A B S T R A C T

A brief survey was undertaken to assess the nature and severity of food scarcity experienced by a sample of 88 street youth in downtown Toronto, and to identify markers of vulnerability to food scarcity. Almost half of the youth reported experiencing involuntary hunger or food deprivation during the previous 30 days. Youth who were literally homeless (i.e., on the street or "squatting" in abandoned buildings) and those relying primarily on street-based activities for income appeared particularly vulnerable to food deprivation. Although limited in scope, the findings raise questions about the nutritional well-being of street youth and highlight the need for more effective interventions to address problems of poverty, hunger, and homelessness among Canadian youth.

A B R É G É

On a procédé à une courte enquête pour évaluer la nature et la gravité du manque de nourriture vécu par un échantillon de 88 jeunes à la rue dans la centre-ville de Toronto, ainsi que pour identifier leur vulnérabilité à cet égard. Près de la moitié des jeunes ont déclaré avoir involontairement eu faim ou manqué de nourriture au cours des trente jours précédents. Les jeunes se trouvant littéralement sans-abri (autrement dit à la rue ou «squattant» des édifices abandonnés) et ceux dépendant principalement de leurs activités en rue pour leur revenu sont apparus particulièrement vulnérables au manque de nourriture. Bien que de portée limitée, les résultats de cette enquête soulèvent des questions par rapport au bien-être nutritionnel des jeunes à la rue et font ressortir la nécessité de mener des interventions plus efficaces pour s'attaquer aux problèmes de la pauvreté, de la faim, et de l'itinérance chez les jeunes Canadiens.

A Survey of Food Problems Experienced by Toronto Street Youth

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There are reports of a growing problem of hunger and homelessness in urban centres across Canada.^{1,2} One subgroup of particular concern are street youth, individuals 25 years of age or younger who are homeless or underhoused, i.e., living on the street or "close to the street" in temporary, inadequate housing arrangements. In 1994, an estimated 12,000 young people were on the streets of Toronto.³ Street youth come from a variety of social and economic circumstances, but generally share troubled family histories.^{4,6} Many have fled or been "kicked out" of homes characterized by abuse, conflict, and family disruption.^{4,7} Their time on the street can range from one or two days to several years.⁶ While on the street, many youth appear to be locked in a daily struggle to meet basic survival needs for food and shelter.⁸ In one Toronto study, the likelihood of street youth engaging in theft of food and property over \$50 was found to significantly increase with experiences of food deprivation; theft and prostitution were also associated with problems of shelter and unemployment.⁵ Studies of youth on the street document their vulnerability to problems of violence,⁴ substance abuse,^{6,9} hepatitis B infection,¹⁰ human immunodeficiency virus and other sexually transmitted diseases,¹¹ as well as very basic health problems such as poor oral health.¹²

Problems of hunger, chronic food insecurity, wasting, nutrient deficiencies, and suboptimal nutrient intakes have been widely documented among homeless

adults,¹³⁻¹⁸ but street youth have not been a focus of nutrition research to date. Meeting their food needs is only one of the problems street youth must confront, and it is not necessarily the most important one. Nonetheless, chronic poor nutrition is associated with impaired function and a heightened risk of infection, and as such must exacerbate problems of health and well-being. A survey was undertaken to assess the nature and severity of food scarcity experienced by a sample of street youth in downtown Toronto and to identify markers of the context within which problems are most severe.

METHODS

Survey preparation began with a qualitative pilot study, undertaken in the summer of 1996 to gain an "insider's" perspective on the range of food and nutrition issues affecting street youth. Open-ended, semi-structured interviews were conducted with 19 street youth and eight "front line" workers in agencies providing support services to street youth in downtown Toronto. Pilot study findings informed the development of a brief survey instrument designed to collect information about current living circumstances, food acquisition practices, food-related concerns, and perceived barriers to food sufficiency through closed-ended and short answer questions. Questions about experiences of involuntary hunger and absolute food deprivation (defined as not eating for a period of 24 hours) over the previous 30 days were drawn from existing instruments.¹⁹ To maximize the response rate and to compensate for possible literacy problems, the instrument was designed to be interviewer-administered in ten minutes. Prior to

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administration, it was reviewed by three "front line" workers and pilot-tested with six street youth. The survey protocol was approved by the University of Toronto Ethics Review Committee.

The survey was administered in January and February, 1997. To include a cross-section of youth, the sample was drawn from three different inner-city agencies explicitly for street youth: a health centre, a large drop-in centre, and a smaller drop-in centre for youth involved in prostitution. Within each agency, the number of youth surveyed was proportional to agency size based on utilization statistics. Youth were systematically approached by the interviewer (MA) as they arrived, or in the case of the large drop-in centre where youth tended to congregate in clusters, clusters were randomly selected and youth within them approached to participate in the survey. Youth were considered eligible to participate if they were homeless or in a housing situation which they deemed to be unstable or inadequate and were 25 years or younger. Participation was voluntary and by informed consent, and every effort was made to conduct the interviews in private. Following each interview, weight and height were measured. Requesting prior removal of footwear and coats was deemed inappropriate, but participants' apparel was noted and the measurements later adjusted.

