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Dimensions of Homelessness

SYNOPSIS

INVESTIGATIONS OF HOMELESSNESS have been hampered by the lack of operational definitions sensitive enough to achieve subgroup differentiation and simple enough to permit replication. As a consequence, programming and policy development have often proceeded based on varying assessments of the composition, size, and needs of the homeless population. This paper describes the empirical use of duration of homelessness and dwelling place as elements of an operational definition of homelessness. The approach reflects a conceptualization of homelessness as a continuous variable that can be described by coordinates of time and place.

A screening instrument that quantified the homeless experience was developed and evaluated in conjunction with a federally funded demonstration project for homeless substance-abusing men and women. Eight hundred and thirty-nine men and women from six public detoxification centers were screened over a two-year period that began in August 1988. Respondents were asked eight questions to assess duration (time) and location (place) of homelessness before they entered the detoxification center. A simple index was constructed retrospectively and found to differentiate the sample into homeless and near-homeless subgroups.

Between-group differences were statistically significant in demographics, presenting problems, and probability for successful intervention. These data paralleled previously reported differences between homeless subgroups and support the concurrent validity of the index. Cronbach's alpha (.72) showed the index to be moderately reliable.

Differentiation of homeless persons into meaningful subgroups appears possible and programmatically recommended. Homelessness is not a unitary phenomenon, and it is unlikely to respond to therapeutic interventions that fail to consider individual differences.

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M ethodological issues affecting the assessment of homelessness have been well documented in recent literature (*1-10*). Johnson observed that, "Although there is conceptual agreement that contemporary homelessness falls along a continuum from the marginally housed to the literally homeless, in

practice, there is no standard definition" (1a). The literally homeless are persons and families who lack customary and regular access to conventional housing. They include people living in shelters, on the streets, in abandoned buildings, in cars, or in other places not intended as dwellings (7). The marginally or precariously housed include people living in doubled-up households, displaced and evicted persons, residents of cheap hotels, and others whose housing situations are tenuous.

Many studies focus on the literally homeless (1,5,9,10) because more inclusive definitions (that is, those which involve the marginally or precariously housed) enlarge the size, change the composition of the homeless population, and suggest fuzzy boundaries to the concept of homelessness. One consequence is that population estimates range widely (7,8). Johnson argues that conventional definitions not only "...fail to address the complexity of the research questions but the incidence, nature, and the prevalence of the conditions associated with homelessness also depend directly on how narrowly or broadly homelessness is defined" (1a). Millburn and Watts recommend operational definitions of homelessness that allow for differentiation of homeless subgroups and types of homelessness (5).

Time (duration of homelessness) and place (living arrangements) appear to be two dimensions of homelessness necessary for an operational definition that facilitates subgroup differentiation and increases understanding of the dynamics of homelessness (1,3,9). This paper describes the empirical use of duration of homelessness and dwelling place as elements of an operational definition of homelessness. The approach reflects Johnson's conceptualization of homelessness as a continuous variable which can be described by coordinates of time and place (1).

Background

The Stabilization Services Project in Boston was one of the Community Demonstration Grant Projects funded by the National Institute on Alcohol Abuse and Alcoholism under Section 613 of the Stewart B. McKinney Homeless Assistance Act. All the funded projects worked exclusively with homeless or near homeless substance abusers and sought to demonstrate the effectiveness of various substance abuse recovery and treatment strategies (11).

> Time (duration of homelessness) and place (living arrangements) appear to be two dimensions of homelessness necessary for an operational definition that facilitates subgroup differentiation and increases understanding of the dynamics of homelessness.

The Boston project had two components. The first was transitional, post-detoxification, residential substance abuse treatment programming, and treatment planning. The second component was case management (12). Program participants were recruited during their stay at one of six Boston area public detoxification facilities. Candidates for program participation were required to meet 10 criteria:

- medically clear and in reasonably good health
  - homeless or near homeless
  - age 18 or older
  - presence of a substance abuse problem
  - stable mental health
  - willing to participate and be randomly assigned
  - no prior admissions to this demonstration project
  - not currently enrolled in another program or treatment
  - not currently employed
  - no ongoing criminal justice system involvements or court dates

Between August 16, 1988, and August 20, 1990, 866 men and 107 women were screened for participation in the project. Of the 973 screened, 144 were rejected for failing to meet one or another of the 10 criteria. Only 12 were rejected for failing to meet the criterion of homeless or near homeless. This finding was not unexpected because publicly funded detoxification centers represent the provider of last resort and were established to provide services to indigent substance abusers.

