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Homelessness and Hunger*

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Abstract

We employ data from the National Survey of Homeless Assistance Providers and Clients to examine the character and correlates of hunger among homeless people. Our analysis, couched in an adaptation framework, finds more support for the differentiation hypothesis than for the leveling hypothesis: Complex patterns of food insecurity exist at the individual level, and they vary with the resources available (e.g., higher monthly income, regular shelter use) and obstacles faced (e.g., alcohol, drug, and physical and mental health problems). The chronically homeless, who suffer from multiple deficits, appear particularly food-insecure, a finding that favors the desperation hypothesis over its street-wisdom alternative. We conclude that hunger is not uniformly experienced by members of the homeless population. Rather, some individuals are better situated than others to cope with the stressful nature of homelessness when addressing their sustenance needs.

Thanks to a special supplement first included in the 1995 Current Population Survey (CPS), quite a bit is now known about hunger in the United States, and what we have learned is sobering. During the most recent year for which CPS data are available (2006), roughly 11 percent of all households—comprising 35.5 million people—experienced *food insecurity*, meaning that they lacked the resources necessary to obtain enough food for an active, healthy life (Nord, Andrews, and Carlson 2007). Low-income households are substantially overrepresented among the food-insecure. So are single-parent families, African Americans, Latinos, and central city residents. Similar differentials hold when hunger is defined in narrower terms, as malnutrition, underweight, or some other biomedical condition (U.S. of Health, Education, and Welfare 1972). The importance of these differentials lies in the consequences that hunger has for the growth, cognitive development, and physical and mental health of members of disadvantaged groups (Brown and Pollitt 1996; Siefert et al. 2004; Winicki and Jemison 2003; Wu and Schimmele 2005).

Within the disadvantaged population, homeless persons would seem especially vulnerable to hunger. As the poorest of the poor (Burt, Aron, and Lee 2001; Rossi 1989), they are less

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likely to be able to afford food. Their tenuous economic circumstances also reduce access to overnight accommodations that have kitchen facilities for preparing meals or preserving perishable items. Due to limited education, the homeless may be relatively uninformed about nutritional matters, and a variety of personal problems (e.g., mental illness, substance abuse) could hinder their efforts to get enough to eat. This conventional view—that homeless people are hungry—is reinforced not only by periodic recognition from elected officials (U.S. Conference of Mayors 2006; U.S. House of Representatives 1987) but also by casual observation. The gaunt appearance of some homeless, coupled with their willingness to accept handouts or search through dumpsters for food, visually suggests the more desperate sort of hunger found among impoverished residents of developing nations.

Despite its intuitive appeal, the assumption that homelessness and hunger go hand in hand in the United States is contradicted by a few inconvenient facts. Foremost among them is the tremendous expansion of homeless services, particularly food programs, since the mid-1980s (Burt et al. 2001; Burt and Cohen 1989). Free, nutritionally adequate meals are now available at most shelters and at soup kitchens and other venues (Burt and Cohen 1989; Wiecha, Dwyer, and Dunn-Strohecker 1991). As a consequence, food represents an area of life with which homeless persons profess satisfaction (Marshall et al. 1996), and they rank good health, steady income, a permanent job, and a permanent home ahead of regular meals on their list of priorities (Linn and Gelberg 1989). Taken together, these trends and findings pose a challenge to conventional wisdom: namely, that abundant sources of food have made serious hunger rare among the homeless.

In our opinion, neither the conventional nor the counterintuitive views should be accepted uncritically. Both are based mostly on an empirical foundation of local studies featuring small, nonprobability samples. Such studies have conceptualized hunger primarily as a nutritional problem rather than as a matter of food insecurity (e.g., Drake 1992; Laven and Brown 1985; Luder et al. 1989, 1990). Hunger also tends to be treated in either-or fashion: Homeless persons are either hungry or they are not. By contrast, the best scholarship on hunger in general (not confined to the homeless) recognizes its complex, multidimensional character, including shortfalls in food quantity or quality, anxiety over the supply of food, and engagement in behaviors such as skipping meals or obtaining food from nontraditional sources (Eisenger 1998; Wunderlich and Norwood 2006). Homeless populations can be expected to do better on some of these dimensions than others.

Individual variation may occur along each dimension as well, given the heterogeneity present among homeless people. Stereotypes about the homeless often mask the degree to which they differ from one another in income, shelter usage, social networks, and health status, all factors that might affect their ability to achieve food security. Beyond their differences on particular characteristics, homeless persons exhibit distinct types of homelessness. Accumulated scholarship (reviewed in Kuhn and Culhane 1998) suggests that the homeless population comprises three distinct groups: the transitionally homeless, the episodically homeless, and the chronically homeless. The chronically homeless group is of special interest, both as a target of public policy (Burt et al. 2004; U.S. Department of Health and Human Services 2003) and as a litmus test for competing views about how entrenched homelessness relates to hunger.

Our research takes the issues just raised as its primary objectives. Employing data from the National Survey of Homeless Assistance Providers and Clients, we paint a fuller and more representative picture of hunger among homeless Americans than has heretofore been possible. As an initial step, we compare the importance of obtaining food to fulfilling other essential needs. We then use multiple measures to describe patterns of food insecurity, examining the level of consumption and the quality, sources, and cost of what is consumed. These measures are combined in an overall scale that serves as the dependent variable in an analysis of potential predictors of hunger. We couch our analysis in an adaptation framework that yields a series of hypotheses about the influence of resources and obstacles on people's ability to procure food as they cope with homelessness. In a final analytic step, patterns and correlates of food insecurity among chronically homeless individuals are contrasted with those of their transitionally homeless counterparts.

Background

Conceptualizing Hunger

Following the trend in the hunger literature, we focus on homeless persons' food insecurity, defined as their expressions of deprivation, uncertainty, or concern over access to an adequate food supply. There are, of course, other ways to conceive of and operationalize hunger (for a review, see Wunderlich and Norwood 2006). Prior studies of the homeless have analyzed calorie intake, vitamin and mineral deficiencies, body mass, cholesterol levels, and nutrition-related health ailments (Drake 1992; Gelberg, Stein, and Neuman 1995; Luder et al. 1989, 1990; Wolgemuth et al. 1992). These studies provide a valuable degree of clinical precision, yet their labor-intensive methods (e.g., using blood samples, anthropometric measures, and detailed food diaries) make them impractical for large-scale projects. A more serious problem is their confusion of the consequences of prolonged hunger—anemia, wasting, high blood pressure, gastrointestinal illness, and the like—with hunger itself; being malnourished and being hungry are separate phenomena. Self-reported food insecurity strikes us as a better measure of the latter because it directly captures how the homeless feel about their immediate situation. It has also proven highly predictive of a wide range of nutritional and health outcomes associated with food insufficiency in settled (i.e., nonhomeless) populations (Lee and Frongillo 2001; Rose 1999; Siefert et al. 2004).

