Institute for Research on Poverty
Special Report no. 86

Food Insecurity in Wisconsin, 1996–2000

Judi Bartfeld
School of Human Ecology
University of Wisconsin–Madison
E-mail: bartfeld@facstaff.wisc.edu

Cecile David
University of Wisconsin–Madison

April 2003

Report prepared for the Wisconsin Department of Health and Family Services, under a grant to the Institute for Research on Poverty. Any opinions expressed in the report are those of the authors and not necessarily those of the sponsoring institutions. Mark Nord and Kadi Row provided valuable comments on this report.

Executive Summary

Food security refers to the assured access at all times to enough food for a healthy, active life. Households are considered to be food insecure if they have uncertain or limited access to food through normal channels. Food security, rather than simply the absence of hunger, is increasingly recognized as an essential component of well-being. In recent years, researchers have linked food insecurity to a wide range of negative health and behavioral outcomes.

This report documents the extent of food insecurity in Wisconsin over the years 1996–2000. It includes comparisons of the rate of food insecurity among households that differ in income, household composition, age, race, health and disability status, employment status, and location. It also compares Wisconsin and the country as a whole. The report uses two data sources: the 1996–2000 Food Security Supplements to the Current Population Survey and the 1999 National Survey of America's Families.

We find that food insecurity is less common in Wisconsin than in the nation as a whole. During the period 1996–2000, 8.4 percent of Wisconsin households were food insecure, as compared to 10.7 percent nationwide. During 1999, 21.1 percent of children in Wisconsin lived in families that worried about or experienced difficulty affording food, compared to 29.1 percent of children nationwide. Finally, 10.4 percent of Wisconsin children lived in families in which members cut back or skipped meals due to lack of money for food; this figure is also somewhat lower than among children nationwide (12.4 percent).

Food insecurity is closely linked to poverty. The close connection between poverty and food insecurity helps explain why Wisconsin fares better on food security outcomes than the country as a whole: the poverty rate in Wisconsin is considerably lower than the national rate. The difference in income distribution accounts for roughly 60 percent of the difference in food security outcomes.

Some households are at greater risk than others. Households with children—particularly young children—were much more likely to be food insecure than were childless households. Among households with children, single-mother households fare dramatically worse than do married-couple households. For

instance, the food insecurity rate among single-mother households was 33 percent, as compared to 7 percent among married couples with children. Almost one-quarter of children living in a single-parent family had a parent who reported that household members had cut back or skipped meals due to lack of money for food, as compared to 6 percent among children living with both parents.

We document a striking racial disparity in food insecurity. Blacks in Wisconsin fare significantly worse than do whites on all food security outcomes considered here, a finding that is also true at the national level. Furthermore, blacks in Wisconsin fare significantly worse than blacks nationwide, in contrast to all other demographic groups considered. The high prevalence of food insecurity among blacks can be explained in part, but not entirely, by observed differences in income, family structure, and likelihood of living in central-city areas.

We find several other predictors of food insecurity. Food insecurity is more common among households with a disabled adult. In regard to children's health, the likelihood that a child lives in a family that experienced food-related difficulties becomes progressively higher for children with worse health ratings. In terms of geography, we find the highest risk of food insecurity in central city areas, and the lowest risk in other metropolitan areas, with rural areas falling in between. We also find that those who rent their home are more likely to be food insecure than are homeowners.

Because many of the risk factors for food insecurity tend to occur together, we conducted a multivariate analysis to sort out the separate effects of each. These results show that the various risk factors that we identify—such as poverty, race, single motherhood, and living in central-city areas—have cumulative impacts on the risk of food insecurity. Thus, households with multiple risk factors face strikingly high chances of experiencing food insecurity.

- White married homeowners with children, having income above 1.85 times the poverty line, with at least one worker and no elderly or disabled members, living in a rural county in Wisconsin, have only a 3 percent likelihood of being food insecure.
- Households with the same characteristics as those above, but which rent rather than own their homes, have an 8 percent risk of being food insecure.

- Households with the same characteristics as above, but which have incomes below the poverty line, have a much higher risk of food insecurity—33 percent.
- Households headed by a single mother, but otherwise similar to those above, face a still higher risk of food insecurity, at 53 percent.
- Households similar to those above, but living in a central-city area have a food insecurity risk of 63 percent.
- Households similar to those above, but with a black household head, have a still higher risk of food insecurity—73 percent.

Finally, our research confirms that food insecurity is not limited to the unemployed. Almost three quarters of food insecure households had at least one worker, more than half had a full-time worker, and almost one-third had at least two workers.

Overall, these results tell a mixed story about food insecurity in Wisconsin. The relatively low rate of food insecurity as compared to the rest of the country is encouraging, and is consistent with the generally higher levels of economic well-being in Wisconsin. Nonetheless, we note reasons for concern. During 1999, one in five children in Wisconsin lived in a family that had worries or difficulties affording food, and one in ten lived in a household in which people cut back or skipped meals due to lack of money for food. These numbers are disturbingly high even if below the national average, particularly in light of the growing body of evidence linking food insecurity to negative health and behavior outcomes. Furthermore, the sharply higher rates of food insecurity and food-related problems among certain subpopulations, particularly black households and single-mother households, confirm that food insecurity is a widespread problem for at-risk segments of the population.

Food Insecurity in Wisconsin, 1996–2000

INTRODUCTION

Food security refers to the assured access at all times to enough food for a healthy, active life. Households are considered to be food insecure if they have uncertain or limited access to food through normal channels. Food insecure households lie along a continuum. In the less severe range, household members may experience persistent anxiety about their ability to afford food. As food insecurity becomes more severe, household members may disrupt their normal eating patterns, skip meals, and experience hunger due to lack of money for food. In this framework, then, hunger falls at the far end of the food insecurity continuum.

Food security, rather than simply the absence of hunger, is increasingly recognized as an essential component of well-being. Researchers have linked food insecurity to a variety of negative outcomes for children, including lower test scores, poorer school achievement, and higher frequency of behavioral problems and health problems (see, e.g., Center on Hunger and Poverty, 2002).

In recent years, greater efforts have been made to monitor the prevalence of food insecurity, identify its causes, and craft solutions. This report documents the prevalence and correlates of food insecurity in Wisconsin over the years 1996–2000. It includes comparisons of the rate of food insecurity among households that differ in income, household composition, age, race, health and disability status, employment status, and location. It also compares Wisconsin and the country as a whole.

DATA SOURCES

This report uses two data sources to describe food insecurity in Wisconsin: the Food Security Supplements to the Current Population Survey and the National Survey of America's Families. These data were collected at different times, for different purposes, and using different sampling strategies. That

the two data sources tell a consistent story about patterns of food insecurity in Wisconsin lends strong support to the findings reported here.

Current Population Survey – Food Security Supplements (1996–2000)

The Census Bureau collects data on food security using a special supplement to the Current Population Survey. These data are the source of the most widely cited national estimates of the prevalence of food insecurity (see, for instance, Nord, Andrews, and Carlson, 2002). Since 1995, the Food Security Supplement (CPS-FSS) has been administered annually. It contains, among other things, an 18-item scale used to classify households into one of three categories: food secure, food insecure without hunger, and food insecure with hunger.[1] The scale includes a series of questions about experiences and behaviors that are characteristic of households that have difficulty meeting their basic food needs. Sample questions include the following:

- "We worried about whether our food would run out before we got money to buy more." Was that often, sometimes, or never true for you in the last 12 months?
- "The food that we bought just didn't last and we didn't have money to get more." Was that often, sometimes, or never true for you in the last 12 months?
- In the last 12 months did you or other adults in the household ever cut the size of your meals or skip meals because there wasn't enough money for food?

The food security questions have several notable features. First, they all ask about behaviors and experiences over the preceding 12-month period. Second, because the questions are asked with respect to

[1]Some respondents are screened out prior to being asked the food security questions. The intent is to avoid asking the questions of respondents who give no indication of having food-related problems. As a result, a small number of households that would be classified as food insecure get screened out, and thus are classified as food secure. There have been slight changes over time in the screening criteria, such that some households that would be screened out of the food security sequence in one year are asked the questions in other years. The current report classifies as food insecure all households whose responses indicate food insecurity, including households that in other years would be screened out of the relevant questions. In contrast, some published food security estimates from the CPS-FSS use the 'common food security screen', which results in slightly lower estimates of food insecurity because it imposes a common screening protocol on all years. The common screen is useful in making year-to-year comparisons, which is not the focus of this report. Detailed discussion of the food security scale is available in Bickel et al, 2000 and Hamilton et al, 1997.

households rather than individuals, all persons in a household are assigned the same food security status. Finally, all of the questions specify lack of money or other resources to obtain food as the reason for the condition or behavior, so the measure does not capture changes in behavior that stem from such other factors as voluntary dieting.