The homeless-near homeless status of candidates was subjectively determined by program interviewers based on the candidate's responses to eight questions that assessed living arrangements and length of time in those arrangements. Most of the questions had been previously used and appeared to possess face validity. This report presents the results of a retrospective examination of the utility of these questions, employed as an index, to differentiate persons into two groups exhibiting more and less homelessness.

Methodology

Classification protocol. The eight homelessness questions were completed by 839 clients. These questions were not asked of persons who did not meet the other nine criteria or who decided not to participate after hearing the details of the project. A retrospective classification of these clients, into homeless and near homeless subgroups, was accom-
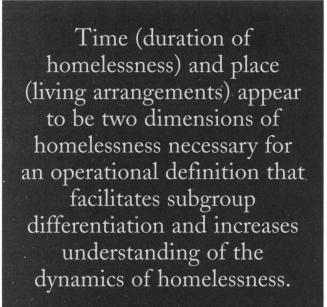
Table 1. Distribution of index scores of 839 homeless and near homeless persons, August 1988–August 1990

Score	Frequency	Percent
0	24	2.9
1	97	11.6
2	144	17.2
3	125	14.9
4	126	15.0
5	99	11.8
6	109	13.0
7	98	11.7
8	17	2.0
Total	839	100.0

plished from scoring developed from their responses. As shown in the box, response alternatives to each question were divided into those reflecting a more or less severe state of homelessness. The cutting points used are arbitrary, but they were intended to reflect differences in the nature, duration, or frequency of the experience in question.

This approach employs Johnson's framework for conceptualizing the severity of homelessness in terms of the degrees of deprivation associated with different living arrangements and time spent in those arrangements (*1a*). If a person selected a more severe response alternative, his or her "homeless score" was increased by one. Scores ranged from 0 to eight, and were distributed as shown in table 1. A score of four was selected as the midpoint of the range of severity of homelessness because responses to at least half of the eight questions would have to have reflected a more, rather than less severe, response alternative. Accordingly, 449 persons with scores of four or more were classified as homeless while 390 persons with lower scores were classified as near homeless. Speiglman employed a similar methodology in his study of homelessness among people in alcohol recovery programs in Santa Clara County, CA (*13*).

Criterion data. Standardized instruments were used to develop a profile of the homeless substance abusers and to assess the impact of project on clients: the Addiction Severity Index (ASI), the Alcohol Dependence Scale (ADS), and the Global Depression Index. The ASI (*14-16*) is a structured clinical research interview designed to assess problem severity in seven areas: medical condition, employment, drug use, alcohol use, illegal activity, family relations, and psychiatric condition. In addition to generating ratings of problem severity, the ASI generates composite scores in each of the seven areas. Problem scores can be compared across groups, and successive scores can be compared over time to assess improvement of the individual patient in each of the problem areas (*16,17*).

The ADS (*18*) is derived from the Alcohol Use Inventory (*19*). The scale dimensions are consistent with the alco-

hol dependence syndrome (*20*), and the inventory provides an assessment of the persons's psychological and physical involvement with alcohol. Scores range from 0-50 with high scores indicating alcohol dependence.

The Global Depression Index (*21*) is the sum of 18 five-point items, such as felt sad or blue, poor appetite or weight loss, loss of energy, loss of interest, crying, and feeling sorry for oneself. For each item, respondents indicate how often they experience a symptom from "never" 0 to "often" four (alpha =0.92) (*21*). Scores range from 0 to 72 with higher scores indicating depression.

Information on client relapse was taken from the Management Information System (MIS) of the Bureau of Substance Abuse Services, Massachusetts Department of Public Health (*22*). All Stabilization Service Project clients were drawn from publicly funded detoxification facilities and were, therefore, part of the MIS. Because these people were homeless and without resources, any subsequent detoxification of these men and women would likely take place at a publicly funded facility. The MIS, therefore, provided information regarding client relapse (that is, readmission to a detoxification facility) that was independent and in addition to client self-report. Retrospective examination of the MIS data took place approximately one year after the last client was admitted to the program.

