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A Glimpse of Child Hunger in Canada

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by
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Executive Summary

Frequent or long episodes of hunger can have harmful and long term effects on the health and development of the child. Hunger, a consequence of extreme disadvantage, was experienced by 1.2% (206) of the families in the National Longitudinal Survey of Children and Youth, which represents about 57,000 Canadian families with children. Single parent families, families on social assistance and Aboriginal families are over-represented. One third of the families, experiencing hunger are often dual wage-earner families, the working poor. Hunger was a problem that co-occurred with the mother's poor health and activity limitation. The difference in annual income between those who experience frequent hunger and those who experience occasional hunger is $5000.

Parents realize that food deprivation can affect the development of young children, and, therefore, deprive themselves of food first. Among households experiencing hunger, there is a high reliance on food banks in Ontario, and by single parents, while other families relied on support from family and friends.

The impact of the child tax benefit and the working wage supplement on the number of families experiencing hunger should be monitored. The level of social assistance should also be examined since over half the families experiencing hunger rely on this program. There is a relationship between the mother's health and the experience of hunger, but the direction of this relationship (which comes first) is not clear.

Sommaire

Des épisodes de faim longs ou fréquents peuvent avoir des effets négatifs et prolongés sur la santé et le développement de l'enfant. Parmi les quelque 57 000 familles canadiennes ayant des enfants qui participent à l'Enquête longitudinale nationale sur les enfants et les jeunes, 1,2 % (206 familles) ont connu la faim à cause d'une situation extrêmement défavorisée. Les familles monoparentales, les familles qui vivent de l'aide sociale et les familles autochtones sont sur-représentées. Le tiers des familles connaissant la faim étaient souvent des familles comptant deux salariés, soit des familles de petits salariés. Le problème de la faim se produisait en cooccurrence avec une mauvaise santé et des limitations d'activités chez la mère. L'écart de revenu entre les familles qui connaissent souvent la faim et celles qui la connaissent occasionnellement est de 5 000 $ par année.

Les parents savent que la privation de nourriture peut influencer le développement des jeunes enfants, de sorte qu'ils se privent d'abord eux-mêmes de manger. Parmi les ménages qui connaissaient la faim, les ménages de l'Ontario et les parents seuls étaient nombreux à compter sur les banques alimentaires. D'autres familles comptaient sur l'aide de parents et d'amis.

Les répercussions de la prestation fiscale pour enfants et du supplément au revenu gagné sur le nombre de familles qui connaissent la faim devraient être suivies de près. Le niveau de l'aide sociale devrait également être examiné, puisque plus de la moitié des familles qui connaissent la faim en vivent. Il y a une relation entre la santé de la mère et l'expérience de la faim, mais le sens de cette relation (quel élément précède l'autre) n'est pas clair.

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1. Introduction

Canada is a rich country in global terms and is ranked first in the United Nations' Human Development Index (UNDP, 1997). Canada has also enjoyed more than 50 years of social development since the Second World War to build a post-industrial society that has a strong social framework. Yet poverty is a reality in Canada and growing child poverty is a matter of national concern. The last decade has seen the reduction of spending on social programs and an erosion of the social safety net. As a consequence of this erosion, the poverty rate for Canada's children has risen to one in five nationally. These children are more likely to live in lone parent-headed households, usually headed by women. Thus, the poverty of young children in often a reflection of the poverty of their lone mothers (Canadian Council of Social Development, 1997). Poverty and ill-health go hand-in-hand and sociologists debate which leads and which follows. For children, the consequences of growing up in poverty too often mean ill-health, poor nutrition, unhealthy child development, and poor school readiness (Doherty, 1997).

The purpose of this paper is to glimpse child poverty using a hunger lens. Hunger is a universal symbol of deprivation and is an unacceptable consequence of poverty in any responsible society.

1.1 Hunger and Food Insecurity in Canada

Although the word 'hunger' actually refers to the physiological discomfort resulting from a lack of food (Life Sciences Research Office, 1990), broader concepts of hunger in Western society have defined it as "the inability to obtain sufficient, nutritious, personally acceptable food through normal food channels or the uncertainty that one will be able to do so" (Davis & Tarasuk, 1994, p.51). The concept of 'food insecurity' has also been used to refer to the psychological, social, and quality of life concerns that are associated with the experience of being hungry. Food insecurity occurs when "the availability of nutritionally adequate and safe foods or the ability to acquire acceptable foods in socially acceptable ways is limited or uncertain" (Life Sciences Research Office, 1990).

1.2 Determinants of Food Insecurity in Canada

One of the main causes of food insecurity in Canada is poverty (Campbell, 1991) or anything that contributes to poverty such as the rise in long-term unemployment, the costs of housing and other basic needs, and cut-backs to social services (Riches, 1989). Individuals most at risk for

poverty include welfare recipients, single mothers, the elderly, and the unemployed (Epp, 1986). Younger mothers and those with lower educational attainments and socio-economic status have also been over-represented in studies examining the risks of poverty and hunger in low-income families (Badun, Evers, & Hooper, 1995; Miller & Korenman, 1994; Shah, Kahan, & Krauser, 1987). In fact, lone parent families headed by women have the highest incidence of poverty for all family types (National Council on Welfare, 1997).