For this report, the 1996–2000 supplements have been pooled to create a single database. Pooling data across multiple years is necessary to obtain a sufficiently large sample size to describe food insecurity among subpopulations in Wisconsin with reasonable precision. Data from 3,020 Wisconsin households are used in these analyses. The sample sizes for each year are too small to document changes in food security over the five-year period. The pooled sample, however, is large enough to make comparisons among many subgroups of interest.

National Survey of America's Families (1999)

The National Survey of America's Families (NSAF), sponsored by the Urban Institute, is a nationally representative survey containing extensive information about the economic well-being of families and children. The first survey was conducted in 1997, the second in 1999, and the third is under way. Wisconsin is one of 13 states oversampled in the NSAF. This report uses data on children from the 1999 NSAF. There are a total of 4,529 children in the Wisconsin sample used here.[2]

The NSAF contains several questions relevant to food security status over the past year. The first asks whether the respondent ever worried that the family's food would run out before they obtained money to buy more. The second asks whether there was a time when the food the family bought did not last, and they did not have money to get more. The final question asks whether family members ever cut the size of meals, or skipped meals, because there was not enough money for food. All questions are asked in reference to the past 12 months.

[2]Data for children is collected through an interview with a knowledgeable adult in the household, typically a parent.

These questions all involve the concept of food insecurity. Because there are many fewer questions than in the CPS-FSS, it is not possible to assign a food security status that directly corresponds to that which would be assigned by means of the formal food security scale. Based on the above questions, this report uses two measures of food insecurity from the NSAF. The more stringent of the measures indicates whether household members reduced food intake (cut or skipped meals) due to lack of money for food. The less stringent of the measures indicates whether the respondent answered affirmatively to any of the three questions listed above. The latter measure is referred to here as "having worries or difficulty affording food." As in the CPS-FSS, the food security questions are asked with respect to households rather than individuals.

ANALYSES

This report describes the prevalence of food insecurity using the various measures described above. For the analyses from the CPS-FSS, households are the unit of analysis; that is, the report describes the prevalence of food insecurity and hunger among households with various characteristics. For the analyses from the NSAF, individual children are the unit of analysis; the report describes the share of children who live in households in which members skipped meals or had worries or difficulties affording food. Unless otherwise noted, all comparisons discussed in the report are statistically significant at the 10 percent level or less, meaning that the probability is less than 10 percent that the differences could occur by chance rather than from differences in the population.[3]

The report also includes a multivariate analysis of the likelihood of food insecurity. This analysis identifies the extent to which particular characteristics are associated with a higher risk of food insecurity, after controlling for other factors that differ among households. This type of analysis is useful because

[3]Standard errors of estimates from each data source are constructed using the GVE method described in the relevant survey documentation. For the CPS-FSS estimates, parameters for households in poverty are used in the calculations, and estimated standard errors are multiplied by 1.1 to reflect the potential underestimate of standard errors with the GVE method.

many of the potential risk factors for food insecurity tend to occur simultaneously, and this method sorts out the effect of each.

RESULTS

Hunger and Food Insecurity in Wisconsin and in the Nation

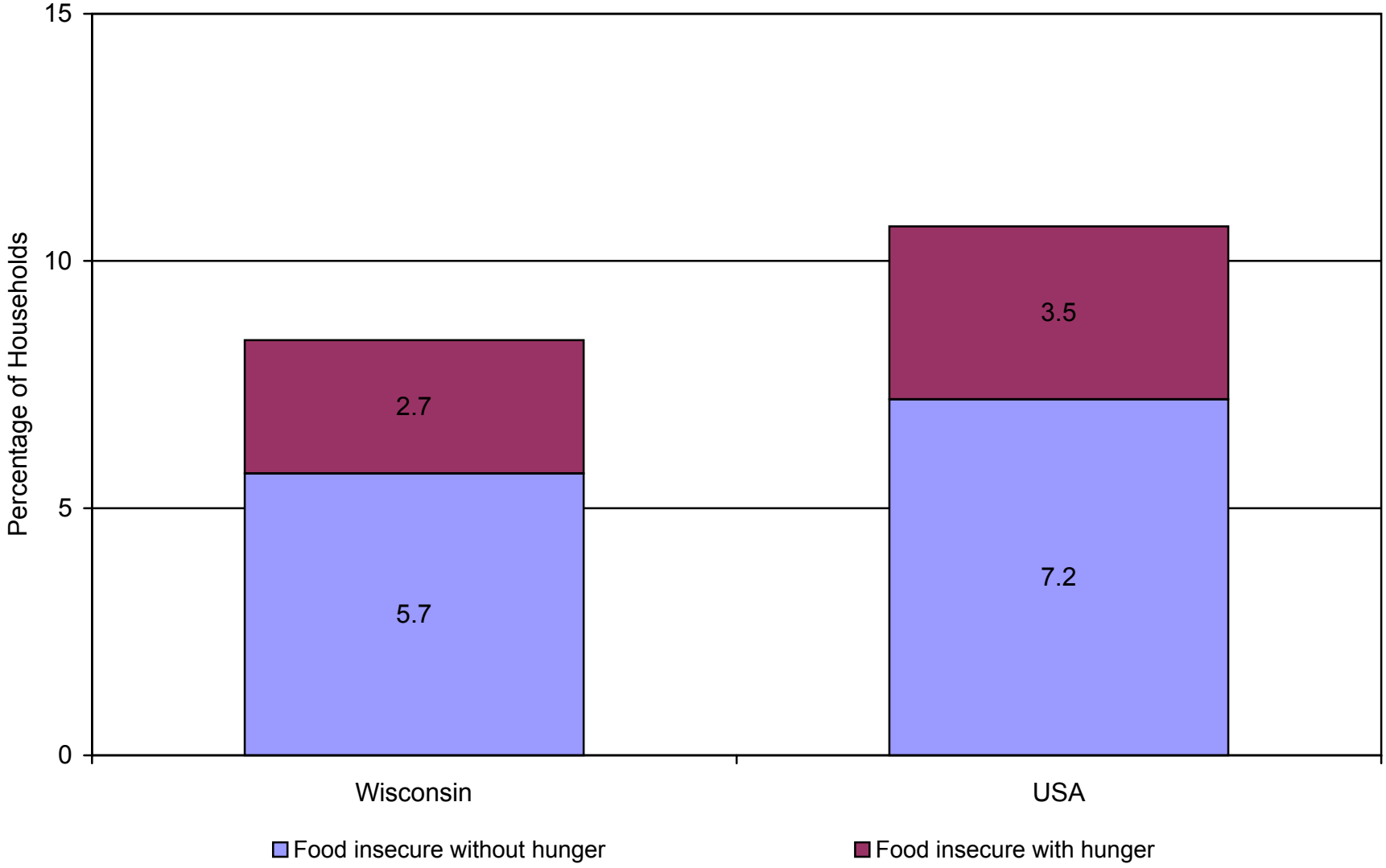
The CPS-FSS data show that 8.4 percent of Wisconsin households were food insecure during the period 1996–2000, including 2.7 percent that were food insecure with hunger. These are lower than the comparable national figures—10.7 percent food insecure, including 3.5 percent food insecure with hunger. See Figure 1.

Wisconsin children also fared better than children nationwide under the less formal measures of food insecurity available in the NSAF data. Nonetheless, a sizable share of children in the state lived in families that experienced food-related concerns. During 1999, 21.1 percent of children in Wisconsin lived in families that worried about or experienced difficulty affording food (that is, that responded affirmatively to at least one of the three food security questions), compared to 29.1 percent of children nationwide (Figure 2). Differences were less pronounced using a more stringent measure, cutting or skipping meals. In Wisconsin 10.4 percent of children lived in families in which members cut back or skipped meals due to lack of money for food, a somewhat lower rate than among children nationwide (12.4 percent).

