GSI score of the

mothers, stating it “provides the most sensitive single indicator of a person’s distress, combining information about number of symptoms and intensity of distress” (p. 64). The author considered any mother scoring more than a T score of 63 on the GSI scale of the BSI to be experiencing significant distress. In the sample of five homeless mothers, Lewis found that two showed evidence of significant distress on the BSI.

McCaskill, Toro, and Wolfe (1998) studied a sample of 118 homeless adolescents living in shelters throughout the Detroit area and 118 housed adolescents from the same metropolitan area. They found that homeless adolescents demonstrated greater levels of symptomatology on the BSI when compared to non-homeless adolescents as well as greater levels of disruptive behavior disorders and alcohol abuse or dependence.

Nyamathi, Galaif, and Leake (1999) utilized the BSI in a study in which they analyzed sociodemographic and psychological characteristics of 448 homeless women and their intimate partners. They found that homeless women scored higher on depression, anxiety, and hostility subscales of the BSI than their male partners. Solorio et al. (2006) studied an ethnically diverse sample of homeless adolescents in Los Angeles County. Of these teenagers, 379 were between the ages of 13 and 17 and 309 were between 18 and 20. Surprisingly, the authors found that only 15% of the 688 homeless adolescent participants met criteria for emotional distress according to BSI.

In regard to psychometric issues, Calsyn et al. (1997) utilized the BSI in order to measure psychiatric symptoms and to determine the reliability and validity of self-report among 165 mentally ill homeless individuals in St. Louis, Missouri. The authors focused on the Global Severity Index (GSI), as well as five scales (anxiety, depression, hostility, somatization, and psychoticism). They found strong internal consistency in regard to the

BSI in general. As for the five scales individually, they found good evidence of reliability for the anxiety, depression, hostility, and somatization scales with homeless individuals, but lower reliability for the psychoticism scale.

Beck Depression Inventory – Second Edition (BDI-II)

The index or criterion measure for depressive symptoms in the present study will be the widely studied and used Beck Depression Inventory, Second Edition (BDI-II). The BDI-II is a 21-item self-report measure utilized in assessing the severity of depression symptoms in adults and adolescents 13 years of age and older (Beck et al., 1996). The BDI-II was developed to assess symptoms of depression based on the criteria listed in the American Psychiatric Association's (1994) *Diagnostic and Statistical Manual of Mental Disorders – Fourth Edition* (*DSM-IV*). According to Beck et al. (1996), the original version of the BDI, created in 1961, was developed based on depressive symptoms reported often by psychiatric patients at that time. The amended version of the scale, the BDI-IA, was published in 1979, and it involved the modification of just four items.

The BDI-II was created based on research gathered over the 35 years the original BDI was in use and, unlike the BDI-IA, was a significant revision. The changes made to the measure were in order to "increase its content validity and its correspondence to the diagnostic criteria for major depressive disorder outlined in the DSM-IV" (Wiebe & Penley, 2005, p. 481). Piotrowski (1996) reports that the BDI is one of the most often used and relied upon measures of psychopathology in clinical practice. For example, Steer, Brown, Beck, and Sanderson (2001) studied 260 adult outpatients diagnosed with major depressive disorder of varying severity levels. They found the BDI-II to be useful in assisting clinicians to determine the severity of a major depressive episode. As a

measure, the BDI-II has proven to be useful across clinical and research settings (Beck et al., 1996). It is "the most widely used instrument for detecting depression" (Pearson Education, n.d., p.1). According to Groth-Marnat (2003), over 1000 research studies have been conducted using Beck's depression scale. Given its wide application among clinical and non-clinical populations, it would appear to be an appropriate criterion measure against which to compare the more recently developed and less well-studied BSI. The relevant literature on the BDI-II and the BSI has been summarized and is presented in Appendix A.

Other Research Findings

Warren, Hurt, Loper, and Chauhan (2004) utilized the BSI's Global Severity Index (GSI) to determine the concurrent validity of their measure, the Prison Adjustment Questionnaire (PAQ), in a sample of 777 female inmates. They discovered the GSI significantly correlated with both their Conflict scale and, even more significantly, with their Distress scale. This showed that the BSI correlated significantly with problem behaviors among prison inmates. Given that many homeless persons have been incarcerated, it is further evidence of the potential usefulness of the BSI among the homeless. Additionally, Meyers, Hagan, McDermott, Webb, Randall, and Frantz (2006) used the BSI to determine the concurrent validity of their measure, the Comprehensive Adolescent Severity Inventory (CASI). Once again, the BSI showed evidence of clinical usefulness. While these studies are encouraging, more research needs to be completed on the convergent validity of the BSI.

Convergent Validity

As for the BDI-II, it has often been used to determine the convergent validity of other measures due to its strong construct validity and years of use and research. One study discovered utilized the BSI and BDI-II together, but did not report anything in regard to how the measures correlated with one another. The BDI-II was utilized as a "self-report measure of severity of depressive symptoms" by the authors while the BSI was used to assess "other psychological domains" (Swan, Sorrell, MacVicar, Durham, & Matthews, 2003, p. 3). This particular study looked at the effectiveness of a group intervention in a sample of 76 patients with treatment-resistant depression. After the participants completed the psychoeducational classes, they were given the measures 12 weeks and 26 weeks later. The results of the study showed a highly significant decrease in scores on the BDI-II and "a significant reduction in general symptom burden from baseline" on the BSI (Swan et al., p. 4). Therefore, both measures were effective at showing therapeutic gains in a clinical setting.

Rationale for Study

As noted earlier, depression is one of the most common psychological problems found among the homeless. Clarke et al. (1995) found that of their sample of 163 male and female homeless participants, 45% reported that they felt life was not worth living and 27% answered that they had, at one time, attempted to hurt or kill themselves. Wong (2000) discovered that of the studies examined, the rate of depression in the homeless population was two to four times greater than that of the general population in the United States. As stated earlier, the 2007 Greater Los Angeles Homeless Count found evidence

of depression in more than 50% of respondents. The need to be able to accurately and effectively assess depressive symptoms in the homeless population is clear.

Furthermore, additional research on the BSI and its ability to measure depressive symptoms is needed, especially in regard to its use among homeless persons. Morlan and Tan (1998) studied the BSI in relation to the Brief Psychiatric Rating Scale. They recommended that future researchers utilize specific measures, such as the BDI, to measure the convergent validity of the depression scale of the BSI. The present study will be an attempt to make such a comparison in a sample of homeless adults.

Research Questions and Hypotheses

The research conducted intended to examine the convergent validity of the BSI depression scale by comparing it to the BDI-II, using data collected from a mental health clinic sample of homeless persons. The study was an opportunity to provide more information to the professional community about how homeless persons score on the BSI. The primary research questions and hypotheses for this study are presented below.

1) How do homeless adults score on the BSI?

2) How well does the BSI measure depressive symptoms in homeless adult males who are enrolled in recovery programs at an inner-city mission?

In regard to the first research question, it was generally expected that homeless individuals seeking mental health services would present with moderate to high levels of distress on the BSI. However, this research question was more exploratory in nature and therefore no hypotheses were made. In regard to the second research question, two specific hypotheses were tendered. It was hypothesized that the BSI depressive symptoms subscale would be positively correlated with the BDI-II. Given that the test manual

indicates that the BSI scales are not truly independent, it was expected that other BSI scores would also be associated with the BDI-II. Therefore, it was also hypothesized that the BSI Global Severity Index (GSI) would be positively correlated with the BDI-II.