The relationship between poverty and food insecurity is simple – less money means less food is procured, and food is of poorer quality. When money is scarce, available funds are often directed to housing and living costs, as these are seen as essential and inflexible expenses (Davis et. al., 1991; Travers, 1996). Travers' study of economically disadvantaged women in urban Nova Scotia, 80% of whom were living either partially or fully on social assistance benefits, found that money allocated for food was being depleted in meeting other needs. Campbell, Katamay, & Connolly (1988) also concluded that after meeting only basic shelter and food needs, families living on social assistance had either very little or no money left over depending on their province of residence.

Historically, Canadian social programs have focused on the alleviation of poverty through income assistance and universal access to services, and not on the alleviation of the consequences of poverty, such as hunger (Tarasuk & Davis, 1996). However, the Canadian welfare state is in a state of flux with efforts at deficit reduction appearing to take precedence over social programs. For example, the introduction of Canadian Health and Social Transfer (CHST) as a replacement for the Canada Assistance Plan (CAP) in April 1996 effectively removed CAP's underlying principle of "the right to financial assistance to meet basic needs regardless of cause" from Canadian policy (National Council of Welfare, 1987). Although access to medical care may still be universal, access to resources that nurture health, such as affordable, nutritious food, is not universal (Travers, 1994).

1.3 Consequences of Hunger and Food Insecurity

In Canada, dietary inadequacy, as a consequence of food insecurity, and nutritional and other indicators of ill-health, have been shown to be directly related to the level of income and the amount of money available to be spent on food. This relationship between health and food security has been found in both adults and children (Maxwell & Simkins, 1985; Shah, Kahan, &

Krauser, 1987; Myres & Kroetsch, 1978; Badun, Evers, & Hooper, 1995). Nutritionally deprived children experience more health problems than food-secure children including anemia, weight loss, colds, and infections. Additionally, they are more prone to school absences, and may encounter challenges in both concentration and learning (Skolnick, 1995; Wehler, Scott, & Anderson, 1992).

1.4 Coping with Hunger and Food Insecurity

The rise of charitable food assistance, such as food banks and children's feeding programs, is an indicator of hunger and food insecurity in Canada. The use of food assistance is one coping mechanism families use when confronting food insecurity. Although food banks and feeding programs began as community-based responses to the increasing number of low income people unable to meet their food needs (Tarasuk & Davis, 1996), their proliferation and methods of operation suggest that they have become institutionalized (Tarasuk & MacLean, 1990; McIntyre & Dayle, 1992; Tarasuk & Davis, 1996; Travers, 1996). Recent American data indicate a statistically significant increase in reliance on emergency food programs with decreasing income (Wehler et al, 1992), suggesting that poverty and use of charitable food assistance are interdependent. Yet, access to such programs is contingent upon program availability (Tarasuk & Davis, 1996) and willingness of individuals to access them (Radimer, Olson, & Campbell, 1990; Dodds, Ahluwalia, & Baligh, 1990). For example, in one Ontario community, only twenty percent of low-income families who were identified as experiencing low food security used food banks within the previous three months (Badun et al, 1995).

Another coping strategy noted in studies of families confronting food insecurity is compromising the food intake of one family member, usually the mother, in order to feed the children (Campbell & Desjardin, 1989; Radimer et al, 1992; Tarasuk & MacLean, 1990a). Maternal self-deprivation seems to be a consequence of food insecurity in families. Welfare critics are challenging the impact of policies directed at improving the well-being of poor children at the expense of the health of their mothers (Chavkin, Wise, & Elman, 1998).

1.5 How Many Hungry Children Are There?

While poverty is all too common in Canada, affecting about one child in five (Canadian Council on Social Development, 1997), hunger is believed to be a rare manifestation of food insecurity in this country. American studies have indicated that at least 4 million children under the age of 12 years experience hunger at least part of the year, and that an additional 9.6 million are at risk of hunger during at least one month of the year (Skolnick, 1995; Sidel, 1997). Comparable analyses have not been done in Canada.

The National Longitudinal Study of Children and Youth (NLSCY) represents a unique opportunity to examine the characteristics of, and coping strategies used by, families experiencing hunger and food insecurity. It is the first national survey with data which permits a glimpse of the problem of hunger and food insecurity among children in Canada.

2. Objectives

The objectives of this study are to: a) describe and determine the characteristics of families who report hunger in Canada; b) describe the responses to hunger and coping strategies utilized by families that report hunger; c) determine the characteristics of caregivers, families, and their children, that predict hunger and the utilization of specific responses to, and coping strategies for, hunger.

3. Methods

The National Longitudinal Study of Children and Youth (NLSCY) is managed jointly by Human Resources Development Canada and Statistics Canada. The data for this study are derived from the first cycle of data collection conducted in 1994. Almost 23,000 randomly selected Canadian families of children newborn to eleven years of age were asked extensive information about their sociodemographic, health, family functioning, and educational characteristics. In each household, the person most knowledgeable (PMK) about the child provided responses on behalf of the child and the family.

The questions analyzed in this study were:

- Has your child ever experienced being hungry because the family had run out of food or money to buy food? If yes, How often?