Income and Food Insecurity

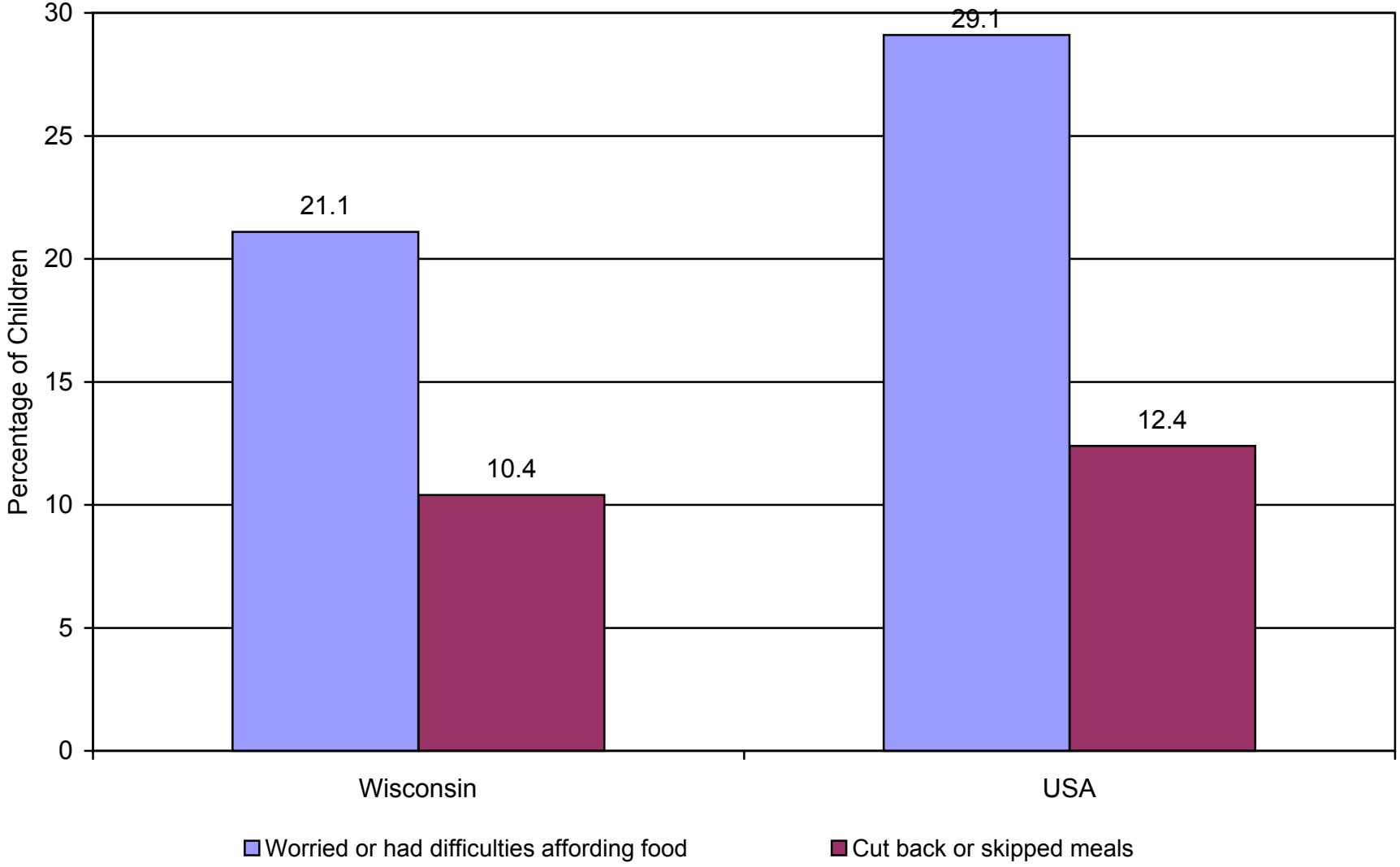
Food insecurity is closely linked to poverty. The lower a household's income is relative to the poverty line, the more likely its members are to be food insecure. In Wisconsin, 31 percent of poor households were food insecure during 1996–2000, as compared to 15 percent of near-poor households (between 100 and 185 percent of the poverty line), and fewer than 5 percent of middle- to higher-income households (Figure 3).

FIGURE 1
Food Insecurity With and Without Hunger, Wisconsin and Nationwide (1996-2000)



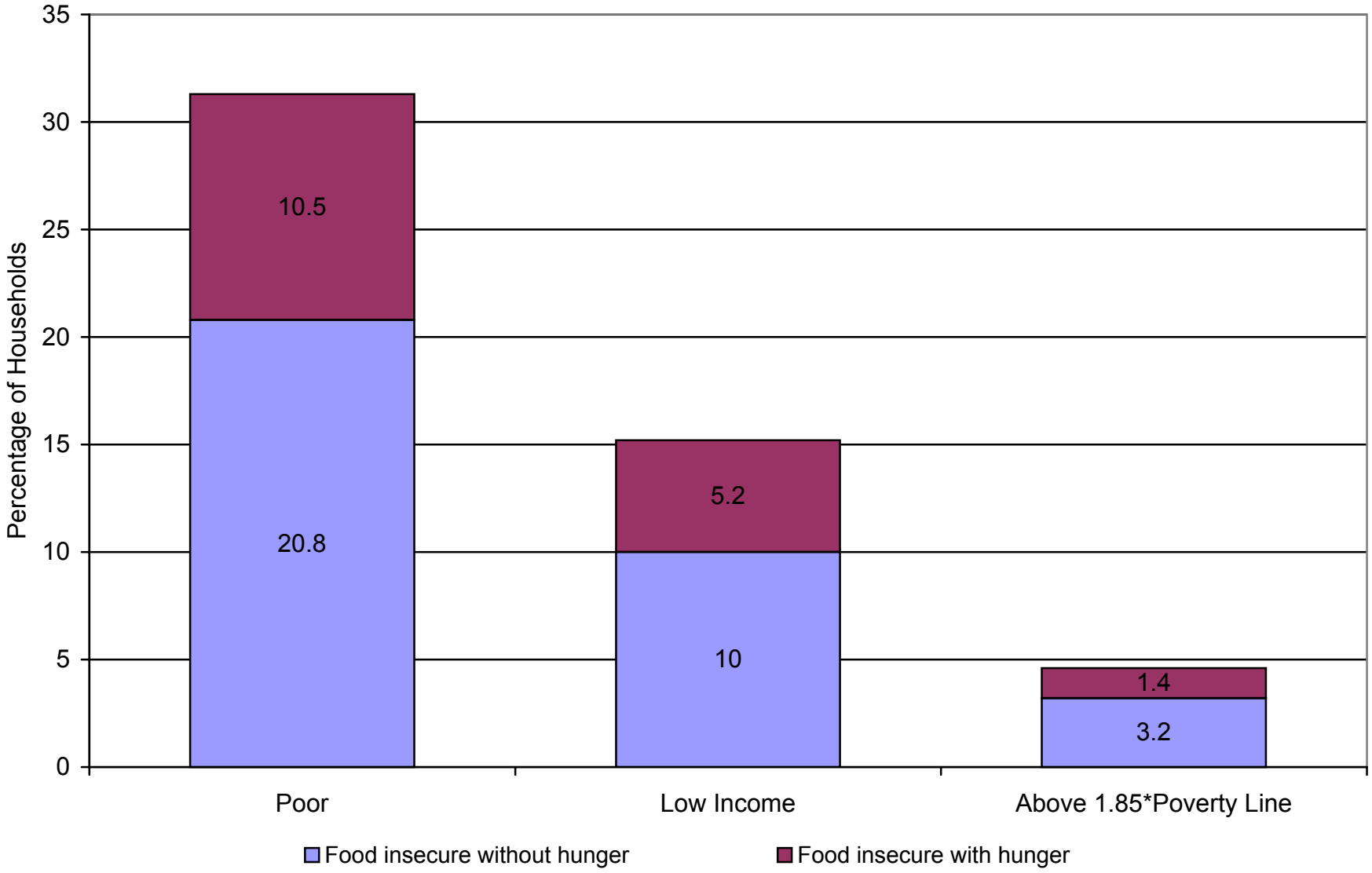
Source: Current Population Survey, Food Security Supplement.

FIGURE 2
Food-Related Concerns among Wisconsin Children's Households (1999)



Source: National Survey of America's Families.