Method

The general approach utilized in this study was a correlational research design. According to Isaac and Michael (1995), the purpose of correlational research is "to investigate the extent to which variations in one factor correspond with variations in one or more other factors based on correlation coefficients" (p. 53). In this case, the analysis focused on the scores on the depression subscale of the BSI and how they corresponded with each participant's scores on the BDI-II. There was also a descriptive purpose to this study. Given that more research is needed on the homeless, the researcher sought to carefully describe the relevant subject and psychometric variables collected in this study.

Participants

The study sample came from archived files of adult homeless males who sought psychological services in the mental health clinic at the Union Rescue Mission (URM), located in Los Angeles, CA. URM is a faith-based, Christian mission providing services to the poor and homeless (Union Rescue Mission [URM], 2007). It was founded in 1891 and is located in central Los Angeles, in an area known as Skid Row (URM, 2007). The individuals who were the subjects of this study received substance abuse treatment or other services from the mission between the years of 2002 and 2005. The majority of the individuals receiving psychological services came from the Christian Life Discipleship Program (CLDP) offered through URM. This is a one-year residential program for the treatment of substance abuse. These individuals were often referred by their chaplains in the program, but others likely heard about the clinic through word-of-worth or were referred by other staff members. The mental health clinic is one of the ongoing services or programs available to men in the CLDP. Generally, participation in the mental health

clinic is optional and voluntary. Some of the non-CLDP clients may have come from other residential programs at URM. For example, some past clients have been graduates of URM programs who have moved on to the community or to transitional housing. Other individuals seeking services from the mental health clinic have come from other shelters or missions in area, but this is not common.

The inclusionary criteria for the present study were: a minimum age of 18, English speaking, male, and completion of at least one BDI-II and one BSI at the URM mental health clinic. This was a sample of convenience and all data were derived from information previously collected. Females were excluded from this study for several reasons. Due to the nature of mission's CLDP program being male only, the majority of individuals seeking services from the psychology clinic were male. Therefore, little data for females would have been available and, if utilized, may not have been representative.

In addition to the BSI and BDI-II scores, the following demographic variables were collected: age, ethnicity, marital status, education, occupation, military history, diagnostic impression/presenting problem/concern, Global Assessment of Functioning (GAF) score, and substance abuse status, including reported substances of choice. Diagnostic impressions were formulated primarily by post-master's level clinical psychology doctoral students from an APA-accredited program, working under the supervision of a licensed psychologist. Diagnostic impressions from these clinicians were available on 74 of the cases. In the other 26 cases, presenting problems and concerns were gathered from information provided by the participants on intake forms which were completed for the psychology clinic. On one part of the form, they were asked to write in the reason for seeking services and on another they were provided possible concerns and

asked to mark which ones applied to them. Given that the baserates for legal involvement among homeless persons are high, data were collected on arrest and incarceration history. In many of the cases, the Beck Anxiety Inventory (BAI; Beck & Steer, 1993) had been administered. These scores were also collected when available. The participants are described in detail in the Results chapter.

Measures

Brief Symptom Inventory. The Brief Symptom Inventory (BSI) was published in 1993 by Derogatis and is based on another of his measures, the Symptom Checklist 90, Revised (SCL-90-R), which was revised in 1977. The BSI is a 53-item, self-report measure that was developed in order to measure patient reported psychological symptoms. It is divided into nine primary symptom dimensions. The names of the scales, with the numbers of items in parentheses, are as follows: somatization (SOM; 7), obsessive-compulsive behavior (O-C; 6), interpersonal sensitivity (I-S; 4), depression (DEP; 6), anxiety (ANX; 6), hostility (HOS; 5), phobic anxiety (PHOB; 5), paranoid ideation (PAR; 5), and psychoticism (PSY; 5). There are four additional items that do not load on any of these scales. These items measure guilt, appetite, sleep difficulty, and thoughts of death and dying. The test also contains three global indices: Global Severity Index (GSI), Positive Symptom Distress Index (PSDI), and Positive Symptom Total (PST) (Derogatis, 1993).

On each of the 53 items, the respondent is asked to rate the extent to which symptoms have bothered him or her in the past week; the following response scale is used: 0 = *Not at all*, 1 = *A little bit*, 2 = *Moderately*, 3 = *Quite a bit*, and 4 = *Extremely* (Derogatis, 1993). The test can be computer scored or hand scored with the use of the

scoring templates. Raw scores are converted to T scores with a mean of 50 and a standard deviation of 10. The GSI is calculated by adding together the sums of the nine symptom dimensions and the four additional items and then dividing by the total number of responses. In profiles with no omitted items, the divisor would be 53. The Positive Symptom Total (PST) is derived by adding up the number of responses with a positive response. In other words, any responses with scores that are not zero. Finally, the Positive Symptoms Distress Index is calculated by dividing the total of the item values by the PST (Derogatis,).

The average administration time for the BSI is 8 to 10 minutes and it can be used with participants age 13 and older. No mention of a reading level requirement is made in the manual; however, it is noted that simple phrasing and basic words were used when creating the test items (Derogatis, 1993). The manual does state that the test should be considered invalid when the examiner believes the respondent did not understand the meaning of the test items (Derogatis). According to the test publisher, the BSI requires a 6^{th} grade reading level (Pearson Education, n.d.). Separate norms have been developed for adult and adolescent populations. The BSIs that were researched in this study were scored by the researcher by hand, using the scoring templates.

Derogatis (1993) indicates that the BSI is appropriate for use with psychiatric inpatients, medical patients, and individuals in the community who are not currently patients. He reports that the BSI "may be used appropriately with any individuals falling into these broad categories because these represent the principal BSI normative groups" (Derogatis, p. 5). However, he warns against the use of the BSI with patients who are floridly psychotic because the administration may not be valid.

The norms for the BSI were derived from four distinct normative samples: adult psychiatric outpatients, adult nonpatients, adult psychiatric inpatients, and adolescent nonpatients (Derogatis, 1993). In the adult psychiatric outpatient sample there were 425 males and 577 females, with 67% of the sample being Caucasian and skewed toward the lower end of the socioeconomic scale. Just under 33% of the sample was African American. The adult outpatients had a mean age of 31.2 years (*SD* = 12.1). Among the 423 adult psychiatric inpatients participating, 63% were female and 37% were male. About 56% of the inpatient sample was Caucasian, while more than 43% of the inpatients were African American. The inpatients had a mean age of 33.1 years (*SD* = 14.85). As for the adult nonpatients, 494 males and 480 females were included. Fifty-one percent (51%) of the norm sample was male, and 49% female. The nonpatients had a mean age of 46 years (*SD* = 14.7). About 11% of the nonpatients were African American, 86% were Caucasian, and 3% were other races.

The BSI manual indicates that the BSI has good internal consistency reliability across the nine symptom dimensions, ranging from the low of .71 on the psychoticism scale to the high of .85 on the depression scale in a sample of 719 psychiatric outpatients (Derogatis, 1993). The manual also indicates strong test-retest reliability (two week interval) in a sample of 60 nonpatients, with coefficients ranging from the low of .68 on the somatization scale to the high of .91 for the phobic anxiety scale. Additionally, the Global Severity Index (GSI) has shown excellent stability with a reported coefficient of .90 (Derogatis).

The manual indicates that several independent researchers have found reliability coefficients ranging from .78 to .83 in a medical sample. As for test-retest reliability (two

week interval), coefficients ranged from a low of .68 to a high of .91 for the nine dimensions and the GSI index had a coefficient of .90 in a sample of 60 nonpatient individuals (Derogatis, 1993). Schwannauer and Chetwynd (2007) found internal consistency coefficients on the nine scales ranging from .71 to .87 in a sample of 459 clinical psychology patients and 161 primary care attenders. Their findings were highly consistent with Derogatis' earlier findings. The published evidence to date indicates impressive levels of reliability for the measure.