- How do you cope with feeding your child when this happens? Options include the parent or child skipping meals or eating less; and food procurement strategies such as seeking help from a food bank.

Because approximately 25% of NLSCY respondents did not respond to the question on hunger, we chose to analyse the unweighted sample of 206 families who did respond rather than the 233 weighted sample. This is because we wished to be conservative in our estimates (there were many more significant associations between hungry and not hungry families when the weighted sample was used), and because we did not wish to presume whether non-respondents over- or under-represented hungry families. A lower-than-desired response rate, the small size of the sample available for analysis, and the use of an unweighted sample are clearly limitations of this study.

Statistics were only employed for variables for which all hungry families had responses, again to enhance the robustness of the data analysis. Descriptive statistics mainly involved cross-tabulations of frequencies, t-tests, chi-squares, and one-way analyses of variance. In order to reduce the number of spurious results, $p<.005$ was chosen as the preferred level of significance for comparisons between those ever experiencing hunger compared with those never

experiencing hunger. For the sub-analyses of families who ever reported experiencing hunger, the significance level remained at $p<.05$.

Notwithstanding these significance levels, for all analyses, coefficient of variation release guidelines on the quality of the estimate were used for cells sizes exceeding 30 (Human Resources Development Canada & Statistics Canada, 1996). Cell sizes less than 30 were not reported. Where estimates have a sample size of 30 or more and low coefficients of variation in the range 0 to 16.5%, no warning is required. For estimates where the cell size is 30 or more and the coefficients of variation range from 16.6% to 33.3%, estimates are flagged with the letter M, indicating that readers should use and interpret the results cautiously. If the letter U appears with an estimate, the reader is advised that the data do not meet Statistics Canada's quality standards and conclusions would be unreliable and likely invalid.

Stepwise logistic regression analyses were conducted using the Statistical Package for the Social Sciences (SPSS) to assess the dependent variables of ever experiencing hunger, hunger frequency, and coping strategies, while controlling for independent sociodemographic, economic, and health status variables. Logistic regression models were truncated within ten consecutive variables or when the variables failed to add value to the model. The final models were then re-run with the remaining variables.

4. Results

4.1 The Scope of the Problem

A total of 206 families reported ever experiencing hunger among 16639 total families. Although they are only 1.2% of the NLSCY sample, these families represent about 57,000 Canadian families.

4.2 Comparing Hungry Families with Other Families in Canada

The average age of children from hungry households was significantly older than other children 7.0 (s.d.=2.9) compared with 6.4 years (s.d.=2.9 years), p=.002. There was a significant difference in the number of siblings in the households reporting hunger although the difference was small [1.7 (s.d.=1.1) in hungry households versus 1.4 (s.d.=1.0) in non-hungry households, p<.000]. The ages of the Persons Most Knowledgeable (PMK) about the child did not differ significantly between those ever experiencing hunger (33.2 [s.d.=6.7] years) and those who did not.

The household composition and relationship of the PMK to the child was significantly different among families reporting ever experiencing hunger compared with those who did not. In particular, these children were significantly more likely to be living in a lone parent household with 58.3% of respondents from hungry families living in such an arrangement compared with 15.0% of other respondents (p<.000). Relatively few hungry families lived with two biological parents (21.7%) compared with those who lived in non-hungry families (65.0%), p<.000. The PMK was less likely to be the birth mother of the hungry child compared to other children (93.2% versus 96.8%, p=.003) and children were more likely to be living with a birth father than in other families, p<.000.

Families reporting ever experiencing hunger were significantly more likely to live in large urban areas with populations 500,000 or greater (28.2% versus 17.5%) compared with smaller urban areas or rural communities (p<.000) [Table 1]. These families resided throughout Canada without significant differences among the regions.

Table 1: Reported Occurrence of Hunger by Community Size*

Community Size	Occurrence of Hunger	
	Ever n (%)	Never n (%)
Population 500,000+	58 (28.2)	2877 (17.5)
Population 100,000-499,999	37 (18.0M)	3574 (21.7)
Population 15,000-99,999	33 (16.0M)	2988 (18.2)
Population <15,000/Rural	78 (37.5)	6994 (42.6)
TOTAL	206 (100%)	16433 (100%)

* p<.000 M=marginal result

Source: NLSCY

Anglo-Celtic (Canadian, English, Scottish, Irish) ancestry was most prevalent among those reporting both hunger and non-hunger states (43.2% of hungry families versus 48.4% of non-hungry families) and the difference was not significant (NS). The only ethnic group that was significantly associated with hunger were persons of aboriginal descent (North American Indian, Inuit, Métis). Compared with their prevalence of 3.9% in the total survey population, Aboriginal people were four times (16.0%M) more likely to report ever experiencing hunger than did households representing other ethnic groups, p<.000. Immigration status and being a member of other racially visible groups were no different among those reporting hunger than among those not reporting hunger.