FIGURE 3
Food Insecurity among Wisconsin Households, by Income Level (1996-2000)



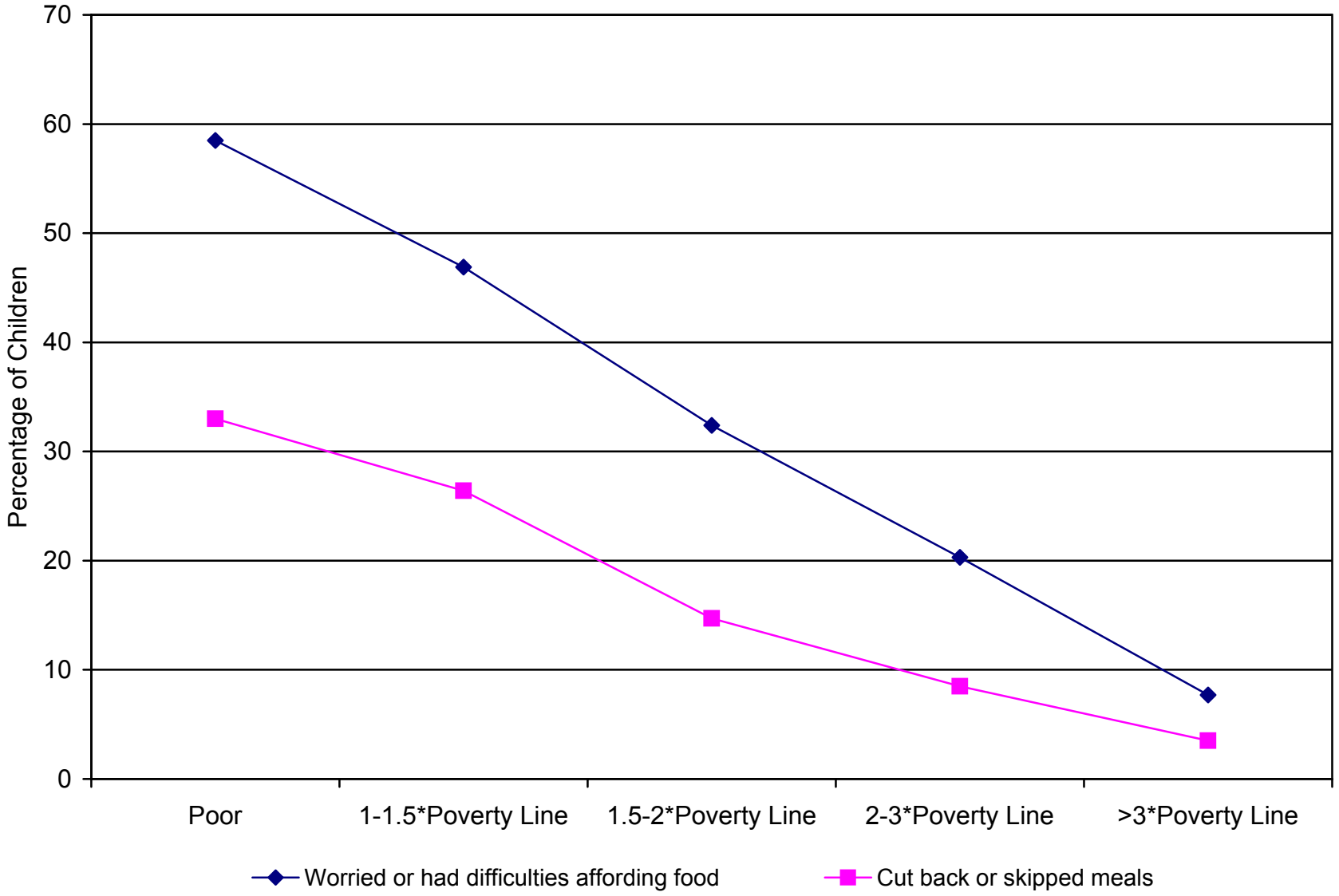
Source: Current Population Survey, Food Security Supplement.

The same pattern is found among children when we use the NSAF data, with the less formal measures of food insecurity. During 1999, one-third of poor children lived in families in which members cut back or skipped meals due to lack of money for food, a figure decreasing to 4 percent among the most well-off children (above three times the poverty line) (Figure 4). Similarly, 57 percent of poor children lived in families that worried about or experienced difficulties affording food, but only 8 percent of children in households with income above three times the poverty line did so.

The close connection between poverty and food insecurity helps explain why Wisconsin fares better on food security outcomes than the country as a whole. The more favorable outcomes in Wisconsin reflect, in part, the state's higher incomes. According to the NSAF data, the national child poverty rate was almost twice the rate for Wisconsin (not shown). At each of the lowest three income ranges, the share of Wisconsin children who lived in households with worries about or difficulties affording food is statistically indistinguishable from the share of children in the rest of the country (Figure 5). Only at the two highest levels, which include all households with incomes above twice the poverty line, do children in Wisconsin fare significantly better than their counterparts nationwide.

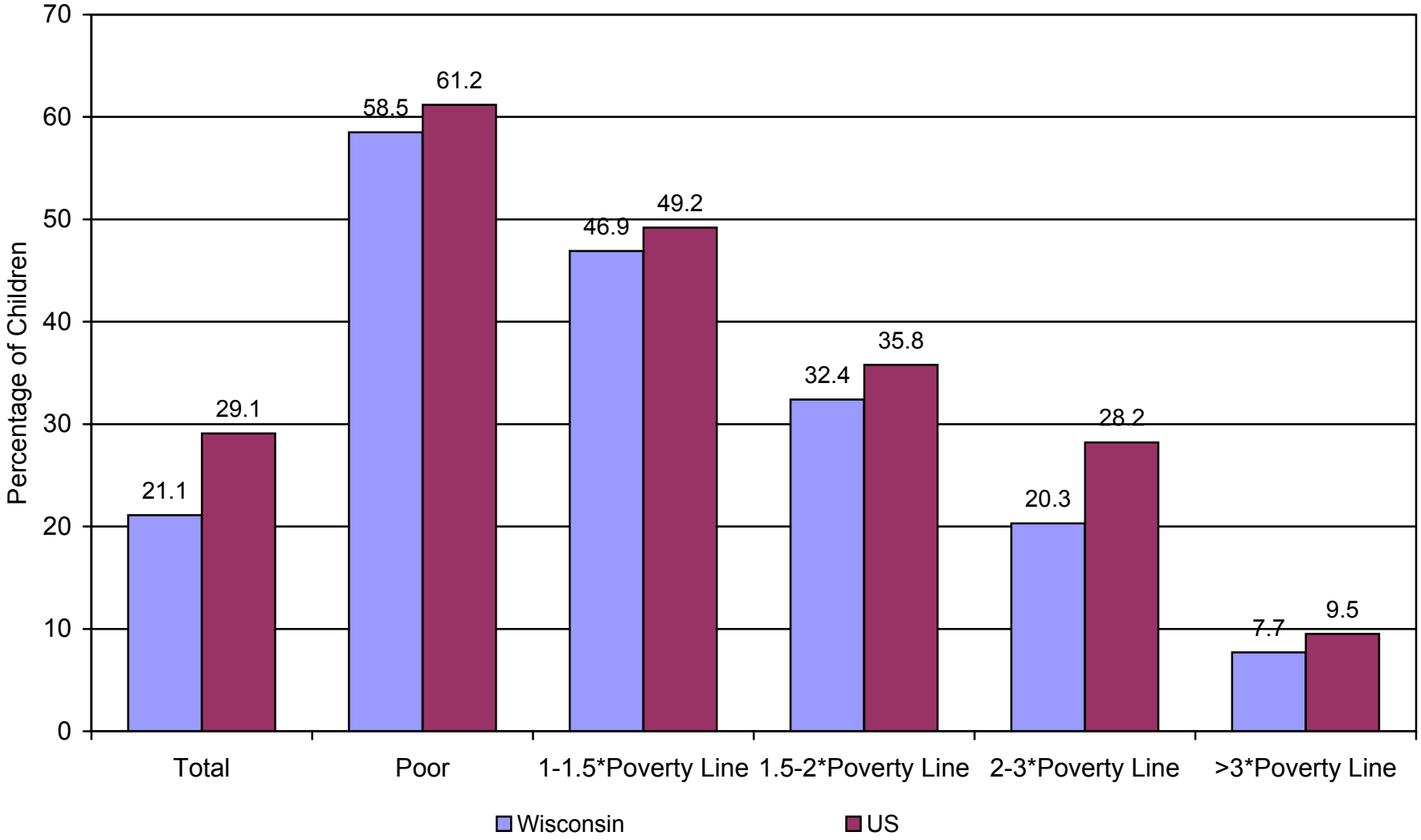
Although food-related concerns were much more widespread among the households of poor children than among those of higher-income children, the majority of all children in families that worried about or had difficulty affording food were not poor. In fact, only one-quarter (24 percent) of these children were poor, an additional 36 percent were below twice the poverty line, and the remaining 40 percent lived in families with incomes above twice the poverty line. Even among the subset of children in households that cut back or skipped meals due to lack of money, more than one-third lived in families with annual incomes above twice the poverty line (Figure 6). This simply reflects the fact that the substantial majority of all children have family incomes in the middle or higher ranges. Even the relatively low risk of food-related problems in those income ranges translates into large numbers of children.