According to the manual, the validity of the BSI has been supported in research with the MMPI (Hathaway & McKinley, 1943), where validity coefficients of ≥.30 have been obtained between the nine dimensions of the BSI and the corresponding clinical scales of the MMPI (Derogatis, 1993). The test manual indicates that convergent validity coefficients of the SCL-90-R (Derogatis, 1977) and the nine dimensions of the BSI range from .92 to .99, based on a sample of 565 psychiatric outpatients. In order to determine the construct validity of the BSI, a sample of 1,002 psychiatric outpatients was used. In short, Derogatis (1993) found seven of the nine symptom constructs were "reproduced with little or no disjuncture of items" (p. 22). Boulet and Boss (1991) also used the MMPI to measure the convergent validity of the BSI. They found moderate correlations ranging from r = .41 to .53 on the comparisons of the individual scales. Furthermore, they found high intercorrelations between the nine dimensions of the BSI, indicating that they are not independent of each other (r = .55 to .80). Also, Morlan and Tan (1998) found strong correlations between the dimensions of the Brief Psychiatric Rating Scale and the BSI in a sample of 27 volunteers from a Southern California treatment facility for

individuals with chronic mental illnesses. This was particularly true for the depression, hostility, and anxiety scales.

Derogatis (1993) has also provided information on a number of predictive validity studies conducted on the BSI. Themes studied include screening uses, cancer populations, psychoneuroimmunology (relationship between psychological distress and physiological symptoms), measuring psychopathology, pain assessment and management, therapeutic interventions, HIV research, hypertension research, and student mental health. In general, these findings have supported the usefulness of the BSI for the clinical purposes intended by the test author.

Beck Depression Inventory, 2nd Edition. The Beck Depression Inventory, Second Edition (BDI-II) was published in 1996 by Beck et al. and is based on the original BDI (1961), as well as the amended version, the BDI-IA (1979). It is a 21-item, self-report instrument that was developed to measure patient reported depressive symptoms in persons 13 years and older (Beck et al., 1996). The subject is asked to consider each set of statements based on the "past two weeks, including today" and circle the statement out of the choices that most applies (Beck et al., p. 8). Responses are recorded on a four-point scale that ranges from 0 to 3. A fifth to sixth grade reading level is needed in order to understand the test items (Groth-Marnat, 2003). In addition, the test items may be administered orally for those subjects unable to read the items (Beck et al.). The test takes approximately 5 to 10 minutes to complete.

Following administration, the test is scored by adding up the values given to each of the statements the subject selected on the 21-items. The manual indicates the following levels of depression symptoms depending on the total score: 0-13 = *minimal*; 14-19 =

mild; 20-28 = *moderate*; and 29-63 = *severe* (Beck et al., 1996). The BDI-II is not an instrument that can provide a clinical diagnosis of depression, but can be used as a diagnostic measure of depressive symptoms.

The creators of the BDI-II have examined the association of the measure to client dimensions such as race/ethnicity, sex, and age. In a sample of 120 college students, no significant correlations were found in regard to race/ethnicity or age; however, a significant mean difference was found in regard to gender (Beck et al., 1996). The mean for BDI-II total scores for female students (14.55) was significantly greater than that of the male students (10.04) (Beck et al.). The authors also found that age was inversely correlated with scores on the BDI-II (r = -.18, p < .05).

The BDI-II was normed on 500 psychiatric outpatients, 317 women and 183 men, with a mean age of 37.2 years (Beck et al., 1996). In regard to ethnicity, 91% of the sample was Caucasian. The authors found an internal consistency reliability coefficient of .92 in the psychiatric sample, while a value of .93 has been obtained in a sample of 120 college students. This indicates very high internal consistency reliability. As for the test-retest reliability (one week interval), the BDI-II showed a significant correlation of .93 in a sample of 26 outpatients in a study reported by the test author and collaborators (Beck et al.).

In regard to the content validity, “the BDI-II was developed especially to assess the depressive symptoms listed as criteria for depressive disorders in the DSM-IV. Items [from the original BDI] were reworded and new items added to assess more fully the DSM-IV criteria for depression” (Beck et al., 1996, p. 25). The authors found very high convergent validity when the BDI-II was compared to the BDI-IA. Additionally, in

regard to convergent validity, the authors indicate that the BDI-II is positively related to both the Beck Hopelessness Scale and the Scale for Suicidal Ideation (Beck et al.). The BDI-II's factorial validity is evidenced by the strong pattern of intercorrelations among the 21 BDI-II items.

Procedures

Data were originally collected as a routine part of the intake process to obtain psychological services at the URM mental health clinic. Participation in the mental health clinic was voluntary and was open to all guests and residents of the mission. However, most clinic clients came from the mission's 12-month residential substance abuse rehabilitation program for homeless men, i.e., the CLDP. Individuals presenting for psychological services provided information about themselves, completed both the BDI-II and the BSI, and also completed other intake-related paperwork. Psychological services are provided by doctoral students from an APA-accredited Psy.D. program in clinical psychology who are supervised by licensed psychologists. The diagnostic impressions and GAF scores were generated by these graduate student clinicians under the oversight of their supervisors.

Data for this study were gathered by the researcher, under the supervision of her dissertation advisor. Archived files were reviewed individually in the alphabetical order in which they were stored. If the file contained at least one completed BSI and one completed BDI-II in English, the file was chosen for participation in this study. Demographic information was gathered from the intake reports written by the clinicians, when available. When these documents were not available or information provided in the written intakes was insufficient, demographic and background data were gathered from

the participant-completed intake form. In order to check the reliability and accuracy of the data collection, 20 cases were randomly selected for review. A clinical psychology doctoral student not involved in the project checked these 20 cases for accuracy of test scoring, numerical documentation, and data input into SPSS. No errors were discovered.

Based on a statistical power analysis, and assuming a moderate effect size, it was determined that a sample of 85 participants was required to have sufficient power to detect significant relationships in this study (Cohen, 1992). Therefore, data were extracted from 100 closed files from the mental health clinic archives; no contact with the participants was made or attempted for the current study. Basic demographic information, BDI-II, and BSI scores were recorded. No personally identifying information was included in the documentation recorded from the chart review. Subject confidentiality was carefully protected throughout all phases of the study and all research was conducted in a manner consistent with the ethical guidelines of the American Psychological Association. Prior to data collection, the researcher obtained approval from the Graduate and Professional Schools Institutional Review Board at Pepperdine University, as well as written permission from the administration of the mission where the study was conducted.

Results

Research Hypotheses and Data Analysis Plan

The statistical package used for this study was SPSS version 16.0. The database that was created was utilized to calculate descriptive statistics on all variables collected for this study, including means, standard deviations, and frequencies. The study's hypotheses were tested with Pearson product-moment correlations. Exploratory analyses conducted included Pearson product-moment correlations comparing the BSI dimensions with each other to determine intercorrelations among the scales, as well as comparing each of the BSI dimensions to the BDI-II. Additionally, a *t* test was conducted to determine if there was a difference in scores on the BSI depressive symptoms dimension between individuals who presented with mood disorder symptoms and those without a presenting complaint of mood disorder symptoms.

Participants

Demographic and background characteristics of the sample are summarized in Table 1. All of the participants in this study were males and their ages ranged from 20 to 65, with a mean age of 40.5 (*SD* = 9.9). This was consistent with the findings of the Institute for the Study of Homelessness and Poverty (2004), which found that the average age of homeless adults in Los Angeles is 40. The Greater Los Angeles Homeless Count in 2007 reported that 34% of their respondents were between the ages of 41 and 50 (LAHSA, 2007).