Given that hunger is an indicator of extreme disadvantage, it is not surprising that income variables represented striking differences between hungry and non-hungry families. Household income falling below the low income cut-off (a standard Statistics Canada derived variable, [Human Resources Development Canada & Statistics Canada, 1996]), occurred significantly more often in hungry versus non-hungry households (p<.000). Income adequacy, a derived variable that ranged from lowest to highest, was also significantly different with 66.0% of hungry household incomes falling in the lowest or lower middle levels versus 19.9% for other families (p<.000).

Income from all sources varied significantly among hungry and non-hungry families. Income from wages and salaries was reported by 56.8% of families reporting ever experiencing hunger compared with 87.0% of other families reporting this source of income, p<.000. Hungry families were also significantly more likely to report income from social assistance/welfare (68.9% versus 14.7%, p<.000), and significantly less likely to report income from self-employment than other families (12.1%M versus 28.2%, p<.000). There was no difference in the reporting of income from employment insurance (18.4%M for hungry versus 20.7% for others, NS). As well, income from non-listed sources was reported significantly more often from hungry households than non-hungry households (14.6%M versus 8.5%, p=.002). This might be a measure of participation in the informal economy.

Wages and salaries were reported as the main source of income in 38.8% of hungry families while 56.8% reported social assistance or welfare as the main source. This indicates that the 'working poor' represent more than one-third of those who report ever experiencing hunger in the family.

The NLSCY also asked about earned income. The mean personal income of the PMK was significantly lower for those reporting hunger than those never reporting hunger ($12,816 versus $17,153, p<.000) although the earnings gap was most apparent in mean household income which was $21,255 for hungry families compared with $47,958 for other families, p<.000.

The PMK's main reported activity reflected income sources: 60.7% of respondents reported caring for the family while 23.8%M reported caring for the family and working. These activities were significantly different from other families where the percentages were 48.3% and 39.8% respectively, p<.000.

4.3 Health Status

While income differences were striking, so too were differences in health status among those reporting or not reporting hunger. PMKs were asked to rate their health from excellent to poor. PMKs of hungry families reported significantly poorer health than other PMKs (p<.000). Whereas 74.3% of other PMKs were reported to have very good or excellent health, 50.0% of PMKs from hungry families were reported to have this health status (p<.000) [Table 2]. Presence of a chronic health condition in the PMK (57.8%) was significantly different among families that

reported ever experiencing hunger compared with all NLSCY families (42.7%, p<.000). Chronic health conditions that were reported significantly more often by the PMK in a hungry household included back problems [18.9% versus 10.5% (p<.000)] and migraine headaches [21.4% versus 10.3% (p<.000)]. PMKs from hungry households were significantly more likely to report activity limitations at home (18.0%M versus 7.2%, p<.000).

Table 2: Reported Health Status of PMK and Child by Occurrence of Hunger

	PMK		Child	
Health	**Hunger Ever* %**	**Never %**	**Hunger Ever* %**	**Never %**
Rating	n=206	n=16328	n=206	n=16433
Excellent	14.6	33.7	44.7	59
Very Good	35.4	40.6	26.2	28.2
Good	35.4	21.2	19.4	10.7
Fair/Poor	14.5M	4.5	9.7U	2.1

* p,.000 M=marginal estimate U=unreliable estimate

Source: NLSCY

The health situation of children in hungry households was equally troubling as measured by the PMK's reported health of the child (Table 2). Children of hungry families were reported to have significantly poorer health than other children (p<.000). Whereas 87.2% of other children were reported to have very good or excellent health, 70.9% of children from hungry families were reported to enjoy this health status. Ever having had asthma was the only health condition that differed between children of hungry and other families. While 12.6%M of non-hungry children were ever diagnosed with asthma; the risk was 1.8 times higher at 22.8% for hungry children (p<.000). Inhalant use by the child was 1.6 times (10.7%M versus 6.7%) higher in hungry children than in other children, confirming the on-going nature of the condition in both groups, and implying a relatively equitable access to asthma medications for children in either type of household.

Cigarette use in the households of hungry families was 1.7 times higher in PMKs reporting ever experiencing hunger and is likely related to asthmatic problems in children (Chen, Rennie, & Dosman, 1996): 49.0% of PMKs from hungry households reported daily cigarette use compared with a daily smoking rate of 29.7% by other PMKs (p<.000). Alcohol use in the past year was significantly more common among *other* PMKs (79.9% vs 69.9%, p<000) than among PMKs reporting family hunger. Alcohol abuse was not determined.

Stepwise multiple logistic regression was conducted to predict the risk of hunger in NLSCY families. The independent predictors of hunger were low household income; single parent status; main source of income is social services/welfare; child's health is fair/poor; PMK's poorer self-reported rating of health; ethnic group is aboriginal; and parent looking for work (Model 1). The odds of households with low income ever experiencing hunger was very high (96%). Single parenthood had almost a 50% chance of being associated with ever experiencing hunger.