MIS information and the standardized instruments scores were used as criterion data to examine the concurrent validity of the index, and its capability to differentiate homeless persons into meaningful subgroups whose attributes correspond to known attributes of these subgroups. This method of validation is based on the known group technique in which knowledge of group variation on selected variables may be used to validate a new measure (*23*). For example, we would expect the "homeless" subgroup to be demographically different from the "near homeless," exhibit greater problem severity, and be more likely to relapse.

The literature on homelessness contains descriptions of differences between the homeless subgroups known as the "old" and the "new" homeless (*2,7,24-31*). Generally, there is agreement that compared to the old homeless, the new homeless are younger, more heterogeneous, more likely to be using drugs, with higher proportions of blacks and Hispanics, women, whole families, and adolescents. The old homeless represent that segment of the homeless population whose homelessness is longstanding compared with the new homeless. We would expect that our homeless subgroup, because of their longer homeless experience, would resemble the old homeless while the near-homeless would resemble the new homeless.

Reliability of the index was assessed using Cronbach's alpha (*32*). This measure of assessing reliability is considered preferable to the split-half method, and it has been shown to be equal to the average of all possible split half correlations among the number of questions (items) employed in the index or scale (*23*).

Homelessness Index

Each score in bold face type represents an indication of severe homelessness. The homeless score is increased by 1 for each bold face score selected.

Question and response	Score	Number
1. Have you ever stayed in a shelter?		
No.	0	316
Yes	1	523
2. In general, how frequently do you stay in a shelter?		
Never	0	316
Less than once a week	1	231
Once or twice a week	2	89
Three to five times a week	3	97
Every day.	4	106
3. If you don't stay in a shelter, where do you usually sleep?		
Own house or apartment	1	74
Rooming house	2	28
Hotel, motel.	3	9
Friend's house, apartment, or room	4	233
Family's house, apartment, or room	5	178
Halfway house, therapeutic community	6	13
Jail, prison	7	5
Hospital, institution	8	1
Detoxification facility	9	6
Public inebriate program	10	2
On the street, in the park	11	198
Car, truck or vehicle	12	26
Tent.	13	1
Subway, bus, or train station	14	11
Abandoned building	15	30
Room 5 (Boston City Hospital)	16	0
Other	17	21
Don't know	18	3
4. How long have you been without your own place to stay?		
Never	0	24
1 night	1	2
2 to 4 nights	2	11
5 to 10 nights	3	44
11 to 14 nights	4	15
2 to 4 weeks	5	70
1 to 3 months	6	101
4 to 6 months	7	76
7 to 12 months	8	67
1 year or more	9	426
All the time	10	3
5. In general, how frequently do you stay (sleep) outside on the street?		
Never	0	276
Less than once a week	1	222
Once or twice a week.	2	128
Three to five times a week	3	149
Every day	4	64
6. Where did you stay the night before you came to the detoxification facility?[1]		
Own house or apartment.	1	29

Question and response	Score	Number
Rooming house	2	10
Hotel, motel	3	13
Friend's house, apartment, or room.	4	171
Family's house, apartment, or room	5	155
Halfway house, therapeutic community	6	6
Jail, prison	7	17
Hospital, institution	8	45
Detoxification facility	9	2
Public inebriate program	10	1
Shelter	11	199
On the street, in the park	12	98
Car, truck or vehicle	13	24
Tent	14	0
Subway, bus, or train station	15	17
Abandoned building	16	17
Room 5 (Boston City Hospital)	17	7
Other	18	23
Don't know	19	5
7. How long have you been staying there?[1]		
1 night	1	287
2 to 4 nights	2	177
5 to 10 nights	3	92
11 to 14 nights	4	30
2 to 4 weeks	5	44
1 to 3 months	6	75
4 to 6 months	7	41
7 to 12 months	8	20
1 year or more	9	64
All the time	10	9
8. Where do you plan to stay after you leave the detoxification facility?		
Own house or apartment.	1	14
Rooming house	2	8
Hotel, motel	3	1
Friend's house, apartment, or room.	4	28
Family's house, apartment, or room	5	63
Halfway house, TC	6	76
Jail, prison	7	4
Hospital, institution	8	2
Detoxification facility	9	4
Public inebriate program	10	1
Shelter	11	116
On the street, in the park	12	98
Car, truck, or vehicle.	13	3
Tent	14	1
Subway, bus, or train station	15	4
Abandoned building	16	1
Room 5 (Boston City Hospital)	17	4
Other	18	11
Don't know	19	400

[1]Score item No. 7 in conjunction with item No. 6. Score 1 for No. 7 if response is > 5 and the response for item No. 6 is > 8. Range = 0-8.