FIGURE 4
Food-Related Concerns among Wisconsin Children, by Income Level (1999)



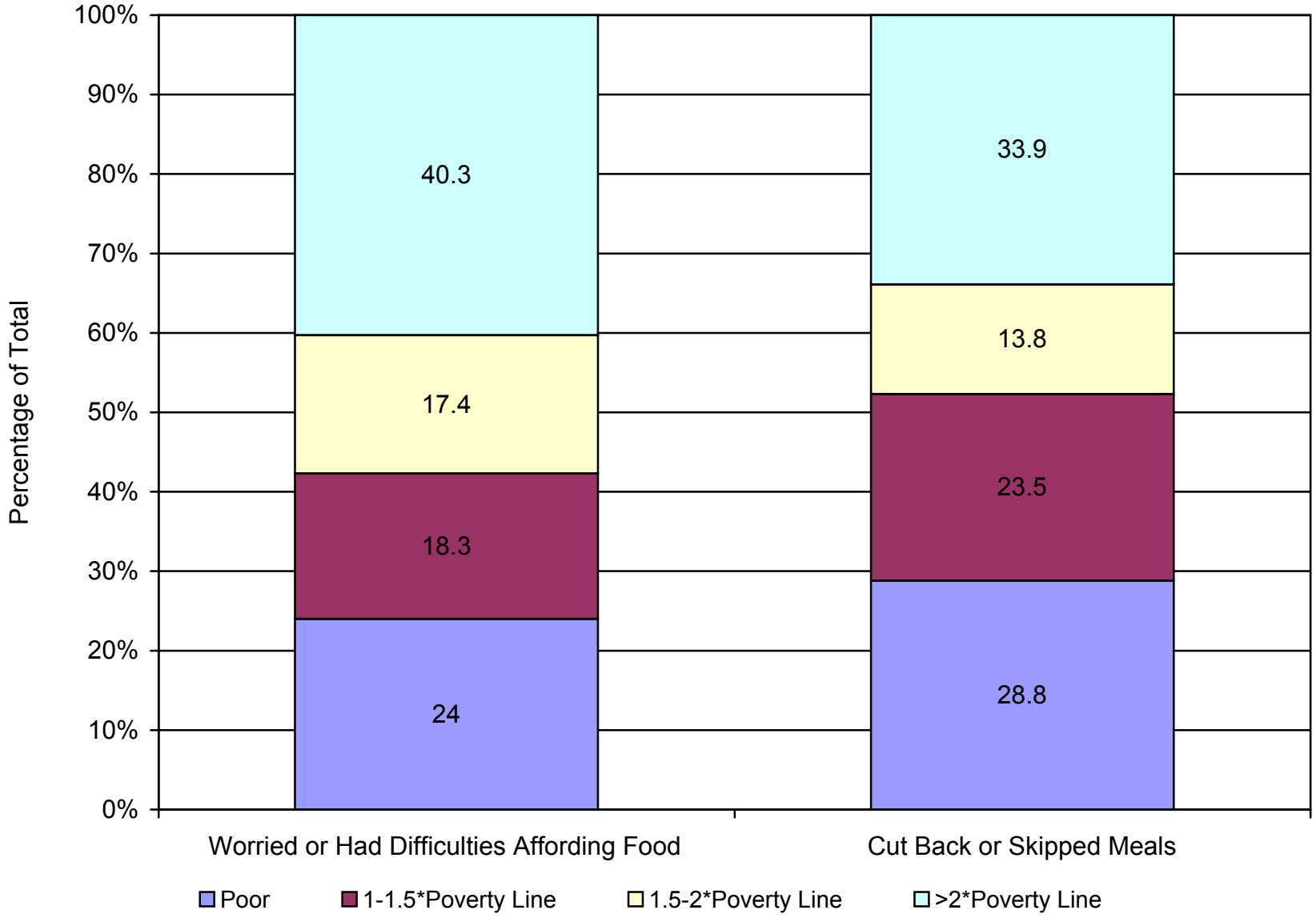
Source: National Survey of America's Families.

FIGURE 5
Worries About or Difficulties Affording Food, by Income Level, in Wisconsin and Nationwide (1999)



Source: National Survey of America's Families.

FIGURE 6
Income of Children in Families with Food-Related Concerns (1999)



Source: National Survey of America's Families.

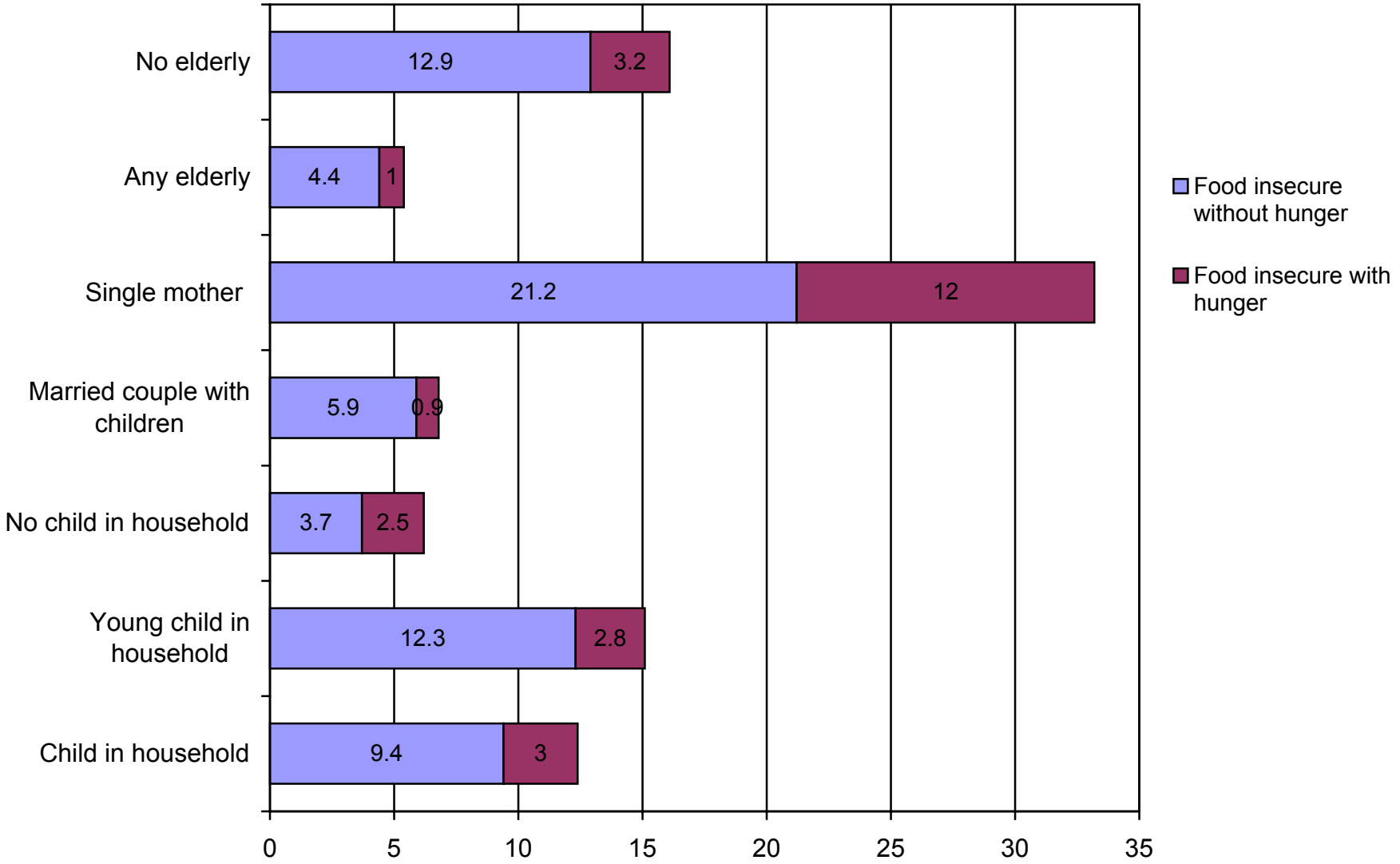
The moderate incomes among some children in families with worries or difficulties affording food may have to do with income and food security being measured over a year-long period. Families who are comfortably above the poverty line on an annual basis may nonetheless experience periods of economic hardship and associated concerns about access to food. Other research has found that food insecurity among higher-income households stems, in part, from uneven incomes, changes in household composition during the year, and the existence of multiple economic units in the same household (Nord and Brent, 2002).