The racial make up of the sample varied; more than half of the sample was African American (*n* = 55). This was consistent with the Institute for the Study of Homelessness and Poverty's (2004) findings that African Americans are greatly over-

represented in the homeless population. More recently, LAHSA (2007) found that 51% of homeless respondents in Los Angeles reported African American as their racial group. The other participants in the present study were primarily Latino (*n* = 20) or Caucasian (*n* = 15). There were smaller numbers of multiracial (*n* = 5), Asian or Pacific Islander (*n* = 4), and American Indian (*n* = 1) participants.

During the time of intake, it appeared that 76% of the sample was not currently married or in a relationship, with 38% never married, 25% divorced, 11% separated, and 1 participant widowed. Sixteen of the participants indicated they were married at the time of intake, while 8 reported they were currently in a relationship. LAHSA (2007) discovered only 8% of homeless respondents in Los Angeles were married at the time of survey.

Eighty-eight (88) participants in the sample had at least a 10th grade education and more than half of the sample (*n* = 56) had obtained a high school diploma or GED. Thirty-two (32) participants indicated they had attended at least some college. Six (6) persons in the sample reported elementary school-level educations (1st through 6th grade), while five indicated 7th through 9th grade-level educations. These results were generally consistent with the findings of the Institute for the Study of Homelessness and Poverty (2004), which found that approximately half of all homeless adults in Los Angeles County have a high school diploma. LAHSA (2007) reported 41% of respondents in the Greater Los Angeles Homeless Count had a high school diploma or GED.

In regard to occupation type, 48% of the sample reported they had worked in either skilled or unskilled manual labor. Twenty-one percent (21%) of the sample stated they had previously worked in administrative or managerial positions. Twenty-six

percent (26%) of the sample indicated prior military experience. According to the Institute for the Study of Homelessness and Poverty (2004), veterans are twice as likely to become homeless than other adults. As noted earlier, LAHSA (2007) found that 14% of respondents in a recent count of homeless persons in the greater Los Angeles area acknowledged some form of military service.

Regarding legal history, more than three-quarters of the participants in the present study reported at least one arrest. This was consistent with other reports that homeless individuals have a higher incidence of contact with law enforcement than the general population (LAHSA, 2007).

Of the sample of 100, only 8 individuals claimed to not abuse any substances, while 38% disclosed more than two preferred substances of abuse. In regard to diagnostic impression, it appeared almost three-quarters of the sample had substance-related concerns. Given the nature of the treatment setting from which these data were drawn, that may have been a conservative estimate. About one-third of the participants had some mood-related problems or disorders and one-fifth suffered from anxiety symptoms or disorders. Some other common issues the participants appeared to have concerns with included relational problems, personality disorders or problematic traits, psychosis, anger problems, and trouble adjusting to life changes.

GAF ratings were available on 72 of the participants; the mean score was 53.33 (*SD* = 9.35). The GAF scores varied, but the modal rating fell in the range of 51 to 60. This range is characterized by a moderate level of symptoms, such as flat affect, circumstantial speech, and occasional panic attacks, or moderate difficulty in social,

occupational, or school functioning, such as a limited number of friends and conflicts with peers or co-workers (APA, 1994).

In summary, most of the sample was African American and the average age was just over 40. Most of the men were not involved in a relationship at the time the clinical records were created. Most of the participants had at least a 10th grade education, and more than half had a high school diploma or its equivalent. A variety of occupations was represented, with nearly half of participants having worked in jobs involving semi-skilled or unskilled manual labor. Not surprising given the histories of illegal drug use and homelessness, most participants had been arrested at least once in their lifetime. Most participants presented with substance abuse concerns, and the abuse of multiple substances was common. Mood or anxiety symptoms or disorders were indicated for 55 of the 100 participants in this study.

Table 1

Background Characteristics of the Homeless Sample (*N* = 100)

Age	Percent
20-29	16
30-39	27
40-49	38
50-59	17

(table continues)

60-65	2

Education Level[a]	Percent
1 through 6 years	6
7 through 9 years	5
10 through 12 years	51
13 through 16 years	32

Occupation Type[a]	Percent
Semi-skilled/Unskilled manual labor	39
Managerial/Professional	21
Service	13
Clerical	12
Skilled manual labor	9
No Employment	4
Missing	2

Number of Past Arrests[a]	Percent
None	18
1	34
2	11
3	12

(table continues)

Number of Arrests[a]	Percent
4	4
5	7
6 to 10	5
11 or more	3
Missing	6

Diagnostic Impressions/Presenting Problem/Concern[b]	Percent
Substance Use	73
Mood Disorder/Symptoms	36
Anxiety Disorder/Symptoms	19
Relational Problem/s	15
Psychotic Disorder/Symptoms	14
Personality Disorder/Traits	12
Anger Problems	6
Adjustment Disorder/Symptoms	4
Other	16

Substance Abuse Status	Percent
Uses no substances	8
Only alcohol	6
Only one drug	22

(table continues)

Two substances	25
Substance Abuse Status	Percent
More than two substances	38
Missing	1

Global Assessment of Functioning (GAF) Score[a]	Percent
21-30	1
31-40	8
41-50	19
51-60	29
61-70	15
Missing	28

Note. Diagnoses and presenting problems that fell into the Other category included pathological gambling, identity problems, bereavement, occupational problems, finances, academic problems, borderline IQ, Attention Deficit Hyperactivity Disorder, and childhood issues.
[a]Due to missing data, the sample available on these variables is less than the full $N = 100$. [b]Due to some participants having multiple diagnoses, the total N is greater than 100.

Research Questions 1 and 2

The mean scores and standard deviations for the nine BSI symptom scales, the three BSI index scores, the BDI-II, and the BAI are presented in Table 2. The T scores for the BSI were calculated according to the test's adult psychiatric outpatient norms for males, as was standard practice in the clinic where the original assessments took place. Overall, the participants' mean scores were close to the published mean values for adult male outpatients. In fact, all BSI means except one fell within one-half of a standard deviation (i.e., 5 T score points) of the adult outpatient norms. The lone exception was

the BSI anxiety scale, where participants had a mean score of 42.41. Therefore, in regard to the first research question for this study, it appeared that the homeless persons in the sample scored similarly to the adult psychiatric outpatient males reported on in the BSI manual.

The mean score for the BDI-II for this sample (18.20) fell into the mild range for depression symptoms according to the manual (Beck et al., 1996). Furthermore, this mean was higher than the mean scores of the college student norm sample. The BAI mean score in this sample (11.40) was lower in comparison to the mean scores in the norm sample. The BAI norm sample had a mean of 22.35, in the moderate range, while the current sample was in the minimal range (Beck & Steer, 1993).

Table 2

Means and Standard Deviations of Measures Utilized

Measure or Scale	Mean	Standard Deviation
BSI – GSI	46.80	11.22
BSI – PST	46.70	10.59
BSI – PSDI	45.20	15.44
BSI – SOM	48.63	10.02
BSI – O-C	46.75	10.61
BSI – I-S	47.05	9.92
BSI – DEP	45.22	9.92
BSI – ANX	42.41	11.18

(table continues)

BSI – HOS	47.88	9.94
BSI – PHOB	48.32	9.17
BSI – PAR	53.25	10.02
BSI – PSY	51.18	10.83
BDI-II	18.17	12.07
BAI	11.40	11.49

Note. BSI = Brief Symptom Inventory; GSI = Global Severity Index; PST = Positive Symptom Total; PSDI = Positive Symptom Distress Index; SOM = Somatization; O-C = Obsessive-Compulsive Behavior; I-S = Interpersonal Sensitivity; DEP = Depression; ANX = Anxiety; HOS = Hostility; PHOB = Phobic Anxiety; PAR = Paranoid Ideation; PSY = Psychoticism; BDI-II = Beck Depression Inventory, 2nd Edition; BAI = Beck Anxiety Inventory. For BSI and BDI-II, $N = 100$. For BAI, $N = 98$.