Model 1: Logistic Regression Analysis of Risk Factors for Hunger Ever

Variable	Odds Ratio	95% C.I.	p-value
Main Income Source (Social Assistance)	2.1	1.4-3.1	0.0001
Household Income	0.96	.95-.97	0.0000
PMK's Health is Poor	7.6	3.5-16.5	0.0000
Number of Parents	0.49	.35-.70	0.0001
Child's Health Fair/Poor	3.2	1.3-3.0	0.0000
Ethnic Origin (Aboriginal)	2.0	1.3-3.0	0.0009
Main Activity - Looking for work	4.6	2.4-9.0	0.0000

Source: NLSCY

4.4 Profile of Hungry Families

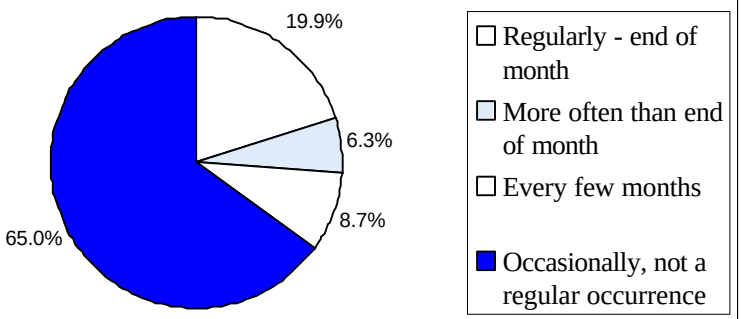
The 206 families who reported that their child had ever experienced hunger because the family had run out of food or money to buy food were further analyzed. Male children represented 48.5% of these children. The educational attainment of mothers from hungry households was surprisingly diverse although it was significantly less than for other mothers ($p<.000$): 32.0% had less than high school education; 15.0% had completed high school; 28.2% had some post-secondary education; and 24.7% had a university degree or more education.

Among the 46.1% of homes that had a male spouse or male PMK, the father's educational attainment demonstrated lower achievement than achieved by the mothers: 51.1% had less than high school; 14.4% had completed high school; 20.0% had some post-secondary; and 14.4% had achieved a university degree.

4.5 Frequent Versus Occasional Hunger

Respondents were asked to indicate the frequency of their family's reported hunger (Figure 1). The choices ranged from more often than end of each month, to occasionally. Families were therefore divided into two groups—those reporting frequent hunger (35%) where hunger was reported at least every few months, and those reporting hunger occasionally.

Figure 1: Frequency of Reported Hunger



Source: NLSCY

A few significant differences were found between the frequently hungry and occasionally hungry groups. Children who were frequently hungry were significantly more likely to be living with their birth mother than were those who were occasionally hungry (98.6% versus 90.3%, $p<.02$). PMKs of frequently hungry households were also significantly more likely to report the presence of a chronic condition (68.1% versus 52.2%, $p<.03$). Among the small number of PMKs who were birth fathers, all reported occasional hunger.

Source of income differed significantly between those who reported frequent hunger and those who reported occasional hunger. Frequently hungry families were significantly more likely to depend upon social assistance/welfare than were occasionally hungry families (68.1% versus 37.3%, $p<.000$). While differences in personal income of the PMK were not significant,

frequently hungry households' mean income of $18,110 was significantly less by $4,835 than the $22,945 mean income of occasionally hungry households (p<.02).

On stepwise multiple logistic regression, the independent predictor of frequent hunger was main source of income is social assistance/welfare (Model 2).

Model 2: Logistic Regression Analysis of Risk Factors for Frequent Hunger

Variable	Odds Ratio	95% C.I.	p-value
Main Income Source (Social Assistance)	5.1	2.5-10.4	0.0000

Source: NLSCY

4.6 Responses to Lack of Food

Of the 206 families reporting hunger, 34% reported that the parent skipped meals or ate less when the family had run out of food or money to buy food; 4.9%* reported that the child skipped meals or ate less; and 26.7% reported that they cut down on the variety of food that the family usually eats. There were no differences in responses to meal skipping by frequency of hunger.

The independent predictors of a parent skipping meals or eating less were: PMK reports a chronic condition, and main source of income is salaries or wages (Model 3).

Model 3: Logistic Regression Analysis of Risk Factors for Parent Eating Less as Response to Hunger

Variable	Odds Ratio	95% C.I.	p-value
Presence of Chronic Condition (PMK)	4.9	2.4-10.2	0.0000
Main Income Source (Wages/Salaries=1)	0.29	.11-.77	0.01

Source: NLSCY

4.7 Coping Strategies

Use of any of a number of coping strategies for the securing of additional food when the family had run out of food or money to buy food was also solicited. Seeking help from relatives or from the food bank was reported equally by 31.1% of respondents; seeking help from friends was utilized by 15.5%M; and seeking help from a social worker/government office was reported by

* Unreliable estimate

very few people. Most respondents (64.1%) used one coping strategy with 18.4% reported using two coping strategies, and 17.4% using three or more strategies.

The only difference found among the coping strategies of one-parent versus two-parent households was that 38.3% of one parent households used a food bank versus 20.9% of two parent households (p=.008).

Coping strategies of frequently hungry and occasionally hungry families were similar as were child health status ratings and PMK self-reported health. Smoking did vary with 72.2% of PMKs reporting frequent hunger smoking daily or occasionally compared with a smoking rate of 50.7% in occasionally hungry respondents, p<01.

Households indicating the most commonly reported strategies-- food bank use, and seeking help from relatives--were very different (Models 4 and 5). The independent predictors of food bank use were: residence in Ontario region; no reported activity limitation by PMK; and single parent status. The independent predictors of seeking help from relatives were: fewer number of children in the household aged 0-17 years; PMK does not report a chronic condition; there are two biological parents; and household income is not very low.