Household Composition and Food Insecurity

Not all types of households face the same risk of food insecurity. Households with children—particularly young children—were much more likely to be food insecure than were childless households. During 1996–2000, the food insecurity rate for households with children in Wisconsin was 12 percent, twice that among childless households, 6 percent (Figure 7). Significant differences also exist among different types of households with children. The food insecurity rate among single-mother households was almost five times that of married couples with children (33 percent versus 7 percent). Households with one or more elderly persons, on the other hand, fared relatively well, with only 5 percent considered food insecure. Possible explanations for lower rates of food insecurity among the elderly include less poverty, more stable incomes, and higher rates of home ownership (Nord, 2002).

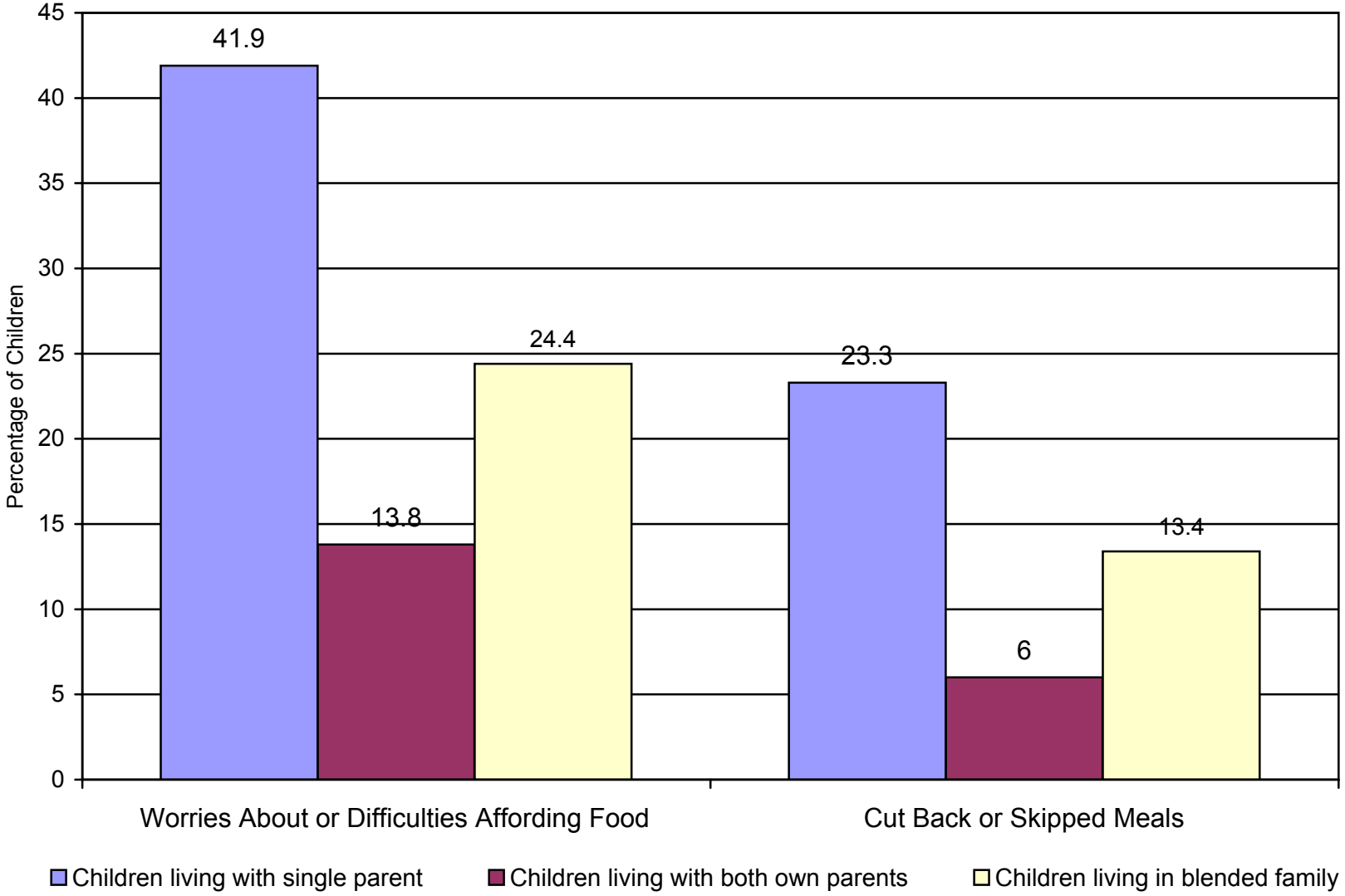
Children living with single parents also fared worse using the food security measures in the NSAF (Figure 8). During 1999, almost one-quarter (23 percent) of children living in a single-parent family had a parent who reported that household members had cut back or skipped meals due to lack of money for food. Among children living with both parents, the comparable figure was 6 percent, whereas for children in blended families the rate was 13 percent. A similar pattern is found for the less stringent measure, worrying about or having difficulty affording food.

FIGURE 7
Hunger and Food Insecurity in Wisconsin, by Household Composition (1996-2000)



Source: Current Population Survey, Food Security Supplement.

FIGURE 8
Share of Wisconsin Children in Households with Food-Related Concerns, by Living Arrangements (1999)



Source: National Survey of America's Families.