This study's second research question addressed the BSI depressive dimension's ability to assess depressive symptoms in a sample of homeless men seeking psychological services. The BDI-II was used as the criterion instrument with which to assess the convergent validity of the BSI depressive symptoms dimension. Although the BDI-II measures more aspects and dimensions of depressive symptoms than the BSI depressive symptoms dimension, one would expect a fairly high correlation between two self-report measures of what is essentially the same construct.

It was hypothesized that the BSI depressive symptoms subscale would positively and significantly correlate with the BDI-II. Results of the Pearson correlation analysis indicated the depressive symptoms dimension of the BSI was strongly correlated with the BDI-II ($r = .74$, $p < .001$). This finding indicated a high degree of convergence between the BSI's depressive dimension and the BDI-II and it supported the hypothesis.

Another analysis was conducted in order to determine the GSI score of the BSI's ability to detect distress within a homeless sample. It was initially hypothesized that the GSI score would also be positively correlated with the BDI-II score because the various

BSI scores are not truly independent of each other. Results of the Pearson correlation analysis indicated the GSI score was strongly correlated with the BDI-II (r =.75, p < .001). This finding supported the BSI's overall ability to identify distress within a sample of homeless individuals.

Correlations Between BSI Dimensions

In order to examine the relationships among the BSI scale dimensions, scores on each of the BSI dimensions were compared to each other. The results of the Pearson correlation analysis are summarized in Table 3. The BSI dimensions correlated at moderate to strong levels across all scales.

Table 3

Relationships between BSI dimensions (N = 100)

Dimension	SOM	O-C	I-S	DEP	ANX	HOS	PHOB	PAR	PSY
SOM	—	.67	.43	.51	.63	.42	.48	.48	.41
O-C	—	—	.70	.70	.74	.52	.61	.69	.66
I-S	—	—	—	.69	.75	.60	.65	.70	.68
DEP	—	—	—	—	.70	.61	.51	.63	.79
ANX	—	—	—	—	—	.54	.70	.69	.65
HOS	—	—	—	—	—	—	.44	.63	.64
PHOB	—	—	—	—	—	—	—	.58	.57
PAR	—	—	—	—	—	—	—	—	.77
PSY	—	—	—	—	—	—	—	—	—

Note. BSI = Brief Symptom Inventory; SOM = Somatization; O-C = Obsessive-Compulsive Behavior; I-S = Interpersonal Sensitivity; DEP = Depression; ANX = Anxiety; HOS = Hostility; PHOB = Phobic Anxiety; PAR = Paranoid Ideation; PSY = Psychoticism.

Additional Analyses

To further explore the data obtained, the scores on each of the BSI dimensions were compared to the BDI-II. The results of the Pearson correlation analysis are summarized in Table 4. The BSI dimensions demonstrated moderate to strong positive correlations with the BDI-II.

Table 4

Correlations Between the BSI Dimensions and the BDI-II (N = 100)

Dimension	SOM	O-C	I-S	DEP	ANX	HOS	PHOB	PAR	PSY
BDI-II	.49	.64	.63	.74	.62	.57	.55	.59	.69

Note. BSI = Brief Symptom Inventory; BDI-II = Beck Depression Inventory, 2nd Edition; SOM = Somatization; O-C = Obsessive-Compulsive Behavior; I-S = Interpersonal Sensitivity; DEP = Depression; ANX = Anxiety; HOS = Hostility; PHOB = Phobic Anxiety; PAR = Paranoid Ideation; PSY = Psychoticism.

Finally, an analysis was conducted to examine the discriminant validity of the BSI depression scale. Participants in the study who had a presenting complaint or diagnostic impression of some type of mood symptoms or disorder (n = 36) were compared to participants who had other presenting complaints or diagnostic impressions (n = 64). Participants included in the group with mood symptoms or disorders had either been given a diagnosis of a mood disorder by the clinician working with them or had indicated mood symptoms as a reason for seeking treatment on their initial paperwork. Diagnosed mood disorders included in this category were Major Depressive Disorder, Dysthymic Disorder, Bipolar Disorder I and II, Mood Disorder Not Otherwise Specified, and Depressive Disorder Not Otherwise Specified.

To the extent that the diagnostic impressions and presenting complaints had validity, one should expect higher scores on the BSI's depressive symptoms dimension among individuals with prominent mood symptoms at intake than among individuals with other complaints. Those with mood symptoms or disorders had a mean T-score of 49.97 (*SD* = 9.36) on the BSI depression dimension and those with other primary presenting complaints had a mean T-score of 42.55 (*SD* = 9.26). The difference between the means of the individuals with and without mood symptoms was 7.43, and the 95% confidence interval of this mean difference was 3.55 and 11.27. The Levene's test for the equality of variance suggested that the variances of the two groups did not significantly differ, $F = .068$, $p = .795$. Results of the independent-samples *t* test indicated there was a significant difference on the BSI depressive symptoms dimension between individuals with and without mood symptoms ($t\ (98) = 3.83$, $p < .05$). Individuals with prominent mood symptoms at intake did in fact score higher on the BSI depressive symptoms dimension than individuals with other presenting complaints, which supported the discriminant validity of the scale.

Discussion

There are many issues involved in assessing the clinical potential of the BSI for use as a screening tool of psychopathology with homeless individuals. Providing more information about how homeless persons score on the BSI is important. Examining the convergent validity of each individual subscale on the BSI is also an important step in determining the appropriate uses of this self-report rating scale. The purpose of the present study was to consider the use of the BSI in a sample of homeless persons, with particular attention to the depression subscale. In this chapter, the research questions and hypotheses will be discussed, as will the other empirical findings. The clinical implications, study limitations, and suggestions for future research will also be examined.

Research Question #1: How Did Homeless Men Score on the BSI?

The first research question was exploratory in nature and sought to provide information on how homeless persons would score on the BSI. Based on the mission setting in which the homeless men resided and the fact that they were voluntarily seeking psychological services, it was anticipated they would show moderate to high levels of distress on the BSI. With that in mind, one would expect such persons to score similar to the adult psychiatric outpatients that have been reported in the BSI manual. Mean scores on the nine BSI symptom dimension scales for the sample (Table 2) were generally close to the outpatient psychiatric male norms provided in the manual (Derogatis, 1993). Most scores were slightly below the means for adult outpatients, though participants' mean scores on the paranoid ideation (PAR) and psychoticism (PSY) scales were slightly above the published means. Generally speaking, the outpatient psychiatric norms appeared

relevant to the present sample's scores and there was no evidence of over-pathologizing homeless persons with the BSI.

All three of the BSI index scores for the present sample were within five T score points of the published means for adult psychiatric outpatients. Consistent with the findings for the nine symptom dimension scales, the index scores were comparable to the published norms. The pattern in the present sample was for mean index scores to be slightly lower than the mean values in the published norms. However, given that the differences were small, it would appear that the BSI interpretative guidelines for adult psychiatric outpatients are likely to be relevant to homeless persons such as those who participated in the present study.

Research Question # 2: How Well Did the BSI Depressive Symptoms Subscale Measure Depressive Symptoms in Homeless Men?

The main focus of this study was to evaluate the convergent validity of the BSI depression measure, using the BDI-II as the criterion instrument. In regard to how well the BSI measures depressive symptoms in homeless adult males who were enrolled in recovery programs at an inner-city mission, it was hypothesized that the BSI depressive symptoms subscale would be positively correlated with the BDI-II. The findings demonstrated a strong, positive association between the two measures, providing compelling evidence that the BSI's depressive symptoms dimension is an effective measure of depressive symptoms in a homeless sample and supporting the researcher's hypothesis.