Irrespective of the definition of hunger utilized, most inquiries have addressed the same fundamental question: Are homeless people consuming enough nutritious food to function normally? As noted earlier, hunger does not appear to occupy the top position in the hierarchy of needs identified by homeless persons themselves, many of whom report overall satisfaction with their food situation. However, local investigations of homeless adults suggest that being generally satisfied still leaves room for specific complaints about such things as the cost of food, the lack of control one has (in soup kitchens and shelters) over what one eats and with whom, and the shortage of food preparation facilities (Baldwin 1998; Bunston and Breton 1990).¹ Doubts about food security are further strengthened by the

¹The relative nature of that satisfaction is apparent in a 1987 Urban Institute survey. Although a majority of homeless respondents to the survey judged their diets "excellent" or "good," the percentages in the "fair" and "poor" categories were substantially greater than in the nonhomeless population (Burt and Cohen 1989).

finding that hunger motivates a wide range of subsistence behaviors among younger homeless people (Hagan and McCarthy 1998; Whitbeck and Hoyt 1999). These behaviors include obtaining food from friends, stealing it from grocery stores, eating but not paying at restaurants, and selling drugs to raise meal money. Even among the older homeless, considerable effort is expended on the daily quest for food (Cohen and Sokolovsky 1989

The foregoing research, supplemented by diet-oriented evidence, points to four core dimensions of food insecurity. The first has to do with *consumption level*: how many meals homeless people are eating each day, how much is being eaten, and with what regularity. Involuntary fasting has received special attention in this regard because it reflects an extreme and potentially debilitating form of hunger (Burt and Cohen 1989; Laven and Brown 1985). Likewise, certain homeless adults may skip meals so that more is available for children in their care or simply as a way of conserving scarce resources. In addition to quantity, the *quality* of food consumed must be considered. Nutritionally focused studies judge homeless persons' intake of calcium, iron, protein, and vitamins against recommended daily allowances; examine the representation of major food groups; and measure the extent of reliance on prepackaged, nonperishable, or "junk food" items (Bunston and Breton 1990; Winick 1985; Wolgemuth et al. 1992). Dietary quality can also be defined more subjectively, in terms of preferences. Simply put, are the homeless getting enough of what they want to eat?

The ability to fulfill preferences implies that food is obtained from socially acceptable *sources* such as supermarkets or restaurants. Access to such sources, however, should not be taken for granted. At some point, most homeless individuals eat at shelters or soup kitchens or turn to food pantries, friends, or relatives for assistance (Bunston and Breton 1990; Cohen and Burt 1990; Wiecha et al. 1991). As many as one-fifth have been estimated to derive their sustenance from handouts and trash cans (Gelberg et al. 1995; Koegel, Burnam, and Farr 1990). These unconventional means remind us of the centrality of *cost* in the hunger equation. If food is affordable, a homeless person will be less likely to resort to stigmatized sources or to worry about where the next meal is coming from. Accordingly, the cost dimension—along with the consumption level, quality, and source dimensions—must be incorporated in our analysis to do full justice to the notion of food insecurity.

An Adaptation Framework

Much homelessness scholarship, guided by an adaptation perspective, treats homeless individuals as decision makers who work through a complex calculus of opportunities and constraints to address their sustenance needs. During this process, they engage in both instrumental behaviors and psychological adjustments as a way to improve or maintain their perceived quality of life (Cohen and Sokolovsky 1989; Koegel et al. 1990; Snow and Anderson 1993). We refine the adaptation approach, recognizing its resemblance to the generic model that underpins the stress literature (for reviews, see Aneshensel 1992; Thoits 1995). Homelessness, translated into the language of that literature, becomes a stressor that induces discomfort, motivating some sort of response (Banyard 1995; Milburn and D'Ercole 1991). In the case of hunger, a homeless person presumably employs a combination of coping strategies, the effectiveness of which depends not only on particular personality traits

(e.g., mastery) and supportive social relations—the coping resources emphasized in stress research—but also on more mundane kinds of resources such as income and institutional assistance.

Within this stress-informed adaptation framework, we consider two general hypotheses about the predictors of food insecurity. The first, known as the *leveling hypothesis*, acknowledges the magnitude and variety of chronic and acute circumstances linked with homelessness. Taken as a whole, these circumstances are judged to be overwhelmingly stressful, reducing to irrelevance any inter-individual variation in characteristics that might influence vulnerability to hunger. The leveling hypothesis receives support from a Los Angeles study that compares segments of the local homeless population with and without disorders such as mental illness or substance abuse. Finding only minor differences in subsistence activities between the disordered and “normal” groups, Koegel and his colleagues (1990) conclude that “homelessness is a sufficiently handicapping condition by itself that each homeless person's adaptation suffers radically” (p. 104; also see Fitzpatrick, LaGory, and Ritchey 1993). The leveling argument, carried to an extreme, leads us to expect that none or few of the potential antecedents of hunger will register significant associations. It thus serves as an overarching null hypothesis for our analysis.

The alternative, here labeled the *differentiation hypothesis*, assumes that reactions to homelessness, as to any stressful situation, are highly specific. The question then becomes which resources distinguish the better-fed homeless from their hungrier counterparts. All else equal, the advantage should go to those who are well informed about nutrition, are motivated to eat wisely, know where to find food, and have money or other means to obtain it. These resources strike us as intuitively reasonable, but few studies (including our own) provide direct measures of the first three. The empirical literature is also deficient in representing the many types of obstacles that can hinder homeless people's efforts to get enough to eat. Contrary to the leveling idea, for instance, we might anticipate that someone abusing alcohol or drugs would have greater difficulty obtaining a sufficient supply of nutritious food from conventional sources.