Results

Reliability. As shown in the box, the questions assessed the nature, duration, and frequency of past and expected future living arrangements. Two-thirds (62 percent) reported that they have stayed in shelters (question 1), and one-third (35 percent) indicated that they used shelters once a week or more often (question 2). Question 3 assessed usual sleeping arrangements, if not in a shelter, and one-third (35 percent) reported locations that were not formal places to sleep (for example, on the street, in cars, abandoned buildings, subway, and so forth). The others (65 percent) reported more conventional locations (for example, rooming house, family home, friend's home, jail), suggesting a risk for homelessness. Most respondents (80 percent) indicated that they had been without their own place to live for at least 30 days, and half (50 percent) had been homeless for one year or longer (question 4). The fifth question assessed frequency of sleeping on the street, and 40 percent reported that they slept out once a week or more often.

Reports of sleeping arrangements the night before entering the detoxification facility (question 6) suggested that nearly half (47 percent) had stayed in a shelter (24 percent) or other nonconventional location. Seventy percent reported relatively unstable living arrangements and indicated that they had stayed in their most recent location for less than two weeks (question 7). The final question assessed expected living arrangements when the person left the facility. Nearly half (48 percent) did not know where they would stay, and 29 percent expected to be in a shelter or on the streets.

Cronbach's alpha for the dichotomous homeless (1) near homeless (0) scoring of these eight items was .7201. Item-total correlations of the items ranged from .19 to .55. These findings show the reliability of the index to be adequate, but less than optimal. Some of the difficulty may be attributed to the relatively small number of items in the index, its ex post facto construction, and the dissimilar nature of the constituent questions, that is, duration, frequency, and location.

Validity. Table 2 presents comparisons of homeless and near homeless persons for demographic data taken from the admission forms of the Bureau of Substance Abuse Management Information System that were completed by 839

Table 2. Characteristics of homeless and near homeless persons, August 1988–August 1990 (percentages)

Characteristics	Near homeless (N=390)	Homeless (N=449)	χ^2	Degrees of freedom
Sex:				
Women	17	6	23.18	[1]1
Men	83	94	...	...
Race-ethnicity:				
White	43	57	20.03	[1]2
Black	53	41	...	...
Hispanic	4	2	...	...
Marital status:				
Never married	72	55	38.61	[1]2
Married	6	3	...	...
Widowed, separated, divorced	22	42	...	...
Usual residence:				
House, apartment, room	77	33	160.36	[1]1
Streets, shelters	23	67	...	...
Client lives with:				
Relatives	43	19	87.74	[1]2
Friends, others	20	11	...	...
Alone	37	70	...	...
Health insurance:				
Commercial	3	1	9.23	[2]2
Medicare-Medicaid	12	18	...	...
None	85	81	...	...
Employment:				
Full, part-time	12	6	8.01	[2]1
Unemployed, unemployable	88	94	...	...
Veteran:				
Yes	23	32	5.56	[3]1

Characteristics	Near homeless (N=390)	Homeless (N=449)	χ^2	Degrees of freedom
Readmitted to detoxification facility	43	57	16.18	[1]1
Major problem:			46.98	[1]3
Alcohol	39	66	...	...
Cocaine	30	13	...	...
Dual addiction	23	15	...	...
Polydrug, other drugs	8	6	...	...
Used crack, coke past month	68	41	43.56	[1]1
Used marijuana, hashish past month	40	30	6.34	[1]1
Drank alcohol to intoxication past month	68	84	22.32	[1]1
Used more than 1 substance	62	43	22.17	[1]1
Prior treatment for alcoholism	70	87	26.86	[1]1
Prior treatment for drug addiction	63	43	26.11	[1]1
Number of close friends (mean)	1.09	.88	t=3.03	[2]604
Alcohol Dependence Scale (mean score)	14.6	21.9	t=7.78	[1]578
Global Depression Index (mean score)	36.25	38.25	t=1.71	589

[1]$P \le .001$, [2]$P \le .01$, [3]$P \le .05$.

clients at admission to detoxification. Drug use data, standardized instrument data, and other information in table 2 were taken from 606 interviews conducted by Stabilization Project personnel at the stabilization sites to which the clients had been referred. These interviews usually took place an average of 5 days after participant recruitment in the detoxification center.