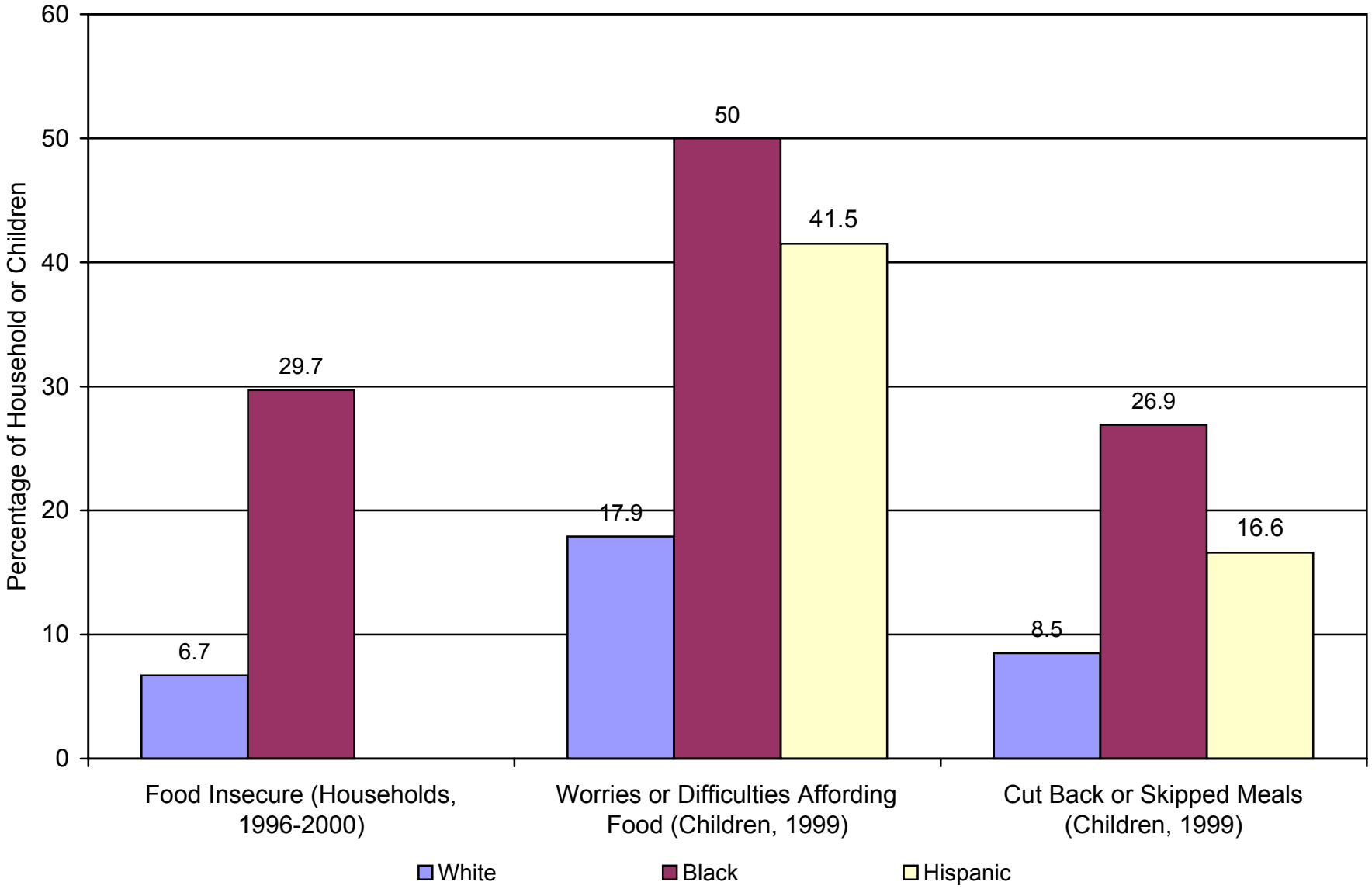
Race and Food Insecurity

We find significant differences among Wisconsin racial and ethnic groups in the prevalence of food insecurity (Figure 9). The food insecurity rate among black households in Wisconsin during 1996–2000 was more than four times that among white households, 30 percent versus 7 percent.[4] There were also dramatic racial differences in food insecurity among children when we use the less formal measures in the NSAF. During 1999, almost half of all black children in Wisconsin lived in families in which the adults worried about or had difficulty affording food—more than 2.5 times the rate among white children (18 percent). The rate among Hispanic children was also high, at 41 percent. Even more striking, more than one-quarter of black children lived in families that cut back or skipped meals due to lack of money for food—more than three times the rate among white children (8 percent), and 50 percent higher than among Hispanic children (16 percent).

Racial differences in food insecurity were more pronounced in Wisconsin than in the country as a whole (Figure 10). Not only did blacks in Wisconsin fare worse than whites, they also fared worse than blacks nationwide, according to both data sources considered here. Over the 1996–2000 period, the food insecurity rate among blacks was 22 percent nationwide compared to 30 percent in Wisconsin. In fact, blacks were the only demographic group in Wisconsin found to have a food insecurity rate statistically significantly higher than their counterparts nationwide. In contrast, whites in Wisconsin fared considerably better than did whites nationwide, with a food insecurity rate of 6.7 percent as compared to 7.6 percent (not shown). The prevalence of cutting back or skipping meals was considerably higher among black children in Wisconsin than among their counterparts nationwide (27 percent versus 18 percent). On the other hand, black children in Wisconsin fared approximately the same as did black

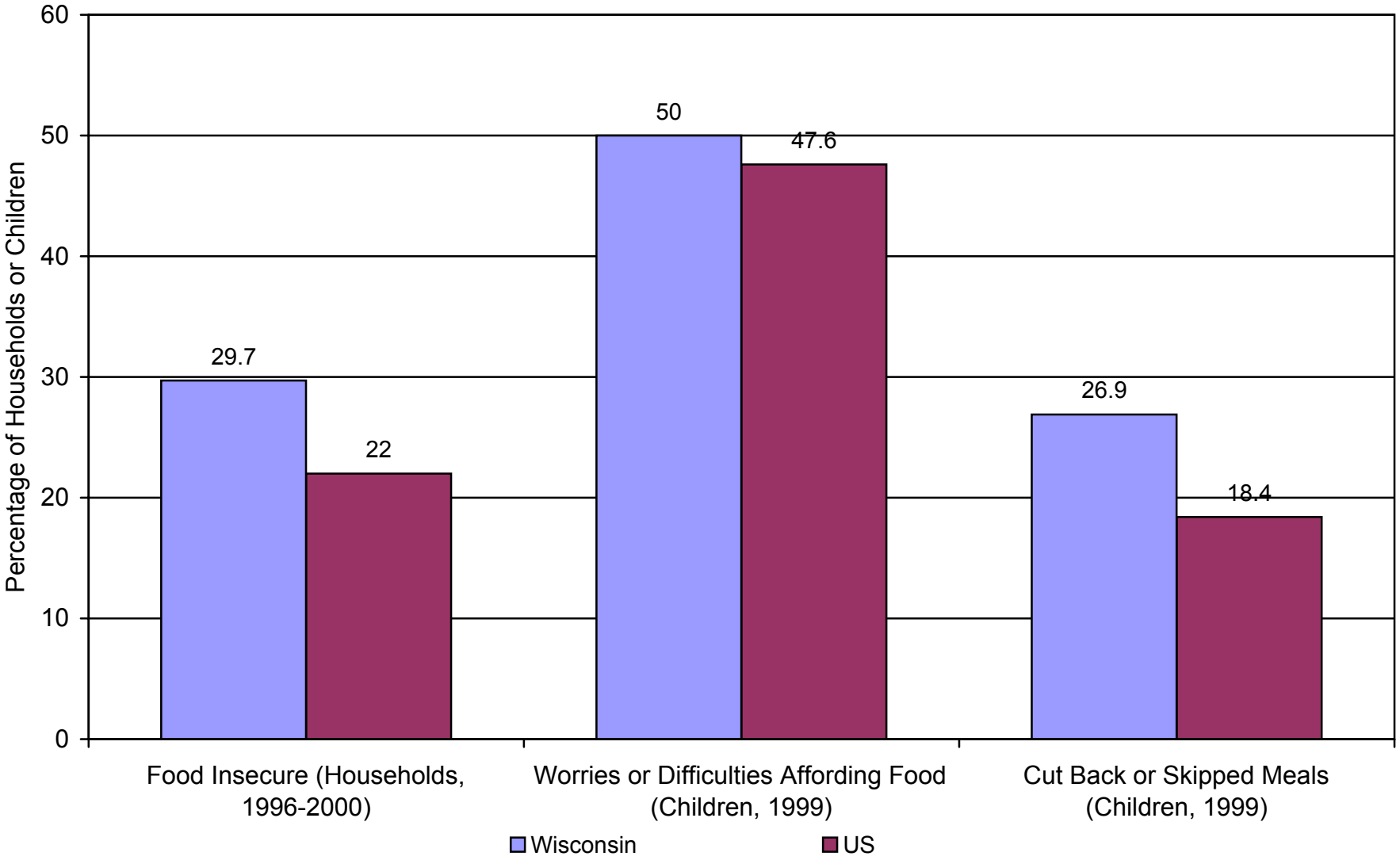
[4]Households are classified according to the race and ethnicity of the household head. The CPS-FSS Wisconsin sample does not contain enough Hispanic households to obtain reliable estimates of food insecurity for this group.

FIGURE 9
Food Insecurity (Various Measures) in Wisconsin, by Race



Source: Current Population Survey, Food Security Supplement; National Survey of America's Families.

FIGURE 10
Food Insecurity (Various Measures) among Blacks in Wisconsin and Nationwide



Source: Current Population Survey, Food Security Supplement; National Survey of America's Families.

children nationwide in their likelihood of living in households that worried about or had difficulty affording food.

The greater racial disparity in Wisconsin than in the country as a whole reflects, at least in part, the concentration of black households in central cities, primarily Milwaukee. Because of the high correlation in Wisconsin between race and central-city status, the racial disparity captures, to a greater extent than at the national level, the increased risk of food insecurity that is found in central-city areas.