At the heart of the differentiation hypothesis is the belief that food insecurity should vary from one homeless person to the next because each person exhibits a unique balance between resources and obstacles. To capture this balance, we focus on five sets of factors that structure the adaptation process: *demographic statuses*, *institutional engagement*, *social ties*, *individual deficits*, and *homeless experiences*. In general, indicators of institutional engagement and social ties are predicted to operate as hunger-reducing resources, while individual deficits operate as hunger-elevating obstacles. Because some of the demographic status and homeless experience variables can be defined as resources and others as obstacles, they yield less consistent hypotheses regarding food insecurity.

Demographic statuses—Certain demographic statuses should function as coping resources. Income, for example, should lower homeless persons' risk of hunger (for empirical support, see Gelberg et al. 1995). So should education, insofar as it heightens nutritional knowledge (Burt and Cohen 1989), and age, both through maturation-linked self-sufficiency and older adults' eligibility for a greater array of benefits (Social Security,

pensions, etc.). Central city location constitutes another potential resource due to the concentration of shelters and soup kitchens in the urban core (Burt et al. 2001; Lee and Farrell 2005). Though difficult to conceptualize as either resource or obstacle, gender deserves attention because homeless males tend to fast more, have poorer-quality diets, and resort to more extreme means to obtain food than do homeless females (Burt and Cohen 1989; Gelberg et al. 1995; Whitbeck and Hoyt 1999). This may reflect gender differences in service usage, informal social support, or other characteristics, rather than any independent impact of being a man. The same logic could apply to variations in hunger by race/ethnicity. However, if vestiges of the racial discrimination once practiced on skid row (Bahr 1973) persist today, membership in a minority group might hinder more directly a homeless person's efforts to achieve food security.

Institutional engagement—Some institutions offer hunger-targeted aid, such as the federal government (via food stamps) and the many local organizations that run soup kitchens, mobile food units, and food pantries. Other government programs—Supplemental Security Income, Social Security, public assistance— provide cash payments that can be used to purchase food. Shelters are especially significant parts of the institutional infrastructure because they serve more meals on a daily basis nationally than soup kitchens (Burt and Cohen 1989). Not all homeless people take advantage of that infrastructure, given eligibility problems, lack of access, or a desire to minimize dependence. Nevertheless, several studies have shown that receiving food stamps, participating in government programs, and utilizing shelters and soup kitchens tend to reduce the chances of hunger among the homeless (Burt and Cohen 1989; Cohen and Burt 1990; Gelberg et al. 1995; Wiecha et al. 1991).

These findings imply that institutional engagement is a preventive step, i.e., that it influences subsequent levels of food insecurity. The causal order here, however, remains ambiguous, primarily because of the potential for self-selection: Homeless persons may seek nutritional assistance only after they experience hunger or it reaches an extreme stage. General population surveys, for example, find that participation in food programs (food stamps, WIC, etc.) is positively related to food insecurity, congruent with a selection dynamic (Alaimo et al. 1998; Nord et al. 2006). In light of the causal complexities involved, we err on the side of caution, treating all forms of institutional engagement as correlates rather than determinants of hunger. But our hypothesis of a negative association between engagement and hunger adheres to the resource-oriented interpretation advanced earlier, as well as to the results from homelessness research cited in the preceding paragraph.

Social ties—We hypothesize that adaptation is facilitated, and the risk of hunger lessened, through homeless individuals' connections to people, places, and work. Beyond their well-established social support benefits (Thoits 1995), interpersonal ties with family and friends can be conduits for food and for money with which to buy food.² Moreover, having to care for children while homeless should operate as an incentive to take whatever steps are necessary to avoid hunger, both for oneself and one's offspring. Single homeless individuals,

²While we consider the use of such ties a strategy for preventing hunger, a selection interpretation is again plausible: namely, that the ties are activated in response to existing hunger.

by contrast, are known to eat less often and from fewer food groups and to fast more frequently than do those homeless with children or partners present (Burt et al. 2001; Burt and Cohen 1989; Wiecha et al. 1991). In terms of place ties, homeless people who remain in the same community should have more information about local food sources, not to mention more extensive social networks upon which to draw. Finally, employment via wage labor or “shadow work” (Snow and Anderson 1993) links one to others (co-workers, customers, etc.), increases feelings of efficacy, and generates income.

Individual deficits—Among the obstacles that homeless people must surmount to achieve food security are a variety of personal problems, or what we label individual deficits. Some of these are stressful crises or events occurring early in life that have long-term consequences. Being abused or neglected by parents or having serious difficulties at school may lead a child to run away from home, eventually becoming a marginalized adult who struggles to satisfy sustenance needs (Whitbeck and Hoyt 1999). Criminal involvement and subsequent incarceration can have a similar marginalizing effect. Other deficits are health-related, driven by rates of infectious and degenerative disease, injury, mental illness, and substance abuse that are much higher among the homeless than in the domiciled population (Burt et al. 2001; Institute of Medicine 1988; Wright 1990). Despite occasional contrary results (Koegel et al. 1990), investigators typically find—and we hypothesize—that health problems of this sort are positively associated with manifestations of hunger (Baldwin 1998; Cohen and Burt 1990; Cohen and Sokolovsky 1989; Gelberg et al. 1995; Wiecha et al. 1991).³

Homeless experiences—General experiences with homelessness—as measured by the number and duration of homeless spells—might be thought of as a resource: More time without a place of one’s own means more practical knowledge about how to “get by” and, ultimately, less hunger. Several surveys support this *street wisdom hypothesis*, documenting a positive effect of homeless duration on the frequency and nutritional quality of meals (Burt and Cohen 1989; Burt et al. 2001; Wolgemuth et al. 1992). Some research, however, challenges the notion that adaptation follows from long-term homelessness (Bunston and Breton 1990). Indeed, Lee and Farrell (2003) have argued that such entrenchment renders people desperate rather than adapted. They spend more time unemployed, unattached, and on the streets, engaged in a range of subsistence behaviors (panhandling, scavenging, etc.). Whether these behaviors ensure an adequate level of food consumption is uncertain, but we suspect that nontraditional food sources are used more often, resulting in a decline in food quality. Accordingly, the desperation hypothesis holds that both general (spell number and duration) and specific (subsistence activity, outdoor sleeping) homeless experiences should be positively related to food insecurity.