The reduction in sample size reflects client attrition resulting from a variety of causes, for example, failure of some persons to complete their referral to the stabilization site, client dropout after admission, and termination of clients for rule violations. Clients for whom in-depth interviews were available were compared with clients for whom such data were not available, using demographic data obtained from the Bureau of Substance Abuse Management Information System admission forms. No significant differences between groups were found.

> Measuring the severity of homelessness appears to have major therapeutic and rehabilitative ramifications that may bear on policy and programming.

Compared with the homeless, the near homeless tended to be younger (mean age 32 versus 36, $t = 6.29$, 837 degrees of freedom [df], $P < .001$); less involved with alcohol (39 versus 66 percent); with proportionally more women (17 versus 6 percent); blacks and Hispanics (57 versus 43 percent); and stronger ties to family, friends, and mainstream society. Residential differences between groups are particularly clear with 67 percent of the homeless reporting the streets and shelters as their usual residence, compared with 23 percent of the near homeless.

The ASI scores (table 3) follow expectations with the near homeless exhibiting lower medical, employment, and alcohol problems scores than the homeless. Significantly higher drug and legal problem scores among the near homeless would seem to reflect their greater use of illicit drugs and the concomitant legal problems associated with drug use. These latter findings are consistent with results reported by Fischer and Breakey (2).

The differences between the near homeless and the homeless in tables 2 and 3 are statistically significant in all instances except measures of psychiatric status. Both the Global Depression Index and the psychiatric composite score of the ASI showed no difference between groups. This finding is interesting in light of the otherwise clear differentiation between groups. The mean Global Index scores of the near homeless, 36.25, and the homeless, 38.25, are almost twice the mean Global Index score of a sample of 424 adults (19.21) living in the community reported by Moos and coworkers (21). Indeed, the Global Index scores of the homeless and near homeless are more similar to the mean Global Index score of 43.95 of the comparison group of 424 clinically depressed patients (21). From these data, both the homeless and near homeless closely resemble clinically depressed persons.
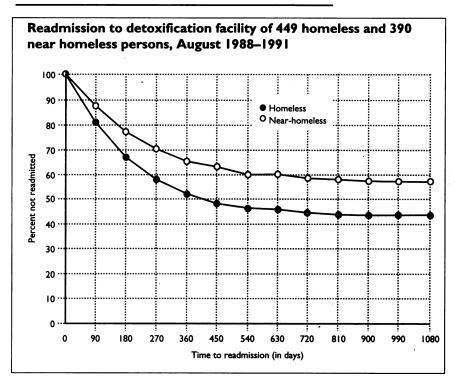
The figure compares the survival experience of the 449 homeless and the 390 near homeless relative to their readmission to a public detoxification facility. The term "censored" is used in survival analysis to represent those cases where the specified event, that is, death, relapse, rearrest,

Table 3. Composite scores on the Addiction Severity Index at admission of homeless and near homeless persons, August 1988–August 1990, t = Student's t test

Problem area	Near Homeless			Homeless				Degrees of
	Number	Mean	SD	Number	Mean	SD	t	freedom
Medical	288	.1509	.271	317	.2235	.331	2.96	[1]603
Employment	289	.7951	.218	317	.8450	.176	3.09	[1]604
Alcohol	284	.5064	.291	311	.6529	.265	6.42	[2]593
Drug	285	.1983	.151	311	.1265	.154	5.75	[2]594
Legal	287	.1294	.201	317	.0722	.142	4.01	[2]602
Family	284	.3123	.232	311	.2424	.220	3.78	[2]593
Psychiatric	284	.2531	.229	311	.2380	.222	.82	593

[1]$P \leq .01$, [2]$P \leq .001$

NOTE: Numbers vary slightly across problem areas because failure to respond to any item comprising a particular composite scores results in no score.

Readmission to detoxification facility of 449 homeless and 390 near homeless persons, August 1988–1991

the spell of homelessness, the easier it is to get people into housing (*33*). Wright and Weber also report differences among homeless persons in terms of their potential for short-term versus long-term homelessness. They found that women, especially women with children who maintained contact with family, and nonwhites were the least likely candidates for long-term homelessness (*34*). Intervention among homeless persons whose homeless has been short-lived or whose homelessness is less severe may be more likely to lead to positive outcomes. Increased emphasis on early intervention and prevention of homelessness may help reduce the social and economic costs of homelessness.