Model 4: Logistic Regression Analysis of Risk Factors for Food Bank Use

Variable	Odds Ratio	95% C.I.	p-value
Region (Ontario)	3.5	1.7-7.2	0.0008
PMK Activity Limitation –Home	0.16	.04-.55	0.004
Two Biological Parents	0.38	.18-.83	0.015

Source: NLSCY

Model 5: Logistic Regression Analysis of Risk Factors for Seeking Help from Relatives as a Response to Hunger

Variable	Odds Ratio	95% C.I.	p-value
Number of Children Aged 0-17 in Household	0.42	.28-.63	0.0000
Presence of Chronic Condition (PMK)	0.41	.19-.87	0.02
Middle Level Income (vs Higher)	0.05	.015-.52	0.01
Two Biological Parents	3.2	1.4-7.1	0.004

Source: NLSCY

The independent predictors of seeking help from friends were: low, rather than very low, income; and mother is unemployed (Model 6).

Model 6: Logistic Regression Analysis of Risk Factors for Seeking Help from Friends as a Response to Hunger

Variable	Odds Ratio	95% C.I.	p-value
Income Level (low vs very low)	0.28	.10-.77	0.01
Mother Unemployed	8.7	2.6-28.7	0.004

Source: NLSCY

5. Discussion

This study reports on a very small sample of the NLSCY—1.2%. Respondents who reported their child ever experiencing hunger because there was no food in the house or money to buy food nonetheless represent a rich data set. This sub-sample exceeds 200 nationally-dispersed families that would otherwise be difficult to identify. In that way, the NLSCY provides a unique and valuable way of 'glimpsing' the health and economic situation of Canadian families that report actual hunger.

Is a self-report of hunger valid? Does it truly reflect a diminished intake of nutrients? The answers appears to be "yes". Rose and Oliveria (1997) recently reported that in the United States, at least for adults, self-reported hunger measures are valid surrogate measures for low intakes of required nutrients. Their study adds further credibility to national surveys using self-report measures of hunger in the United States such as the Community Childhood Hunger Identification Project and the Food Security/Hunger Module of the 1995 Current Population Survey, whose questions are similar to the NLSCY (Sidel, 1997).

5.1 Hungry Families Have Many Similarities to Other Families

Because of the very large comparison sample, it is easy for small differences between hungry and non-hungry families to be statistically significant. In actual fact, the families of Canada's hungry children look very similar to other Canadian families with a few clinically meaningful differences. These include single parent status, very low household income, and poorer reported health status of both PMKs and their children. The interplay between health and family food insecurity is distressing and it is unclear which comes first—ill health of the PMK or disadvantage increasing risk for ill-health. For children, the relationship is likely clearer as they are probably born into conditions of disadvantage that subsequently affect their health and well-being (Shah et al, 1987).

While hunger was reported from families from all sizes of communities, a preponderance of hungry families live in Canada's largest urban centres. This might indicate isolation and lack of social support in these areas. In terms of equity, it is reassuring to note that immigrants and racially visible persons are not over-represented in hungry families. In fact, almost half of the hungry are those who call themselves Canadians or claim to be of British descent.

The glaring exception in the demographics of hungry families is the overrepresentation of the aboriginal population who suffers from extremes of poverty in Canada (Royal Commission on Aboriginal Peoples, 1996). The NLSCY excluded on-reserve populations. Supports in urban centres for First Nations people may not be reaching the most needy.

It is reassuring that even among the hungry, only a third are frequently hungry, however, differences between the frequently and occasionally hungry signify the real marginalization of single mothers on social assistance who are also likely to suffer from chronic ill-health. It is interesting to note that no lone father-led household reported frequent hunger.

Over two-thirds of mothers reporting hunger had completed high school and over 50% had some post-secondary education. Education is clearly insufficient to ward off hunger or extreme poverty in women with children. In fact, few women are immune to poverty. Many are just a job loss, a male partner loss, or an illness or disability away from poverty and the possible experience of hunger (Canadian Public Health Association, 1997).

5.2 Income Thresholds

Very low income, particularly earnings mainly from social assistance or welfare, is a main indicator of reported hunger. Many families (57%), however, also report wages and salaries as a source of income or as a main source of income (39%) annually indicating some labour force participation. The significantly lower participation in self-employment may reveal a lack of personal resources to engage in such activities or may be due to heavy responsibilities borne by lone parents with children. Similarly, the lack of difference between hungry and non-hungry families as recipients of employment insurance may point to lower eligibility rates for employment insurance accrued in hungry families, or to a comparable turnover rate in employment once a job is secured.

The critical income gap in families reporting hunger is not in personal income of the PMK which is about 25% lower than other PMKs, but in total household income which is 44% lower than other families. The difference between occasional and frequent hunger is also a matter of household income and a modest $4800 or 21% increase over current social assistance rates might reduce the more frequent occurrence of hunger in the most disadvantaged families. The National Council of Welfare’s analysis of 1996 welfare income as percent of poverty line revealed that the

poverty gap ranged from -$10,976 in Alberta to -$6134 in Newfoundland for a single parent with one child; half of this amount would go a long way to providing these families with at least a modicum of food security (National Council of Welfare, 1997).