Types of Homelessness

The street wisdom and desperation hypotheses also bear on the association between types of homelessness and hunger. By combining the number and duration of homeless spells, three

³Deficits in health can lead to hunger by limiting appetite, normal functioning, physical mobility (and hence access to food sources), and the ability to prepare meals. Certain problems may also prompt a “gatekeeper” response from service facilities (e.g., when shelters refuse to admit clients who are drunk or high).

types of homeless people can be defined: (1) the *transitionally homeless*, so labeled because they are “in transition” between stable housing situations and whose brief homeless spells often amount to once-in-a-lifetime events; (2) the *episodically homeless*, suffering from persistent residential instability, who cycle in and out of homelessness over short periods; and (3) the *chronically homeless*, who have fewer but much longer spells and for whom homelessness approximates a permanent condition (Kuhn and Culhane 1998). Although all three types are worthy of examination, we focus on the chronic group. This group receives substantial attention from policy makers and practitioners, in part because its members have been shown to consume a disproportionate share of services (U.S. Department of Health and Human Services 2003).

The street wisdom hypothesis leads us to anticipate lower food insecurity among the chronically homeless, insofar as they are savvy individuals who learn how to navigate the service infrastructure and achieve a degree of sustenance comfort. According to the desperation hypothesis, however, food insecurity should be higher among the chronically homeless, driven by the needs of people who face significant obstacles and who are exposed to the many stressors accompanying chronic homelessness. To adjudicate between these two hypotheses, we gauge the extent to which chronically homeless persons are distinctive, not only in their patterns and correlates of hunger but in the compositional characteristics identified by the adaptation framework. The transitionally homeless, who should exhibit a very different profile, constitute an appropriate point of comparison for our analysis of the chronic group.

Data and Methods

Data Source

For relevant data, we turn to the National Survey of Homeless Assistance Providers and Clients (NSHAPC), a project sponsored by the Interagency Council on Homelessness (a federal policy consortium) and fielded by Census Bureau personnel in late 1996. Our interest lies in the client survey, which featured face-to-face interviews with a multistage probability sample of respondents using a wide variety of homeless services—meals, shelter, health care, and the like—throughout the United States (for a more detailed discussion of NSHAPC methodology, see Burt et al. 2001). Of the roughly 4,200 total respondents, 2,898 qualify for our working sample. These comprise adults 18 or older who, at the time of the interview, lacked a permanent and adequate nighttime residence of their own, or their residence was temporary in nature or not originally intended as sleeping accommodations. Many of the clients in the full sample have been excluded because they failed to meet this operational definition of homelessness at any point in their lives. We have also dropped currently housed individuals who experienced homeless spells in the past. By doing so, we hope to reduce telescoping, memory problems, and other forms of recall error that might jeopardize data quality.

The working sample is weighted to represent the national population of homeless people who consumed any services in an average week during the survey period, mid-October through mid-November of 1996. Compared to the samples employed in prior studies of most aspects of homelessness, including hunger, this sample is marked by greater geographic

breadth, and it reflects the diversity of all homeless rather than limiting attention to one or two subgroups (although it does omit children). Moreover, it contains not only shelter clients but outdoor sleepers, the vast majority of whom come in contact with some type of program or service encompassed by the NSHAPC design.⁴ Burt et al. (2001) estimate that NSHAPC coverage approaches 85 percent to 90 percent of the total homeless population in communities with substantial service infrastructures in place at the time of the survey. Admittedly, coverage is less adequate in small towns and rural settings with fewer services. We further suspect that highly transient individuals are underrepresented in the sample.

Independent Variables

Table 1 describes the client survey items that we have chosen to operationalize the resources and obstacles within our adaptation framework.⁵ *Demographic statuses* of interest are sex, age, race (non-Hispanic whites as the reference category), education, monthly income (unlogged mean = \$368), and location in a central city on the day of the interview. Consistent with existing evidence on the U.S. homeless population, men, minorities, midlife adults, low SES individuals, and central city dwellers are disproportionately present in our sample. To determine the extent of *institutional engagement*, we include dichotomous measures of whether respondents receive food stamps (37.2% do), have used soup kitchens or other food programs in the past week (45.9%), or have received some sort of government assistance besides food stamps in the past month (28.3%). We also measure how much time respondents have spent in shelters during their current spell of homelessness. The mean shelter score in the table translates into 32.4 percent spending half or more of their time in shelters.

Social ties to family are tapped by two dichotomous measures: whether respondents have their children present with them and whether they have been given any financial support by family members or friends in the past month. The employment variable, a type of economic tie, indicates for what proportion of their lives (after age 16) respondents have held a job or worked for pay. Finally, residential ties are measured with a question about the number of communities in which respondents have lived while homeless; answers have been dichotomized into “stable” and “mobile” categories. Although half of the sample members report staying put in the same community, far fewer possess family ties or exhibit connections via lifetime employment.

We use additive indexes to represent three kinds of *individual deficits*. Survey items about acute infectious diseases, acute noninfectious ailments, and chronic or degenerative conditions (e.g., cancer, diabetes, missing limbs) have been recoded and combined in a

⁴A series of survey items indicates where respondents slept during the seven nights prior to being interviewed. Although approximately one-third had spent the preceding week entirely in shelters, a similar proportion (31.5%) had slept outdoors or in other street locations (e.g., in a car or abandoned building, at a public transportation site) at least once during the same week. Additional sleeping locations included jails, institutions, places of business, someone else's home or apartment, and a hotel or motel room paid for by the respondent. The modal pattern—inhabiting some combination of shelter, street, and conventional housing accommodations—attests to the unstable nature of homeless people's circumstances.

⁵Of the 24 independent and six dependent variables of primary interest, 19 have no cases with missing data; the missing data rate for the remainder is typically less than 2 percent. Given the relatively complete information for our NSHAPC working sample, we have replaced missing data with mean values as necessary. The decision to employ mean substitution has also been guided by an assessment of the influence of this procedure on our results (see note 10).

health problems index, the score on which indicates how many of the three types of problems respondents suffer from. Similarly, an index was created to measure difficulties with alcohol, drugs, or mental health (ADM) during the year preceding the NSHAPC interview, and another index measures the number of serious problems encountered as a child.⁶ Our fourth individual deficit variable is a dichotomous measure referring to incarceration in state or federal prison. The proportions of respondents with at least one health (55.3%), ADM (74.2%), and childhood (81.3%) problem and with a prison record (18.3%) are substantial.