Of the 118 youth approached, 10 were deemed ineligible and 13 refused to participate (88% response rate). Two interviews had to be aborted because of language or mental health problems and five questionnaires were later excluded from analysis because participants did not meet the eligibility criteria. The results presented here are thus based on a sample of 88 youth.

Body mass index (BMI) was calculated for each participant. Analysis of variance (General Linear Models) and Kruskal-Wallis (Chi-Square Approximation) tests were used to explore relationships between life circumstances, body mass index and indicators of food scarcity. Where significant associations were identified, subgroup differences were explored by comparing least squares means or mean rank scores. Data analysis was conducted using the Statistical Analysis System (SAS) computer

TABLE I
Food Scarcity in a Sample of Toronto Street Youth

Food Scarcity During Previous 30 Days	Number*	% (95% confidence intervals)
No reported food scarcity or concerns about food scarcity	33	37.9% (27.8, 48.0)
Sometimes or often worried about where next meal was coming from, but did not report food scarcity	12	13.8% (6.6, 21.0)
At least one experience of hunger but no food deprivation lasting for 24 hours or more	15	17.2% (9.3, 25.1)
Both hunger and food deprivation for 24 hours or more	27	31.0% (21.3, 40.7)

* Results are presented for 87 youth. Inconsistent responses made it impossible to classify one participant.

Figure 1. Body mass indexes of 80 Toronto street youth.
Note: BMI data are not presented here for the five women who were pregnant or breastfeeding and for three for whom height and weight data were unavailable.

package for personal computers, version 6.10 (SAS Institute Inc, Cary, NC).

RESULTS

The sample consisted of 49 men and 39 women, 5 of the 39 women pregnant or breastfeeding. The average age was 19.9 years (SD 2.3) with reported ages ranging from 16 to 25 years. Reported length of time spent either on the street or in an unstable housing situation ranged from one week to 264 months (median 24 months). (One youth reported having lived "on the street" all his life, 22 years). The observed

distribution of body mass indexes (BMI) in this sample is presented in Figure 1. Among the 45 youth who were 20-25 years of age and not pregnant or breastfeeding, 7 (16%) appeared to be underweight, and 8 (18%) were overweight when compared to current Canadian standards.²⁰ Comparing the BMIs of the 35 youth under 20 years of age (and not pregnant or breastfeeding) with international age- and sex-specific reference standards,²¹ 2 youth (6%) appeared underweight and 11 (31%) appeared overweight.

Youth varied widely in their reported experiences of food scarcity, but almost

TABLE II
Relationship Between Reported Food Scarcity and Living Circumstances of Sample of Toronto Street Youth

	Number (% of sample)	24-hour Food Deprivation Over Previous 30 Days*	Hunger Over Previous 30 Days*
Accommodation		Chi ² = 11.385, p=0.0226, 4df	Chi ² = 11.789, p=0.0189, 4df
Hostel or shelter	22 (25.0%)		
Rented apartment (alone or with others)	20 (22.7%)		
Room in rooming house	17 (19.3%)		
With friends or relatives	15 (17.1%)		
On street or in an abandoned building (a "squat")	14 (15.9%)		
Main Source of Income		Chi ² = 11.475, p=0.0427, 5df	Chi ² = 6.7795, p=0.2376, 5df
Welfare or Unemployment Insurance	26 (29.6%)		
No income, money from friends or family	19 (21.6%)		
Employment	13 (14.8%)		
Squeegeeing† or panhandling	12 (13.6%)		
Personal Needs Allowance‡	11 (12.5%)		
Prostitution	7 (8.0%)		
Main Source of Food		Chi ² = 11.134, p=0.0251, 4df	Chi ² = 6.6472, p=0.1558, 4df
Supermarket or large grocery store	25 (28.4%)		
Hostel or shelter where staying	20 (22.7%)		
Fast food outlet, street vendor	18 (20.4%)		
Drop-in centre	14 (15.9%)		
Friends or relatives	6 (6.8%)		
Convenience store or small variety store	4 (4.5%)		
Food bank	1 (1.1%)		

* Relationships between number of days of hunger or 24hr food deprivation and living situation variables were examined using Kruskal-Wallis tests (Chi-Square Approximation).

† "Squeegeeing" refers to the practice of washing the windows of passing motor vehicles when they are stopped at major downtown intersections and then asking for a donation.

‡ This allowance is provided to youth staying in some hostels.