It was further hypothesized that the BSI's Global Severity Index (GSI) would be positively correlated with the BDI-II, especially given that the BSI scales are not truly

independent of each other. Consistent with the researcher's hypothesis, the GSI score demonstrated a strong, positive correlation with the BDI-II, supporting the validity of the measure in regard to its ability to measure distress.

As indicated in Tables 3 and 4, all of the BSI dimension subscales demonstrated at least moderate correlations with one another and with the BDI-II. This was not surprising, given that psychological distress is characteristic of many psychological disorders, including depression.

Difference in BSI Depressive Symptoms Subscale Scores Between Individuals With and Without Primary Mood Problems

In addition to the research questions and hypotheses, the difference in scores between individuals who presented with primary depressive problems or symptoms and individuals with other presenting problems or complaints was analyzed. It was discovered that the individuals with primary mood problems, in general, scored higher on the BSI depressive symptoms subscale than individuals with other primary presenting problems. This supported the discriminant validity of the BSI depressive symptoms subscale and was additional evidence of its effectiveness as an initial screening tool for depressive symptoms among homeless men in psychological treatment.

Clinical Implications

The results of this study suggest several important implications for clinical practice. This study supports the usefulness of the BSI as a screening tool to measure depressive symptoms in an ethnically diverse sample of homeless men. The depressive symptoms subscale of the BSI, which contains 6 items, appears to measure levels of depressive symptoms in a manner highly consistent with the 21-item BDI-II. This

decreases the time and effort necessary to conduct an initial screening for depressive symptoms, which may make a significant difference in a participant's motivation to complete the measure. Given that some clients quickly tire of lengthy self-report measures, brief screening tools with demonstrated validity offer a number of advantages.

The strong association between the BSI depression scale and the BDI-II is not surprising, given the similarities of form and content between the two measures. Some of these similarities include that they are both self-report measures of symptomatology and they both provide a time span for the respondent to consider while completing the measure. In the case of the BSI, this time frame is within the past week, while the BDI-II asks the respondent to consider the past two weeks, including today. Specifically, in regard to statements referencing depressive symptoms, both measures contain items identifying similar issues or concerns. The BSI depressive symptoms scale and the BDI-II both address feelings of sadness, suicidal ideation, loss of interest, and feelings of worthlessness. In addition, three of the four additional items on the BSI are matched on the BDI-II: sleep difficulties, changes in appetite, and feelings of guilt.

Though the BSI may not provide a comprehensive assessment, an elevated score on the depressive symptoms dimension could signal to a clinician that a more in-depth assessment of depressive symptoms is needed. Specifically, areas which are not covered by the BSI but which the BDI-II does address include statements referencing pessimism, failure, loss of pleasure, crying, self-dislike, feelings of being punished, agitation, indecisiveness, loss of energy, irritability, difficulty concentrating, fatigue, and loss of interest in sex. The BSI's depressive symptom scale includes an item stating "feeling hopeless about the future," which is not matched on the BDI-II. Given the brevity of the

BSI depression dimension, it is clear that follow-up assessment and inquiry would be needed on respondents who are suspected of having mood problems. Nevertheless, the results of the present study speak to the usefulness and practicality of the BSI as a screening measure for distress and psychopathology.

Limitations

This was an archival study and the participants were limited to those who sought psychological services at the mental health clinic where the study was conducted during the time in which the BSI was administered, i.e., from approximately 2003 to 2005. Data sets were only selected if the persons involved were male and completed the measures in English. Data sets were also excluded in cases in which the BSI or BDI-II were missing or not completed in their entirety. Furthermore, the data were collected in a Christian-affiliated institution, which may be less likely to attract clients from differing faiths. Therefore, the sample may not be representative of the greater population of homeless persons in regard to religious orientation. The sample was non-random and chosen for convenience. The intake questionnaires, from which the majority of the demographic information was gathered, were completed by the clients and often information was missing or not provided. This also leaves the possibility for biased reporting based on the image the client wished to present. Furthermore, the diagnostic impressions, when included, were developed by post-M.A. level clinical psychology doctoral students. While these clinicians were supervised by psychologists, their diagnostic impressions may not have been completely accurate reflections of the participants' current issues and functioning. In addition, full five axis diagnoses were either not available or not collected

for the present study; therefore, medical conditions and environmental factors impacting the participants were not available for analysis in the present study.

Another limitation of the study was that the BDI-II and BSI are both self-report measures. In some cases, the participants may have under-reported the symptoms they were experiencing perhaps due to the relief they were experiencing as a result of their entrance into treatment or recent detoxification from substances. In other cases, they may have over-reported the symptoms in order to put emphasis on their need for help. A limitation of the BSI is that it does not provide any measures of factors such as test-taking attitude, defensiveness, or social desirability responding. In addition to these concerns, some participants may have experienced difficulty interpreting inventory items or reading the items.

Another limitation of the BSI is the length of time required to hand score the measure. Each scale must be summed up using scoring template overlays and then calculated using a formula provided in the manual. The three indices must then be calculated and then scores must be plotted on the norm appropriate forms in order to receive the corresponding T scores. This process takes approximately 15 minutes to complete for each BSI completed. Computer scoring is available for the BSI, but was not available for use in this study.

Due to the research being archival, the environment in which the participants completed the BSI and the BDI-II could not be controlled for. Furthermore, it was unknown to the researcher whether or not any participants were actively psychotic, under the influence of substances, or utilizing psychotropic medications at the time of the assessments, factors which could impact the validity of the BSI results. Given that

persons who sought mental health services at the clinic where the present study was conducted had already completed a two-week detoxification program, the concerns about participants having been under the influence of substances were reduced. The nature of the current design; however, was a strength in that the measures were not administered by the examiner and, therefore, the results and information collected was not biased by the examiner's research questions.

In addition to the previously mentioned issues with the BDI-II and the BSI is the problem in regard to their norms. As of this time, the BSI and the BDI-II have not been normed on homeless populations per se. In addition, both the BSI and the BDI-II were normed on primarily Caucasian samples, which is not representative of the current sample. Furthermore, little research has been completed focusing on the use of these measures with homeless persons. The present study was conceived in large part in order to address the lack of empirical psychological research on homeless persons. Relative to the BDI-II, it should be noted that the BSI adult outpatient norm group included more ethnic diversity, as well as substantial representation of lower income persons.

It is important to acknowledge that individuals from different cultures and backgrounds often express symptoms of depression differently. Iwata and Buka (2002) studied the manifestations of depressive symptoms across ethnic groups, with groups of undergraduate students from Argentina and Japan, as well as Anglo-American and Native American students. They discovered that Argentineans in their sample seemed to suffer less from depressive symptoms than Anglo-Americans and Japanese, and their symptoms seemed to manifest themselves in a similar manner to Anglo-Americans. The authors also found that the Japanese students did not appear to suffer more than Anglo-Americans.

Furthermore, they discovered Native Americans in the sample endorsed more negative symptoms than other ethnic groups, and also tended to express their symptoms somatically (Iwata & Buka). Clearly, culture impacts and mediates how distress and psychological symptoms are experienced and conveyed to others. That being said, the language utilized on the BSI and BDI-II to describe depressive symptoms may not fully capture how some individuals would describe their experience. This may also account for what may sometimes appear as under reporting of symptoms on the measures.

In regard to threats to internal validity, the possibility of mistakes having been made during the scoring of the BSI exists. Furthermore, the potential for mistakes made while recording and inputting data can be considered a threat to internal validity. Procedures taken in order to ensure the accuracy of scoring, recording, and inputting data included double checking of data and the use of a clinical psychology graduate student to check a randomly selected subset of 20 cases; no errors were detected within this subset. In regard to the external validity of this study, the generalizability of this study must be taken into consideration. The findings of this study may not be generalizable to the homeless population of the United States, let alone to all homeless persons living in Los Angeles, California. Given that the study focused on homeless men enrolled in a residential substance abuse program who were seeking psychological services, the findings may not generalize to other persons residing at or seeking other services within the mission where the present data were collected.