To capture general *homeless experiences*, we rely on two measures: (1) a count of the number of times each respondent has been homeless for 30 days or longer and (2) an eight-point scale (ranging from less than a week to five or more years) that taps the duration of the current homeless spell. Both measures are logarithmically transformed in the initial stage of the multivariate analysis, but we also employ them in raw form later to create chronically and transitionally homeless sub-samples. Specific homeless experiences are examined with two dichotomous measures: (1) whether respondents have been living on the street (i.e., sleeping outdoors or in other unconventional locations) during the past week and (2) whether they have obtained money from any subsistence activities during the past month, such as panhandling, peddling personal belongings, selling blood or plasma, or engaging in illegal behaviors (e.g., drug sales, prostitution, theft). As a set, the four experience variables paint a mixed picture of the character of homelessness. The modal respondent has been homeless only once, for a relatively short period (six months or less), and has not had to turn to subsistence activities to survive. However, nearly one in three report living on the street during the week prior to the interview.

Dependent Variables

The NSHAPC interview schedule contains several questions that reflect the dimensions of food insecurity mentioned earlier.⁷ Deficient consumption levels are tapped by two variables: *infrequent meals* (whether respondents usually eat less than three times per day) and *fasting* (whether they have gone an entire day without eating in the past month). A third variable—hereafter labeled *inadequate food*—combines the consumption and quality dimensions, identifying respondents who do not always get enough food or the kind of food that they prefer. Quality is also implied in a *subsistence eating* variable, which measures whether respondents have obtained food from handouts or trash cans during the past week. (Food sources are captured by this measure as well.) A final variable focuses on the cost dimension, singling out members of the sample who say that they were hungry but could not afford food at some point during the preceding month. This *unaffordable food* variable and

⁶This index measures how many of the following had occurred before age 18: (1) being physically or sexually abused or neglected, (2) running away from home or being forced to leave, (3) having problems in school (dropping out, repeating a grade, being enrolled in special classes, etc.), and (4) being placed in foster care, a group home, or some other kind of institution.

⁷The verbatim survey questions are as follows: (1) “How many times do you usually eat in a day?” [seven response categories ranging from “less than once per day” to “more than five times per day”]; (2) “In the last 30 days, did you go a whole day without anything at all to eat?” [yes/no responses]; (3) “Which of the following best describes your situation in terms of food you eat?” [four responses: “get enough of the kinds of foods you want to eat,” “get enough but not always what you want to eat,” “sometimes not enough to eat,” and “often not enough to eat”]; (4) “Over the last seven days, starting yesterday, on how many days did you get food from each of the following places?” [nine response categories, including “handouts from people passing by” and “trash cans”]; (5) “Were you ever hungry but didn’t eat because you couldn’t afford enough food?” (If so) “Did this happen in the last 30 days?” [yes/no responses].

the four other indicators of food insecurity are all coded as dichotomies, with the “high” category representing greater insecurity.

As anticipated, zero-order correlations among the infrequent meals, fasting, inadequate food, subsistence eating, and unaffordable food measures always take a positive sign, but the average magnitude of the coefficients is modest (mean $r = .28$). In short, the measures appear to be getting at related yet distinct aspects of hunger in our sample of homeless people. We thus deem it appropriate to sum the five dichotomous measures to construct an *overall hunger scale*, which achieves acceptable though far from stellar reliability (Cronbach's $\alpha = .67$). The mean value of this scale (bottom row of Table 1) indicates that respondents are exposed to roughly two different types of food insecurity.

Findings

Hunger as a Priority

Before focusing on the hunger scale and its components in more detail, we address a preliminary issue: Where does hunger rank among the variety of problems faced by homeless people? The last section of the NSHAPC interview schedule contains a pair of items germane to this issue. Survey participants were asked, “What are the things you need the most now?” Though the item was presented in open-ended fashion, interviewers were instructed to use 27 precoded categories and an “other” category to record the first three responses given. A follow-up item asked, “Of these, which (one) do you need the most help with now?” Possible answers to both items span a broad range of needs, from job training to child care services or help with legal matters.

Of greatest interest here is the response category “assistance getting food.” This category ranks sixth among the needs tapped by the open-ended item, with 15.8 percent of all sample members citing it. For comparison's sake, finding a job (44.2%), finding affordable housing (39.2%), and assistance with rent, mortgage, or utility costs (33.8%) are mentioned much more often. A similar rank-order holds with respect to the single most pressing need identified in the follow-up question; getting food drops to ninth place on the list. While the small percentage singling out food assistance (2.5%) may seem low, this result aligns with evidence from local studies (Linn and Gelberg 1989; Koegel et al. 1990). Even in a representative national sample, other difficulties receive higher priority from homeless persons.

Hunger Patterns

The relative standing of food needs does not mean that hunger is trivial or ignored. Roughly three-fifths of the respondents note problems with inadequate food in terms of quantity or preference (61.1%) and with infrequent meals (57.2%). Two-fifths report fasting for an entire day (39.8%) and being unable to afford food (39.1%) during the past month. More than one in ten (12%) have engaged in subsistence eating within the past week, turning to trash cans or handouts as food sources. When the five types of food insecurity are considered simultaneously, 81.2 percent of respondents have experienced at least one type, and a large majority have experienced two or more. Nearly one in 20 homeless cite all five, manifesting across-the-board hunger.

The prevalence of different dimensions of food insecurity among homeless people is difficult to interpret in a vacuum. For comparative data, we draw upon the special module of the Current Population Survey (CPS) mentioned earlier, which has been used to track hunger in the general population since 1995. Of the large battery of survey items included in the module, two are sufficiently similar to our items to be helpful. According to CPS data for 1995—roughly the same period to which the NSHAPC data pertain—2.5 percent of all U.S. adults were hungry but unable to afford food during the preceding year, and 1 percent had fasted for at least a day during that interval (Hamilton et al. 1997). For adults in households below the federal poverty line, 10.1 percent could not afford food, and 5.5 percent had fasted at some point during 1995.⁸ By contrast, the respective percentages of homeless respondents endorsing the unaffordable food and fasting items both approach 40 percent for the preceding *month*. Thus, though hunger is not universal among the homeless, it is a far more frequent condition than among domiciled Americans. Homeless people also appear much more likely to be hungry than do the housed poor. This finding hints at qualitative differences between homelessness and poverty, a point to which we return later.