5.3 Ill-Health is Pervasive

The purpose of this paper is not to identify the outcomes of hunger in Canadian families, but rather to describe the characteristics of families reporting hunger and to report on their coping strategies. Ill-health repeatedly emerges as a predictor of hunger in both the PMK and the child and for purposes of this analysis remains a determinant. Future research will be able to track health status and outcomes in such families.

The concurrence of health problems and reported hunger is disturbing but perhaps not unexpected. Others have identified an association between household food insecurity and poor parental health. Cristofar and Basiotis (1992) found that women most likely to report food insufficiency did not own their own homes, perceived themselves to be in poor health, or were smokers.

Women's income levels are directly related to their health, including effects on nutrition, risk behaviours such as smoking, stress, mental health, and health-seeking behaviours for preventive and treatment services (Canadian Public Health Association, 1997). PMKs reporting ever experiencing hunger are not well as a group—more than half suffer from a chronic health condition, and the conditions they report— back problems and migraines — are associated with chronic pain and discomfort. Back problems might be impediments to employment that requires manual labour that might otherwise be an option for those with low levels of educational attainment. Higher levels of activity limitation reported by hungry PMKs at home is an indication of the severity of the chronic conditions and how their quality of life is affected by their chronic ill-health.

Poverty is strongly associated with lower health status in children (Canadian Institute of Child Health, 1994). The prevalence of poorer health status in children in this study, while expected, is nonetheless a disturbing finding and the higher occurrence of asthma, affecting almost one-quarter of children is also worrying, particularly given the second hand smoke exposure these children likely encounter (Chen, Rennie & Dosman, 1996). It is comforting that the rate of

inhalant use parallels the reported rate of asthma indicating similar asthma severity in hungry children compared with other children as well as equitable access to health care. One could also surmise, however, that the indirect costs associated with having a child with a chronic illness such as transportation to health appointments or indirect expenses associated with hospitalization, could deplete family resources necessary to purchase food.

5.4 Smoking

Poor women are 1.6 times more likely to smoke than do women of higher income groups (Jensen, 1994). Tobacco use was very high among those who reported ever experiencing hunger and higher still among those reporting frequent hunger. One of the primary effects of smoking is stress reduction and studies have shown that the fear of the family running out of food is very stressful in low income families (Campbell & Desjardins, 1989; Tarasuk & MacLean, 1990). Stress must be even higher in families that actually encounter hunger. Cigarette use in disadvantaged women is known to reduce their stress (Stewart, et al, 1996) and nicotine acts as an appetite suppressant which is helpful in a situation of food insecurity.

The health effects of tobacco use are clearly known and smoking is the leading cause of death in Canada in women. The health effects of household tobacco use are already being seen in this study with higher asthma rates in children of households ever experiencing hunger. Johnson and colleagues analyzed the diet quality of low-income children living with smoking and non-smoking parents. Their study found that parents who smoked spent less money on food and as a result had children with lower intakes of several nutrients than those with non-smoking parents (Johnson, Wang, Smith, & Connolly, 1996).

Tobacco control policies have increased the price of cigarettes in Canada almost two-fold between 1985-1995 (Mummery & Hagen, 1996). While higher prices reduce consumption at a population level (Mummery & Hagen, 1996), tobacco pricing could be viewed as a regressive though voluntary tax on these disadvantaged families. High smoking rates are clearly a complex issue among families reporting hunger but one that requires urgent attention.

5.5 Predicting Hunger

This study found that the independent predictors of hunger versus no hunger were very low income, single parent status, earnings from social assistance or welfare, poorer health in PMK and child, aboriginal status, and parent looking for work. These predictors are not surprising although they do indicate the independent effects of poor PMK and child health status on hunger occurrence as well as the unique disadvantage encountered by First Nations people. The finding that a parent looking for work is an independent predictor may be because families experiencing new economic disruption are unprepared to cope with accumulated debt or higher than sustainable living expenses thus leaving no money to buy food.

5.6 Responding to and Coping with Hunger

Badun and colleagues identified coping strategies of women who reported anxiety about not having the money to purchase food as required (Badun et al., 1995). Women in their study reported relying on family and friends, social assistance benefits, meal programs, and food banks in order to postpone the experience of hunger in their families. They also stated that they could delay hunger by skipping or having smaller meals, and eliminating snacking. These coping strategies have been similarly noted in other studies (e.g., Smith and Hoerr, 1992; Wehler et al., 1992).

If food continues to be scarce, despite reliance on outside sources for help, Radimer asserts that mothers' nutritional intakes (in terms of both quantity and quality) will then decline, followed by a deterioration of their children's nutritional status and eating habits in only the most severe cases (Radimer et al, 1992). Kendall and colleagues' (1996) analysis of a random sample of women in New York indicated their food insecurity was 2.6 times higher than their children's. Childhood hunger, then, appears to be the most severe and least common form of food insecurity, and declines in mothers' nutritional status may, therefore, be used as risk indicators for childhood food insecurity (Campbell & Desjardins, 1989).