Our operational definition is based on two dimensions: nature of the person's living arrangements (place) and length of time in those arrangements. Although these dimensions appear to be useful in differentiating homeless persons, it is clear that other dimensions exist that could further refine the definition. Fischer and Breakey suggest chronicity as a criterion of homelessness. Although chronicity includes a time dimension, it is different because it more accurately depicts a lifestyle pattern. With the element of chronicity we can begin to differentiate among those whose homelessness is transient, episodic, or ongoing (*2a*).

Our results are encouraging. Notwithstanding the retrospective manner of construction, the admittedly arbitrary classification of responses and decision rules employed, the index classified a sample of homeless persons into two subgroups whose characteristics paralleled previous descriptions of similar subgroups of homeless persons. Continued evolution of our preliminary work may develop a more refined index of homelessness.

There is also the need to assess the reliability and validity of the current and subsequently developed indices on other population subgroups. It should be recalled that the men and women who participated in the Stabilization Services Project were selected because they met certain criteria. While these criteria proved to be more inclusive than exclusive; that is, 85 percent of those screened were accepted, it is clear that the index needs to be tested with a more heterogenous population.

In sum, the data suggest that homelessness can be quantified and differentiated along meaningful dimensions, such as severity, that have ramifications for programming and policy formulation. Homelessness is not a uniform condition, and homeless persons appear to possess more or less potential for rehabilitation depending upon the nature of their homeless experience.

and so forth, has not occurred. Because there is no evidence that these persons have been admitted to a detoxification center, the working assumption is that they have not relapsed. As shown in the figure, 57 percent of the near homeless persons were censored cases compared with 43 percent of the homeless persons. The near homeless had a significantly longer median time before readmission to a detoxification facility (median=1,080 days) than the homeless (median=390 days), and the pattern of readmission of the near homeless was significantly different from the homeless in the length of time to readmission and proportion of clients readmitted over time (Wilcoxon chi square = 18.28, 1 *df*, *P* < .0001).

Discussion

Development of a useful, accurate operational definition of homelessness has been a persistent need. Much of the interest has been generated by efforts to enumerate accurately this segment of the population for policy and planning purposes. Our data suggest that an operational definition of homelessness that provides a quantitative measure of the severity of the homeless experience is possible, and it may go beyond enumeration to provide a more refined differentiation of the homeless population and their needs.

Measuring the severity of homelessness appears to have major therapeutic and rehabilitative ramifications that may bear on policy and programming. Burt and Cohen maintain that how long people have been homeless or jobless is relevant to the ease or difficulty they may have in returning to permanent housing. Service providers feel that the shorter