Explaining Variation in Hunger

To better understand variation in hunger patterns, we employ ordinary least squares regression. In Table 2, results for the total working sample are summarized in model 1 and its reduced-form companion, model 2.⁹ These results, which speak to the leveling and differentiation hypotheses, document the association of demographic statuses, institutional engagement, social ties, individual deficits, and homeless experiences with the overall hunger scale.¹⁰ The unstandardized coefficients in the top panel confirm the insulating benefits of age and income: Older homeless persons and those with higher incomes tend to be significantly less hungry than their younger and poorer colleagues. Two of the three dummy variables tapping race also achieve statistical significance in the expected direction: Being black or Hispanic increases one's degree of food insecurity. Perhaps the biggest surprise among the demographic statuses is the negative sign for the sex (male) dummy, indicating that men are less food-insecure than women with all other predictors controlled.

Coefficients for the institutional engagement and social tie measures appear in the next two panels of models 1 and 2. As expected, receipt of food stamps and time in shelters function as resources, relating negatively to hunger. However, use of soup kitchens and other food programs is associated with higher hunger levels, not lower ones. Based on the selection logic advanced earlier, perhaps homeless people turn to soup kitchens mainly in

⁸We must rely on the 1995 CPS data because distributions for specific survey items are not reported for 1996 (the year that the NSHAPC data were collected) or 1997. Mark Nord of the Economic Research Service at the U.S. Department of Agriculture kindly provided us with special CPS tabulations on food insecurity in the poverty population.

⁹The model 2 results have been produced by paring down the full equation (model 1) in backward stepwise fashion. Not only is greater parsimony achieved through the deletion of nonsignificant predictors, but the risk of collinearity problems is reduced because similar variables are no longer simultaneously forced into the equation.

¹⁰This portion of the analysis has been replicated using multiple imputation procedures rather than mean substitution to deal with missing data (see Rubin 1987; Schafer 1999). Regression estimates that incorporate missing-data uncertainty have been “averaged” from analyses of five simulated (complete-data) versions of the NSHAPC working sample. The estimates (not shown) are virtually identical to those reported in Table 2. In model 1 of the table, for example, all of the regression coefficients based on multiple imputation closely resemble their mean-substitution counterparts in magnitude, take the same signs, and correspond perfectly in terms of statistical significance (i.e., the same predictors marked with asterisks in the table also achieve significance in the multiple imputation analysis). We are thus confident in the durability of our results, irrespective of how missing data are handled.

emergencies rather than for preventive purposes.¹¹ Employment proves to be the lone significant predictor among the social tie variables. Its negative coefficient suggests that the greater the percentage of one's adult life spent working, the more options one has for meeting sustenance needs.

The message from the lower panels of the total sample models can be simply stated: Individual deficits and homeless experiences pose major barriers to the quest for food security. In terms of deficits, persons who suffer from physical health and ADM problems, have a history of childhood difficulties, and have a prison record are significantly hungrier than those without such deficits. Similarly, the signs of the homeless experience measures, all positive, refute the notion that the acquired street wisdom of the entrenched homeless helps them adapt to their situation, at least when it comes to obtaining food. Instead, being homeless more often, spending time on the street, and engaging in subsistence activities (panhandling, peddling, selling plasma, etc.) significantly increase hunger, as anticipated by the desperation hypothesis.

The numerous significant coefficients in models 1 and 2 support the differentiation hypothesis, reflecting the diverse roots of variation in hunger among homeless people. Although social ties as we have operationalized them do not seem especially relevant to hunger, the majority of measures representing the four other explanations do. The unique increments in R^2 contributed to the full equation (model 1) by demographic statuses (2.2%), institutional engagement (2.7%), individual deficits (5.3%), and homeless experiences (9.4%) attest to the predictive power of each set of variables. So do the specific variables with the biggest standardized coefficients, which include—in descending order of magnitude—an aspect of homeless experience (living on the street), a form of institutional engagement (food program usage), an individual deficit (physical health problems), and a demographic status (income). Put differently, none of the resources and obstacles by themselves provide an adequate understanding of why homeless individuals report greater or lesser degrees of overall hunger; all must be taken into account.

Are the Chronically Homeless Distinctive?

The total sample coefficients for the homeless experience measures hint that persons entrenched in homelessness may be distinctive with respect to their food insecurity. We explore this possibility by replicating the previous steps in our analysis for the chronically homeless. Operationally, the chronic category consists of those NSHAPC respondents with two or more spells of homelessness during their lifetime whose current spell is at least two years in duration. For comparison purposes, we define a transitionally homeless subsample, the members of which are in their first spell and who have been homeless for less than a year. The chronically homeless constitute 12.7 percent ($n = 369$) of our working sample, and the transitionally homeless constitute 23.3 percent ($n = 676$).

¹¹To evaluate this possibility, we have regressed (using a logistic model) the food program variable on all of the other predictors in model 1. The odds ratios (not shown) indicate that the likelihood of using food programs is increased by low income and education and by physical health problems, frequent homeless spells, living on the street, and engaging in subsistence activities. These effects are consistent with the notion that limited resources, health deficits, and entrenched homelessness combine to make people desperately hungry, pushing them toward soup kitchens even when they may prefer to eat elsewhere.

Neither group emphasizes hunger when asked about the one problem with which they need the most help. Similar to the working sample results, 2.4 percent of the chronic group and 1.9 percent of the transitional group identify food assistance as their most pressing need, ranking it in ninth place, far below such concerns as obtaining a job or affordable housing. However, chronically homeless people report specific kinds of food insecurity much more often than do their transitional counterparts: They exhibit a greater prevalence of infrequent meals (71.4% vs. 45.5%), fasting (47% vs. 36.4%), inadequate food (72.5% vs. 51.7%), subsistence eating (12.1% vs. 2.9%), and unaffordable food (45% vs. 34%). They also exceed the working sample as a whole on four of these five dimensions, subsistence eating being the lone exception. Overall, one or more dimensions are affirmed by nearly 93 percent of the chronically homeless but by barely seven in ten transitionally homeless.