The primary contribution of this study is that, in general, not enough psychological research has been conducted with the homeless. More specifically, it is one of the few studies to focus on the use of the BSI with homeless persons. This applied

study could therefore help determine the usefulness and validity of the BSI in regard to the assessment of depressive symptoms among homeless persons seeking psychological treatment. Methodologically, the potential to determine the ability of the BSI depression dimension to accurately measure depressive symptoms by comparing it to the BDI-II could be a significant contribution. Overall, it is hoped that this study provided valuable information on the usefulness of the BSI with homeless persons.

Future Research

Due to the limitations of this study, certain information was not possible to gather. Demographic information that might have been useful in the context of this study included the length of time the individuals pursued psychological services, as well as the length of time they had been homeless and the age at which they first became homeless. Additionally, the age of onset of psychiatric symptoms might have been worthwhile to examine, had it been available. This information may have provided some insight into the severity or chronicity of mental health issues for these individuals. Future researchers should consider developing strategies that allow them to study these and other potentially relevant variables.

Other future research that is necessary to assess the usefulness of the BSI as an overall screening tool is to evaluate the other eight dimensions, particularly their convergent validity against measures of like symptomatology that have been shown to accurately measure that particular symptom. Given that the present study was limited to men, future research is needed that addresses the usefulness of the BSI among women who are homeless. Also, due to the limited amount of data available for Spanish-speaking participants, those data were excluded from the study. Future research is needed to

address the usefulness of the Spanish version of the BSI with Spanish-speaking samples of homeless persons. The present study was also limited to the use of self-report measures. Future studies that incorporate other methods, such as clinician ratings, might also help establish the utility and validity of the BSI. In order to further determine the BSI's usefulness among homeless persons, future research with larger samples is recommended.

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APPENDIX A

Literature Table

#	Author(s)	Year	Title	Total Sample Size	Gender	Age	Measures	Key Findings
1	Archer & Smith	2008	Personality assessment	n/a	n/a	n/a	n/a	Provides definitions of different types of validity
2	Beck, Steer, & Brown	1996	BDI-II Manual	n/a	n/a	n/a	BDI-II	Provides reliability and validity information on BDI-II, as well as norm data.
3	Boulet & Boss	1991	Reliability and validity of the Brief Symptom Inventory	501 (350 out and 151 in)	100% male	M= 34, SD =12 .13	BSI, WAIS-R, MMPI	Actual reliability of the BSI was not tested for. An estimate completed found a range in internal consistency reliability of .75 to .89. The authors found that when used with the MMPI, the BSI demonstrated poor discriminant validity and limited convergent validity.
4	Calsyn, Morse, Klinkenberg, & Trusty	1997	Reliability and validity of self-report data of homeless mentally ill individuals	165	58% male, 42% female	avg = 34.76	Rosenberg self-esteem scale, Bahr & Caplow Alienation Scale, Clark's personal and social functioning scale measured Interpersonal Adjustment, Client Satisfaction measure by Attkinsson, Hargreaves, & Nguyen, BSI, and ASI	Risk factors that lead to homelessness include older age and an arrest history. Current or recent employment, earned income, good coping skills, younger age, adequate family support, no substance abuse or arrests were associated with less time spent homeless. This article provided additional empirical support for the use of self-report measures with the homeless.
5	Clarke, Williams, Percy, & Kim	1995	Health and life problems of homeless men and women in the Southeast	157	73.9% male, 26.1% female	M= 37, SD = 11.3	Demographic Questionnaire, Health Questionnaire, Brief Psychiatric Rating Scale (BPRS) and Global Assessment of Functioning Scale	The authors found the most common reasons for homelessness are some combinations of family problems, loss of job, and substance abuse.

6	Cohen & Burt	1990	The homeless: Chemical dependency and mental health problems	1,704	81% male, 19% female	30 % 18-30; 51 % 31-50; 16 % 51-65; and 3% 65+	CES-D (shortened by authors) and Continuing Survey of Food Intake of Individuals	This article provided research about the prevalence rate of depressive symptoms within the homeless population.
7	David, Frazier, Husain, Warden, Trivedi, Fava, et al.	2006	Substance use disorder comorbidity in major depressive disorder: A confirmatory analysis of the STAR*D cohort	2,541	62.5% female	Mean age is 40.5	Hamilton Rating Scale for Depression, Inventory of Depressive Symptomatology, Quick Inventory of Depressive Symptomatology, Work and Social Adjustment Scale, 12-item Short Form Health Survey	Relevant to this study, the authors reported comorbidity rates of major depressive disorder and substance use disorders.
8	Derogatis	1993	Brief Symptom Inventory (BSI) administrative, scoring, and procedures manual (3rd ed.)	n/a	n/a	n/a	BSI	Not normed on homeless population, however, should be appropriate for population due to it's short length and use with determining severe psychiatric symptoms. Provides reliability and validity information on BSI.
9	Gregory	2004	Psychological testing: History, principles, and applications (4th ed.)	n/a	n/a	n/a	n/a	This reference provided definitions of criterion-related validity and, more specifically, concurrent validity.
10	Hogg, Hall, & Marshall	1990	Assessing people who are chronically mentally ill: New methods for new settings	n/a	n/a	n/a	n/a	3 potential strategies when using assessment with the homeless population: 1) Assess client's own views of their care, 2) Needs for care, 3) Assessment of changes in mental state.

11	Institute for the Study of Homelessness and Poverty	2007	Homelessness in Los Angeles: A summary of current research	n/a	n/a	n/a	n/a	This article provided a definition of homelessness and numerical estimates of the homeless population in Los Angeles
12	Isaac & Michael	1995	Handbook in research and evaluation: A collection of principles, methods, and strategies useful in the planning, design, and evaluation of studies in education and the behavioral sciences (3rd ed.)	n/a	n/a	n/a	n/a	This reference provided information about the research design type being utilized in this study.
13	Iwata & Buka	2002	Race/ethnicity and depressive symptoms: A cross-cultural/ethnic comparison among university students in East Asia, North and South America	1150 (377 Anglo-American, 353 Native American, 110 Argentinean, 310 Japan)	% males= 37.1, 37.7, 47.3, 39.4 (respectively)	Mean= 18.6, 20.8, 21.1, 20.5 (respectively)	CES-D	Argentineans appear to suffer less from depressive symptoms and their manifestation of symptoms are similar in nature to Anglo-Americans. Native Americans favor somatic symptoms over affective symptoms to express depression.
14	Kingree, Stephens, Braithwaite, & Griffin	1999	Predictors of homelessness among participants in a substance abuse treatment program	114 (82 remained)	53 male, 29 female	20 to 52	Center for Epidemiology Scale for Depression and Social Support from Family and Friends scales	The authors studied 14 variables to predict homelessness in adult participants in a substance abuse treatment program. Low levels of support from friends, greater depression, and recent substance use were associated with homelessness. Friend support is the only factor that is associated with homelessness both positively and negatively.