Figure 2. Frequency of food deprivation for 24 hrs or more in previous 30 days among 28 youth who reported experiencing involuntary food deprivation.

half (48%) reported some hunger and/or absolute food deprivation over the previous 30 days (Table I). Most of the 28 youth who reported not having eaten for an

entire day said that it had happened only once or twice, but one youth reported having gone without food for 15 of the previous 30 days (Figure 2). Similarly, most of

the 48 youth who reported experiences of hunger said it occurred over only one to three days; however, two people reported experiencing hunger every day in the previous 30 (Figure 3). Of the five women who were either pregnant or breastfeeding, none reported experiencing absolute food deprivation, and only one reported any hunger during this time period. No significant relationship was found between BMI and hunger or food deprivation.

Wide variation in youths' living circumstances was observed (Table II), with no systematic differences by age or gender except an association between age and major source of income (General Linear Model: $F 3.08, 5 \text{ df}, p=0.0133$). Youth relying on squeegeeing or panhandling were significantly younger than all others except those with Personal Needs Allowances (a stipend provided to youth staying in some hostels).

Experience of hunger was found to vary significantly with type of accommodation, with the most vulnerable groups being those living in rooming houses, on the street or in a "squat" (i.e., an abandoned building) (Table II). Reported food deprivation for 24 hours or more was significantly associated with accommodation, major source of income, and major source

of food (Table II). Youth who were living on the street or in a "squat", and those whose major source of income was squeegeeing or panhandling, appeared most vulnerable to food deprivation. Their heightened vulnerability in comparison to youth reporting no income or only some money from family or friends may be explained by the fact that 14 of the 19 youth in this latter group resided in hostels or with family and friends, in situations where they would likely be fed. The food acquisition practices associated with greatest vulnerability to food deprivation were a reliance on fast food restaurants and a reliance on meal programs in drop-in centres. It should be noted that there is considerable overlap between youth who reported these food acquisition practices and those who lived on the street or in "squats", and whose major source of income was panhandling or squeegeeing. While food banks were not a major source of food for youth, it is likely that they supplied at least some of the food served in charitable meal programs.

Ten youth (11%) reported that in the previous 30 days they had often worried about where they were going to get their next meal, 30 (34%) that they had worried about this sometimes and 48 (55%) that they had never worried. As well, 46 youth (52%) reported that they sometimes or often worried that the kinds of foods they ate were not good for their health. No significant associations were detected between these concerns and living circumstances. When asked to rate their eating habits, 23% of the youth rated them as excellent or above average, 36% as average, and 41% as below average or poor.

When youth who reported problems getting enough food to eat were asked what would help them to eat better, most identified issues of income, access to kitchen facilities and stable housing, but several youth also noted that improved access to and service at charitable food programs would be of help. Of the youth in this sample who were not living in hostels (where full or partial board would be provided), 39% lacked access to complete kitchen facilities (i.e., access to cooking, refrigeration and food storage facilities) where they lived.

DISCUSSION

Almost two thirds of youth interviewed were experiencing problems getting enough food to eat or were concerned about their ability to do so. This is likely an underestimate of the true level of food scarcity among street youth in Toronto, given the construction of our study sample. The failure to sample street youth who do not use community support services and thus may be more vulnerable to food problems is a limitation. In a 1992 survey of 482 street youth in Toronto and Vancouver,⁸ 32% said they had gone a whole day without eating often or a lot of the time since leaving home, 31% said this had happened to them a few times, and 24% said it had happened once or twice (personal communication, B. McCarthy, 1998). Only 14% of youth reported never having gone a whole day without eating. These results lend support to our findings that street youth are vulnerable to food scarcity.

The wide diversity of living circumstances reported by study participants, coupled with the small sample size, made it difficult to pinpoint circumstances and

individual attributes associated with particular vulnerability to food scarcity. However, our findings suggest that youth who are literally homeless (i.e., on the street or in "squats") and those relying primarily on street-based activities (i.e., panhandling or squeegeeing) for their income, are especially vulnerable to food deprivation. While the institution of charitable meal programs in youth drop-in centres is one response to this problem, our findings indicate that many of the youth using such programs are still experiencing hunger and food deprivation.

The absence of a relationship between BMI and hunger or food deprivation is to be expected given that body weight reflects long-term energy balance rather than short-term perturbations. The observed distribution of BMIs for 20-25 year olds in this study was similar to that observed among 20-24 year olds in the general population.²²

Street youth were more likely than other youth to appraise their eating habits negatively. The proportion of youth in our sample who rated their eating habits as below average or poor (41%) is almost twice the proportion of 15-19 year olds

and 20-24 year olds in the general population who rated their eating habits as fair to poor (22% and 23% respectively).²²

Although limited in scope, the results of this survey are worrisome, particularly given recent evidence of the worsening situation for Canada's poor.²³ The extent and severity of nutrition problems among street youth need to be ascertained, and more appropriate, effective intervention strategies established to meet the needs of this very diverse yet highly vulnerable population. As the youths' own appraisal of the barriers to their food security indicate, this problem cannot be addressed outside of the broader context of their lives – a context characterized by severe poverty, unemployment, and homelessness.

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