The factors associated with hunger further distinguish chronically homeless persons. In models 3–6 of Table 2 we present full and reduced-form equations separately for the chronic and transitional subsamples, summarizing regressions of our hunger scale on the same predictors as in models 1 and 2 (minus the number and duration of homeless spells, which are employed to define the subsamples). While the significant predictors in the transitional models resemble those for the total sample, the chronically homeless models stand out in three ways. First, just one of the individual deficit measures—childhood problems—is significantly related to hunger among the chronically homeless. Second, social ties matter more for this group than they do the total sample, but their positive signs contradict the notion of ties as preventive resources. And third, all forms of institutional engagement exhibit significant coefficients, albeit mixed in direction.

Our interpretation of these findings, supplemented by compositional information about the chronic subsample, favors the desperation hypothesis over its street wisdom alternative. Because chronically homeless people are not only disproportionately food-insecure but also disproportionately likely to suffer from each type of individual deficit,¹² the deficit variables can be expected to discriminate less well among levels of hunger. For members of the chronic group with such deficits, social ties to children in their care may pose an added burden that complicates adaptation and leads them to curtail their own food consumption for the children's sake. Another sort of tie, financial support, withers over time, with roughly one-tenth of the chronically homeless receiving money from family members or friends during the past month (compared to one-third of the transitionally homeless). We suspect that the worst-off, hungriest individuals in the chronic category are the most inclined to seek or be offered financial support from intimates, thus accounting for the positive sign taken by this variable. In similar fashion, the positive coefficients for the food stamp and food program measures in models 3 and 4 imply that institutional engagement is pursued as a response to extreme food insecurity. Yet certain institutional resources, such as shelter usage and government assistance (both of which have negative signs), appear to ameliorate the hunger of those in a chronically homeless state.

¹²We use *t*-tests to compare the chronic and transitional subsamples, and they reveal significantly higher means for the former on the health problems, ADM problems, childhood problems, and prison record measures.

Based on tests between regression coefficients from the two subsample full equations (models 3 and 5 in Table 2), several variables display significantly different relationships to hunger among the chronically homeless than among the transitionally homeless (for a description of the test used, see Clogg, Petkova, and Haritou 1995). Only one variable, though, yields a significant difference score as a result of significant, oppositely signed coefficients for the two groups. Contradicting its positive coefficient for the chronically homeless, financial support from family and friends operates among transitionally homeless persons in the manner originally hypothesized, as a resource that reduces food insecurity. So does monthly income, despite falling short of significance in the chronic equation. Differences in racial effects across types of homelessness are more difficult to make sense of. On the one hand, perhaps the overrepresentation of African Americans in the chronic category translates into a co-ethnic network that provides sustenance resources not tapped by the remaining predictors (hence the negative sign for the “black” variable). Hispanics, on the other hand, are underrepresented in the homeless population in general (Baker 1996), a fact that could render even a transitional bout of homelessness traumatic and increase their risk of food insecurity (hence the positive sign for “Hispanic” in the first column of Table 3).

Conclusion

Our analysis makes four principal contributions to current knowledge about food insecurity among homeless people. First, we put this body of knowledge on firmer conceptual and empirical footing. The NSHAPC design, which provides multiple hunger measures for a large, representative sample, allows us to move toward a more sophisticated treatment of food insecurity and to be confident in the generality of the results obtained. Second, our analysis points out the fallacy of the extreme views juxtaposed in the introduction: Getting enough to eat is not the top priority for homeless individuals, nor is it irrelevant to them. Although they emphasize other needs, their levels of food insecurity far exceed those of the domiciled public. That they are also more food-insecure than the poverty population underscores their tenuous circumstances. Relative to poor adult Americans, homeless persons have lower incomes and higher rates of ADM problems (Burt et al. 2001), important risk factors for hunger. Another obvious but critical difference between the homeless and the poor is the former's lack of permanent housing, which complicates the routine acquisition, preparation, and storage of food.

Our third contribution has been to demonstrate the value of a refined adaptation framework. One hypothesis suggested by the framework, about the leveling impact of homelessness, receives little support. Instead, our findings largely conform to the differentiation hypothesis: Complex patterns of food insecurity exist among the homeless, and they vary with the resources available and the obstacles faced. Simply put, some people are better situated than others to deal with the stressful nature of homelessness when attempting to meet sustenance needs. Those who have individual deficits, for example, or who inhabit the street (i.e., sleep outdoors) suffer from elevated food insecurity. Consistent influences in the opposite, hunger-reducing direction are associated with higher monthly income and various types of institutional engagement, such as regular shelter use.

The fourth and final contribution of our study is to document the unique vulnerability of the chronically homeless to food insecurity. Contrary to the street wisdom hypothesis, the number and duration of homeless spells experienced by members of this group do not facilitate their adaptation in terms of learning how to stay well fed. Rather, their combination of multiple deficits (poor physical and mental health, alcohol and drug use, childhood problems, etc.) and excessive food insecurity is more in line with the desperation hypothesis. The counterintuitive coefficients from the subsample regressions reinforce this conclusion, particularly the positive signs for the food stamp, food program, and financial assistance measures. Among the chronically homeless, help from institutional sources and from family and friends appears to be sought in response to severe hunger, not to avoid it in the first place.

This scenario hints at a substantial limitation of the NSHAPC dataset. Despite the survey's many strengths, its cross-sectional character means that a self-selection process may be operating: Perhaps food insecurity, which serves as our dependent variable, actually prompts homeless persons to use soup kitchens or engage in subsistence activities. The possibility of selection has steered us away from talking about "effects" (especially when they are causally implausible) and has led us to prefer "predictors" and "correlates" over "determinants." Nevertheless, careful language fails to eliminate the element of doubt about the causal logic implicit in our models: namely, the degree to which that logic oversimplifies a complicated, cyclical reality marked by many feedback loops.

Another bothersome aspect of the data set is its omnibus content, with depth of measurement occasionally sacrificed for topical coverage. As an illustration, the weak performance of social ties might be due to the few tie measures available, which depict conventional forms of attachment (to family, work, and community). What may really matter are ties to fellow homeless people who, given their proximity and their knowledge of the local scene, could be better positioned than nonhomeless family members or friends to offer practical aid and social support (Rowe and Wolch 1990; but see LaGory, Ritchey, and Fitzpatrick 1991). Admittedly, such peer ties often carry costs as well as benefits, as one network study of homeless youth has shown (Ennett, Bailey, and Federman 1999). But the more general issue here is that richer measures of all kinds of ties would bring the adaptation process into sharper focus, illuminating how the homeless cope with difficult, stressful conditions.