The response to hunger in the NLSCY indicates that parents are seven times more likely to go hungry when there is no food in the house or money to buy food than are their children. Public attention to poverty and child hunger must recognize that food deprivation in children is rare even in hungry households. A family encountering food insecurity is likely to reveal a hungry

mother of a barely fed child. In fact, a recent United States study found that maternal self-deprivation was very common in extremely poor households while child nutritional consumption data for the pre-school children of these households was not significantly different from other children (Rose and Oliveira, 1997).

According to regression analyses, both chronically ill and working parents are most likely to skip a meal when there is no food in the house. One could imagine a scenario of self-sacrifice in such a situation.

The two most common coping strategies in the face of hunger are seeking help from the food bank and seeking help from relatives. Very different types of families seem to use these two strategies. Food bank users are single parents (mothers probably), Ontario residents, and parents free of activity limitation. Travel to a food bank could be the reason parents with activity limitations do not use them. It may also be that they have other support networks that address their activity limitation that they can also draw upon when food supplies are exhausted.

Critics have suggested that Ontario has institutionalized food banks as a normative strategy for food procurement among the poor (Tarasuk & MacLean, 1990a). The problem with the institutionalization of charitable food services (ie., food banks, food bags, soup kitchens) is that they are a poor solution to the hunger crisis. Food supplies are often limited, and inconsistent as they rely on donations from community members and local businesses. Food quality may be low (Emmon, 1987; Starkey, 1994). When resources are low, food banks often have to limit the amount of food distributed and may even have to turn away people who are dependent on their services (Riches, 1989). It is often difficult to obtain the required numbers of personnel to run these agencies (Lipsky & Thibodeau, 1988). In addition, the process can be degrading and disempowering as it removes the individual's choice regarding when and what they eat (Tarasuk & MacLean, 1990).

A recent study of food bank users in Montreal found that food bank users over-represented single persons living alone in the city but that fewer recipients lived in single parent households with children less than 18 years of age than were found in the general population. The principal source of income of food bank attendees was social assistance (83.5%). The authors speculated

that some single parent families may be seeking assistance from programs other than food banks such as collective kitchens (Starkey, Kuhnlein, Gray-Donald, 1998).

In contrast to food bank users, those who seek help from relatives include those with two biological parents, fewer children, absence of a chronic condition in the PMK, and a higher income. Interpretation of these data are clearly speculative but it may that members of an intact nuclear family have a broader family base to draw upon and are less burdensome if they have fewer children. Higher income reported in such families may suggest that a lack of food would not be a regular occurrence. A healthier PMK seeking assistance from relatives again might imply that hunger is an infrequent state.

Fewer families sought help from friends but those that did reported a low, but not very low, income. Mother's unemployment indicates as well that the mother may appear 'down on her luck' rather than likely to be in a chronically needy state and this might induce friends to provide some temporary relief.

6. Conclusions and Policy Implications

Hunger in Canada is a marker of extreme disadvantage. The poorest of the poor who report hunger are families with children headed by lone mothers who are on social assistance. They live in large urban areas and are demographically similar to other Canadian families except for an over-representation of aboriginal households. About one-third of hungry families are primarily wage earners, often in dual parent families—the working poor.

Children in households that report hunger suffer not only from their own ill-health but from their mother's ill-health, her food self-deprivation, and her activity limitations in the home. Children's educational and health outcomes will likely reflect these circumstances.

Responses to a hunger situation indicate that parental self-deprivation far exceeds child deprivation. Hungry families cope by visiting food banks and/or seeking help from families and friends.

This paper provides a sobering glance at the issue of child hunger in Canada. It is an area worthy of further research and exploration. Despite the limitations of the study, several policy implications are readily apparent.

Federal and provincial public policies must address the below-subsistence level of income of lone mothers on social assistance and the below-subsistence level of minimum wages in the country. Social assistance benefits must be set at levels that permit families to meet their basic food and other needs. Workfare-type programs leading to permanent employment above the minimum wage are unlikely to be successful for these families given members' low educational attainment, their burden of chronic disease, and presumably heavy child care responsibilities.

The newly introduced national child tax benefit may help very poor households but could very likely do further harm to families who are the near poor (National Anti-Poverty Organization, 1998) because these families will be subject to clawbacks in their social assistance benefits. It is unclear whether or not the small amount of new funding provided to working poor families will be sufficient to remove this group from the occasionally hungry category.

Public policy must also recognize the interplay between illness and hunger and consider health promoting measures and the prevention of illness in very low-income families as a priority as

well as address the costs of illness that reduce funds available to purchase food. The role of tobacco in hungry households is complex and will require the participation of individuals as well as policy-makers if smoking is to be reduced.

Food banks are clearly not an adequate public policy response to hunger or family food insecurity, neither in terms of accessiblity, availability, desirability, nor in terms of nutritional support (Tarasuk, Beaton, Geduld, & Hilditch, 1998). Non-charitable models of food assistance are recommended.

The difference in annual income between families who experience frequent hunger in Canada and those who do not is about $5000 per year. The abolition of hunger will result in normal development of children with long term benefits to the child and society.

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