References

1. Johnson, A. K.: Measurement and methodology: problems and issues in research on homelessness. Soc Work Res Abs 25: 12–20; (a) p. 13 (1989).
2. Fischer, P. J., and Breakey, W. R.: The epidemiology of alcohol, drug, and mental disorders among homeless persons. Am Psychol 46: 1115–1128; (a) p. 1116 (1991).
3. Koegel, P., and Burnham, M. A.: Traditional and non-traditional homeless alcoholics. Alcohol, Health and Research World 11: 28–35 (1987).
4. Lovell, A. M., Barrow, S., and Struening, E. L.: Between relevance and rigor: methodological issues in studying mental health and homelessness. In Homelessness: a prevention-oriented approach, edited by R. I. Jahiel. Johns Hopkins University Press, Baltimore, 1993, pp. 372–395.
5. Milburn, N. G., and Watts, R. J.: Methodological issues in research on the homeless and the homeless mentally ill. Int J Ment Health 14: 42–60 (1986).
6. Rossi, P. H.: Critical methodological issues in research on homeless persons. In Research methodologies concerning homeless persons with serious mental illness and/or substance abuse disorders. Alcohol, Drug Abuse, and Mental Health Administration (ADMHA), Rockville, MD, 1987, pp. 39–51.
7. Rossi, P. H.: Down and out in America. University of Chicago Press, Chicago, 1989.
8. Link, B. G., et al.: Lifetime and five year prevalence of homelessness in the United States. Am J Public Health 84: 1907–1912 (1994).
9. Susser, E., Conover, S., and Struening, E. L.: Problems of epidemiologic method in assessing the type and extent of mental illness among homeless adults. Hosp Community Psychiatry 40: 261–265 (1989).
10. Tessler, R. S., and Dennis, D. L.: A synthesis of NIMH funded research concerning persons who are homeless and mentally ill. National Institute of Mental Health, Rockville, MD, 1989.
11. Argeriou, M., and McCarty, D., editors: Treating alcoholism and drug abuse among homeless men and women: nine community demonstration grants. Haworth Press, Binghamton, NY, 1990.
12. Argeriou, M., and McCarty, D.: The use of shelters as substance abuse stabilization sites. J Ment Health Admin 20: 126–137 (1993).
13. Speiglman, R.: Homelessness among participants in residential alcohol programs in a northern California county: the commitment and organization of social resources. Contemp Drug Problems 16: 453–482 (1990).
14. McLellan, A. T., Luborsky, L., O'Brien, C. P, and Woody, G. E.: An improved evaluation instrument for substance abuse patients: the Addiction Severity Index. J Nerv Ment Dis 168: 26–33 (1980).
15. McLellan, A. T., et al.: New data from the Addiction Severity Index: reliability and validity in three centers. J Nerv Ment Dis 173: 412–423 (1985).
16. McLellan, A.T., et al.: The fifth edition of the Addiction Severity Index. J Subst Abuse Treat 9: 199–213 (1992).
17. McGahan, P. L., Griffith, J. A., Parente, R., and McLellan, A. T.: Composite scores from the addiction severity index. Veterans Administration, Philadelphia, PA, 1986.
18. Skinner, H. A., and Horn, J. L.: Alcohol Dependence Scale user's guide. Addiction Research Center, Toronto, Canada, 1984.
19. Horn, J. L., Wanberg, K. W., and Foster, F. M.: The alcohol use inventory. Psychiatric Systems, Baltimore, MD, 1983.
20. Edwards, G., et al.: Alcohol related disabilities. Offset Publication No. 32, World Health Organization, Geneva, 1977.
21. Moos, R. H., Cronkite, R. C., and Finney, J. W.: Health and daily living form manual. Department of Veterans Affairs Medical Center, Stanford University, Palo Alto, CA, 1990.
22. Camp, J., Krakow, M., McCarty, D., and Argeriou, M.: Substance abuse treatment management information systems: balancing Federal, State and service provider needs. J Ment Health Admin 19: 5–20 (1992).
23. Bohrnstedt, G. W. : Measurement. In Handbook of survey research., edited by P. H. Rossi, J. D. Wright, and A. B. Anderson. Academic Press, Inc. New York, 1983, pp. 69–121; (a) p. 86.
24. Fischer, P. J.: Alcohol and the contemporary homeless. Presented at the 116th Annual Meeting of the American Public Health Association, Boston, MA, November 1988.
25. Garrett, G.: Alcohol problems and homelessness: history and research. Contemp Drug Problems 16: 301–332 (1990).
26. Hoch, C., and Slayton, R.A.: New homeless and old. Temple University Press, Philadelphia, PA, 1989.
27. Hopper, C., and Hamberg, J.: The making of America's homeless: from skid row to new poor. Community Services Society of New York, New York, 1984.
28. Lamb, H. R.: Deinstitutionalization and the homeless mentally ill. In The homeless mentally ill: a task force report of the American Psychiatric Association, edited by H. Lamb. American Psychiatric Association, Washington, DC, 1984, pp. 55–74.
29. Rossi, P.: The old homeless and the new in historical perspective. Am Psychol 45: 954–959 (1990).
30. Snow, D. A., Baker, S. G., Anderson, L., and Martin, M.: The myth of pervasive mental illness among the homeless. Soc Problems 33: 301–317 (1986).
31. Wright, J. D.: The mentally ill homeless: What is myth and what is fact? Soc Problems 35: 182–191 (1988).
32. Cronbach, J. L.: Coefficient alpha and the internal structure of tests. Psychometrika 16: 297–334 (1951).
33. Burt, M. R., and Cohen, B. E.: Differences among homeless single women, women with children and single men. Soc Problems 36: 508–524 (1989).
34. Wright, J. D., and Weber, E.: Homelessness and health. McGraw-Hill, Washington, DC, 1987.