Hunger, of course, can be a stressor in its own right for homeless persons. Over time, it heightens the odds of nutrition-related physical health ailments (Jahiel 1992; Wiecha et al. 1991; Wright 1990), and it jeopardizes psychological health by reducing an individual's energy level, cognitive abilities, and emotional resilience (Belcher and DiBlasio 1990; also see Siefert et al. 2004). These consequences portend a grim future for the most food-insecure segments of the homeless population. Finding and holding a job, for instance, becomes less likely when someone is preoccupied with the next meal; unemployment in turn lowers the odds of exiting homelessness. Other variables from our analysis that may be influenced directly or indirectly by hunger in a deleterious manner include income, residential stability, and subsistence behaviors. In short, hunger is one of several apparent "side effects" of homelessness (along with such things as criminal victimization and social isolation) that can more deeply embed a person in a chronically homeless state.

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Biographies

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Meredith J. Greif is Assistant Professor of Sociology at Cleveland State University. In addition to examining homelessness, her work focuses on neighborhood attachment, immigration and assimilation, residential mobility, and racial identity.

Table 1
Description of Independent and Dependent Variables

Variable	Mean	SD
Demographic statuses		
Sex (1 = male)	.686	.464
Age (in years)	38.439	10.917
Black (1 = yes)	.401	.490
Hispanic (1 = yes)	.105	.307
Other minority (1 = yes)	.084	.278
Education (1 = beyond high school)	.243	.429
Monthly income (logged \$)	4.800	2.171
Location (1 = central city)	.706	.456
Institutional engagement		
Food stamps (1 = current recipient)	.372	.483
Food program (1 = used in past week)	.459	.498
Government assistance (1 = recipient in past month)	.283	.451
Time in shelters (0 = none, 6 = all)	1.842	2.201
Social ties		
Child(ren) present (1 = yes)	.145	.352
Financial support (1 = money from family, friends in past month)	.198	.398
Employment (0 = none of adult life, 4 = all)	.901	1.370
Residential stability (1 = stayed in one community while homeless)	.511	.500
Individual deficits		
Health problems (0 = none, 3 = 3 different types) ^a	.799	.853
ADM problems (0 = none in past year, 3 = 3 different types) ^b	1.285	.995
Childhood problems (0 = none, 4 = 4 different types) ^c	1.565	1.177
Prison record (1 = ever in state or federal prison)	.183	.387
Homeless experiences		
On street (1 = living on street in past week)	.315	.464
Subsistence activities (1 = money from such activities in past month) ^d	.176	.381
Number of homeless spells (logged)	.673	.750
Duration of current spell (0 = < week, 7 = 5+ years; logged)	1.233	.664
Food insecurity		
Infrequent meals (1 = usually eat < 3 times/day)	.572	.495
Fasting (1 = entire day without eating in past month)	.398	.489
Inadequate food (1 = not enough or preferred food)	.611	.488
Subsistence eating (1 = from handouts or trash in past week)	.120	.324
Unaffordable food (1 = couldn't afford food in past month)	.391	.488
Overall hunger (0 = no types of food insecurity, 5 = 5 different types)	2.091	1.519

Note: N = 2,898.

^aTypes include acute infectious, acute non-infectious, and chronic illnesses or conditions.

^bTypes include alcohol, drug, and mental health problems.

^cTypes include abuse/neglect, running away or forced from home, school problems (dropping out, repeating grade, enrolled in special classes), and outplacement (foster care, group home).

^dActivities include panhandling, peddling, selling plasma, and engaging in crime.

Table 2
Regression of Overall Hunger Scale on Independent Variables for Total Sample and Chronic and Transitional Subsamples

Independent Variable	Total Sample			Chronic Subsample			Transitional Subsample		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 5	Model 6	Model 6
Demographic statuses									
Male	-.175**	-.213***	-.468**	-.505***	-.430***	-.444***			
Age	-.007**	-.007**	-.000 –		.001				
Black	.213***	.239***	.269*# –	-.337**	.051#				
Hispanic	.310***	.329***	.075#		.446***#	.422***			
Other minority	-.086		.169#		-.745***#	-.793***			
Education Monthly	.110*		.293*	.288*	-.017 –				
income Central city	-.079***	-.078***	.043#		.048**# –	-.059***			
location	.025		-.221		.117				
Institutional engagement									
Food stamps	-.192***	-.166***	.265*#	.257*	-.190#				
Food program	.511***	.498***	1.060***	1.081***	.809***	.802***			
Government assistance	-.002 –		-.344* –	-.236* –	-.079 –				
Time in shelters Social ties	.043***	-.040***	.151***#	.155***	.045*#	-.047**			
Child(ren) present	.155		.762***#	.766***	.196# –				
Financial support	-.052		.403*#	.474**	.188*# –				
Employment	-.034	-.039*	.063#		.118***#	-.135***			
Residential stability	-.043		.159		.280**	.298***			
Individual deficits									
Health problems	.258***	.265***	.026		.183**	.172**			
ADM problems ^a	.153***	.151***	.060		.203***	.178***			
Childhood problems	.092***	.089***	.101	.122**	.129**	.120***			
Prison record	.269***	.271***	.047		.240	.274*			
Homeless experiences									

Independent Variable	Total Sample		Chronic Subsample		Transitional Subsample	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
On street	1.042***	1.052***	.951***	.880***	1.113***	1.080***
Subsistence activities	.427***	.430***	.044		.352*	.353*
Number of spells	.149***	.156***				
Duration of current spell	.050					
Intercept	1.509***	1.586***	1.658***	1.987***	1.201***	1.194***
R ²	.380***	.378***	.561***	.549***	.473***	.467***
N	2,898	2,898	368	368	676	676

* $p < .05$;
** $p < .01$;
*** $p < .001$
^aTypes include alcohol, drug, and mental health problems.
[#]Significant difference between chronic, transitional coefficients ($z > \text{twice SE}$)