15	Klinkenberg, Calsyn, & Morse	1998	The helping alliance in case management for homeless persons with severe mental illness	105	Not indicated	Not indicated	Author developed measure, BSI (GSI), and BPRS	Found that a positive alliance developed early in a case management relationship with homeless participants with severe mental illness provided better outcomes for symptom severity than relationships started later.
16	Lewis	2001	A qualitative examination of attachment and resilience in homeless girls	5 mother/ daughter pairs	100% female	children: 7-11 mothers: not listed	CBCL, TAT, TRF, and BSI	This article focused on a child's resilience and attachment to their mother in homeless mother-child pairs. It studied a phenomenon in which the child is doing well as opposed to poor in order to determine what aids in the resilience and the impact of their attachment to their mother. The BSI was administered to the mothers in order to determine their appropriateness to participate in study.
17	Los Angeles Homeless Services Authority	2007	2007 Greater Los Angeles homeless count	n/a	n/a	n/a	n/a	Provided demographic information on the homeless population of Los Angeles County
18	McCaskill, Toro, & Wolfe	1998	Homeless and matched housed adolescents: A comparative study of psychopathology	236 (118 homeless and housed)	70 males and 168 females	12 to 17	DISC, BSI, and ICE	Differences found between homeless and non-homeless adolescents in many areas is not significant except in disruptive behavior disorders, alcohol abuse or dependence, and greater level of symptomatology on BSI.
19	Meyers, Hagan, McDermott, Webb, Randall, & Frantz	2006	Factor structure of the comprehensive adolescent severity inventory (CASI): Results of reliability, validity, and generalizability analyzes	205	126 males, 79 females	12 to 18, M = 15.6	NIMH Diagnostic Interview Schedule for Children - Revised, Comprehensive Adolescent Severity Inventory (CASI), and BSI	The authors utilized the BSI to assess concurrent validity of their measure, the CASI.

20	Morlan & Tan	1998	Comparison of the Brief Psychiatric Rating Scale and the Brief Symptom Inventory	27	18 males, 9 females	24 to 76	BPRS and BSI	This article provided information on the convergent validity of the BSI.I20
21	Morse & Calsyn	1986	Mentally disturbed homeless people in St. Louis: Needy, willing, but underserved	248	126 male, 122 female	avg = 30.6	BSI, Short Michigan Alcoholism Screening Test, Periodic Evaluation Record - Community version, Arizona Social Support Interview Schedule, and Bahr & Caplow Alienation Scale	The BSI was utilized in determining the number and type of psychiatric symptoms the homeless participants were experiencing. 46.9% scored above cutoff on the BSI and most symptoms were paranoid ideation and psychosis.
22	National Law Center on Homelessness and Poverty	2007	Homelessness and poverty in America	n/a	n/a	n/a	n/a	Provided the most recent data on and demographics of the homeless population in the United States.
23	Nyamathi, Galaif, & Leake	1999	A comparison of homeless women and their intimate partners	896	448 female and 448 male	18 to 50	Self-Esteem Inventory (SEI), Mental Health Index (MHI-5), BSI (depression, anxiety, and hostility subscales only), and Drug History Form	According to the BSI findings of this study, homeless women scored higher on depression, anxiety, and hostility subscales than their male partners.
24	Pearson Education, Inc.	n.d.	BD-II (Beck Depression Inventory-II)	n/a	n/a	n/a	BDI-II	This website provided information on the characteristics of the BDI-II
25	Pearson Education, Inc.	n.d.	BSI (Brief Symptom Inventory)	n/a	n/a	n/a	BSI	This website provided information on the characteristics of the BSI
26	Piotrowski	1996	Use of the Beck Depression Inventory in clinical practice	n/a	n/a	n/a	BDI	This article outlines the usefulness of the BDI in clinical settings.

27	Reback, Kamien, & Amass	2007	Characteristics and HIV risk behaviors of homeless, substance-abusing men who have sex with men	20	100% male	M= 36.8, SD = 6.1	SCID, BSI, Addiction Severity Index, Behavioral Questionnaire - Amphetamine, and BDI	Participants in this study reported many positive psychiatric symptoms on the BSI and averaged with moderate depression scores on the BDI.
28	Schwannauer & Chetwynd	2007	The Brief Symptom Inventory: A validity study in two independent Scottish samples	620	Approx. 37.5% male, 62.5% female	18 to 65	BSI	This study examined the construct validity and factor structure of the BSI. The authors found the BSI could be useful as a screening tool and outcome measure in routine clinical psychology practice. They also found it to have good internal reliability and conceptual validity, but they were unable to validate the dimensional structure.
29	Solorio, Milburn, Andersen, Trifskin, & Rodriguez	2006	Emotional distress and mental health service use among urban homeless adolescents	688	356 males and 332 females	379 between 13-17 and 309 between 18-20	BSI	Only 15% of adolescents met criteria for emotional distress according to BSI.
30	Steer, Brown, Beck, & Sanderson	2001	Mean Beck Depression Inventory-II scores by severity of major depressive episode	260	154 females and 106 males	Over 17 years old	BDI-II	This article examined the usefulness of the BDI-II to assist clinicians in determining the severity of a major depressive episode.
31	Swan, Sorell, MacVicar, Durham, & Matthews	2003	Coping with depression: An open study of the efficacy of a group psychoeducation intervention in chronic, treatment-refractory depression	76	Not indicated	18 to 65	BSI (GSI), BDI-II, and EQ5D	Studied the effectiveness of psychoeducational groups with individuals suffering from chronic depression. This study utilized the BSI and the BDI-II together as outcome measures.

32	Tate, Wu, McQuaid, Cummins, Shriver, Krenek, et al.	2008	Comorbidity of substance dependence and depression: Role of life stress and self-efficacy in sustaining abstinence	113	94.7% male	avg = 48.9	Drug-Taking Confidence Questionairre (DTCQ), Hamilton Depression Rating Scale (HDRS), and Psychiatric Epidemiology Research Interview-Modified	Relevant to this study, they reported that substance use exacerbates and may cause depressive symptoms, either directly or through withdrawal.
33	Toro & Wall	1991	Research on homeless persons: Diagnostic comparisons and practice implications	76	79% male, 21% female	M = 33	DIS, SCL-90-R (GSI), SNI, and ISEL	This study gathered more information on the homeless population by looking at a broader cross section of the population. Demographics, substance abuse, and mental illness information on the homeless population were collected. The authors found that existing research gave an inflated picture of the pathology of the homeless population.
34	Union Rescue Mission (URM)	2007	URM History	n/a	n/a	n/a	n/a	This is the website of the Union Rescue Mission. It provided information on the URM, including it's history.
35	Warren, Loper, & Chauhan	2004	Exploring prison adjustment among female inmates: Issues of measurement and prediction	777	100% female	M = 33.5	PAQ, author created Prison Violence Inventory, BSI, and SCID-II	This study utilized the BSI to assess the concurrent validity of the PAQ. They discovered the GSI significantly correlated with both their Conflict scale and, even more significantly, with their Distress scale.
36	Weiss & Wong	1995	Mood disorders and substance use	n/a	n/a	n/a	n/a	Article examined the prevalence of comorbid substance use and mood disorders
37	Wong	2000	Measurement properties of the Center for Epidemiologic Studies – Depression Scale in a homeless population	548	78% male, 22% female	M = 37.6	The Center for Epidemiologic Studies - Depression Scale (CES-D) and the Diagnostic Interview Schedule, Version Three	The author found the rate of depression in the homeless population was two to four times greater than that of the general population in the United States.

38	Wong & Piliavin	2001	Stressors, resources, and distress among homeless persons: A longitudinal analysis	548	22% female, 78% male	M = 37.6	The Center for Epidemiologic Studies - Depression Scale (CES-D) and the Diagnostic Interview Schedule, Version Three	Provided information on the rate of depression within the homeless population.
39	Yamada	1999	The psychosocial and sociodemographic profile and predictors of global psychopathology indices among a severely mentally ill consumer sample	890	Approx. an equal number of males and females	18 to 64	BPRS, BSI, and an author created questionnaire	The population of this study claimed a low level of distress, but elevated scores reflected interpersonal difficulties, negative self-perception, and cognitive impairments