Health, Disability, and Food Insecurity

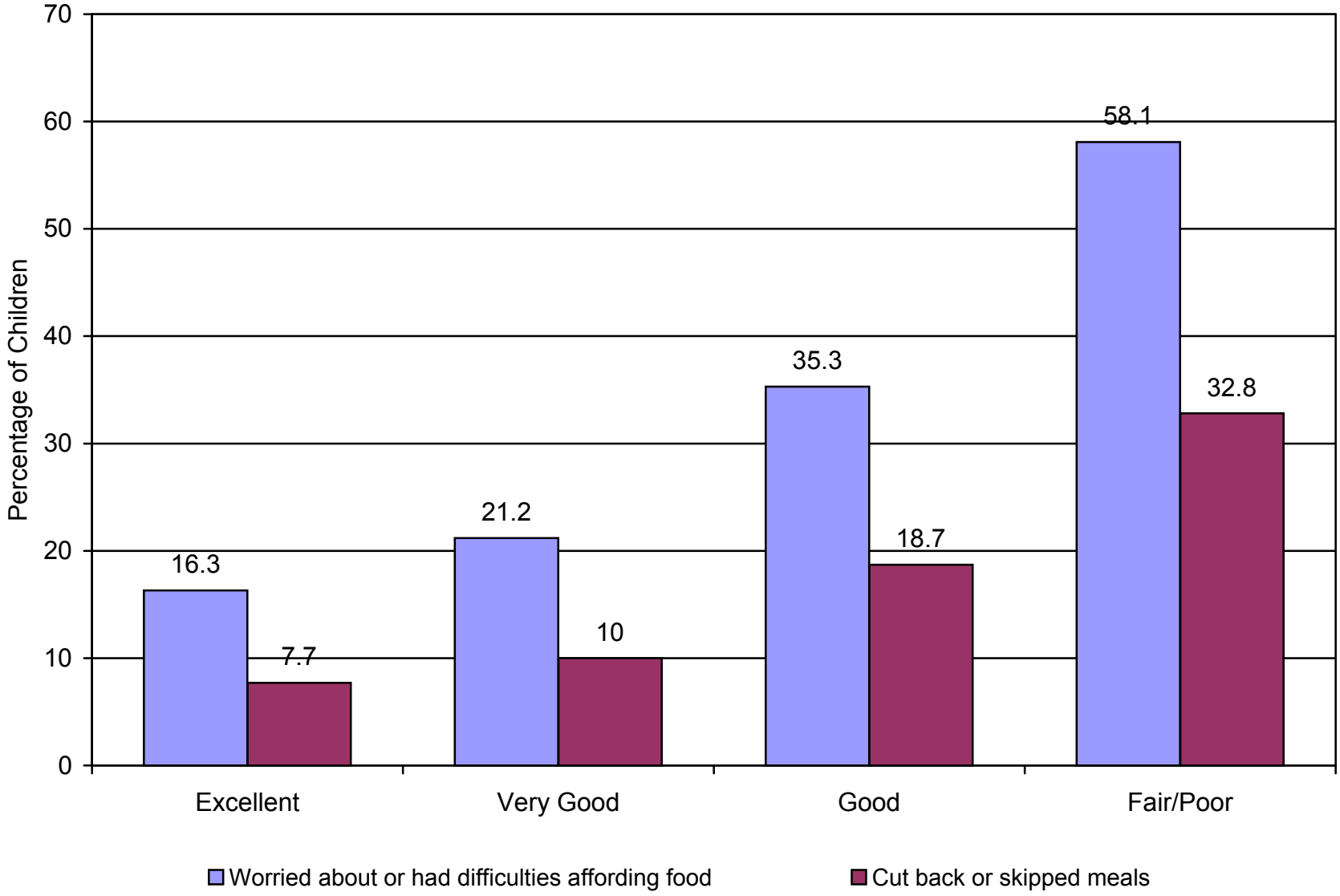
Health and disability are also closely linked to food security outcomes. The CPS-FSS data show that households with an adult with a disability that prevented work had three times the risk of food insecurity as did other households, 24 percent versus 8 percent (not shown). Children's health status is also important (Figure 11). In 1999, 16 percent of Wisconsin children in excellent health lived in families that worried about or experienced difficulties affording food. The comparable figure for children in good health was 35 percent, rising sharply to 58 percent among children in fair or poor health. The same pattern was evident for the more stringent food security measure. Eight percent of children in excellent health lived in families that cut back or skipped meals due to lack of money, that figure increased to one-third of children in fair or poor health. We cannot determine from these data the extent to which food-related hardships may have contributed to children's health status or vice versa.

Food Insecurity among Employed Households

Food insecurity is not limited to the unemployed. Among all food insecure Wisconsin households during 1996–2000, 74 percent had at least one worker, 57 percent had at least one full-time worker, and 30 percent had two or more workers (either part time or full time) (not shown).

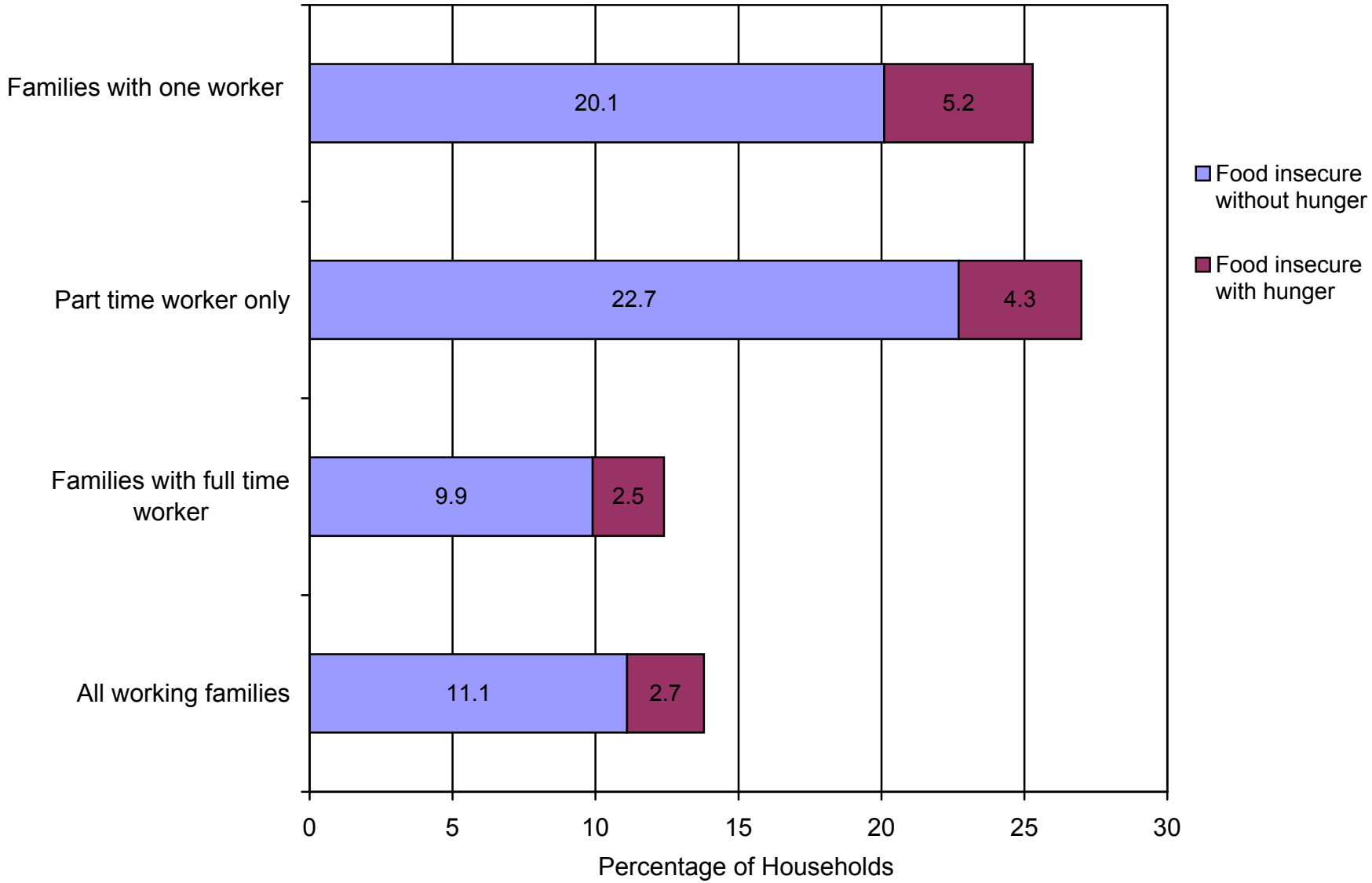
Overall, 11 percent of Wisconsin working households with children were food insecure during this period (Figure 12). Food insecurity was especially widespread among working families with only

FIGURE 11
Food Insecurity in Wisconsin, by Child's Health Status (1999)



Source: National Survey of America's Families.

FIGURE 12
Food Insecurity among Employed Households with Children (1996-2000)



Source: Current Population Survey, Food Security Supplement.

part-time workers. Almost one-quarter (23 percent) of these households were food insecure. Food insecurity was also pronounced among working families with only one worker; one-fifth of these families were food insecure. Working households headed by a single mother (not shown) had very high food insecurity rates—31 percent, as compared to 6 percent among employed couples with children.

Geography and food insecurity

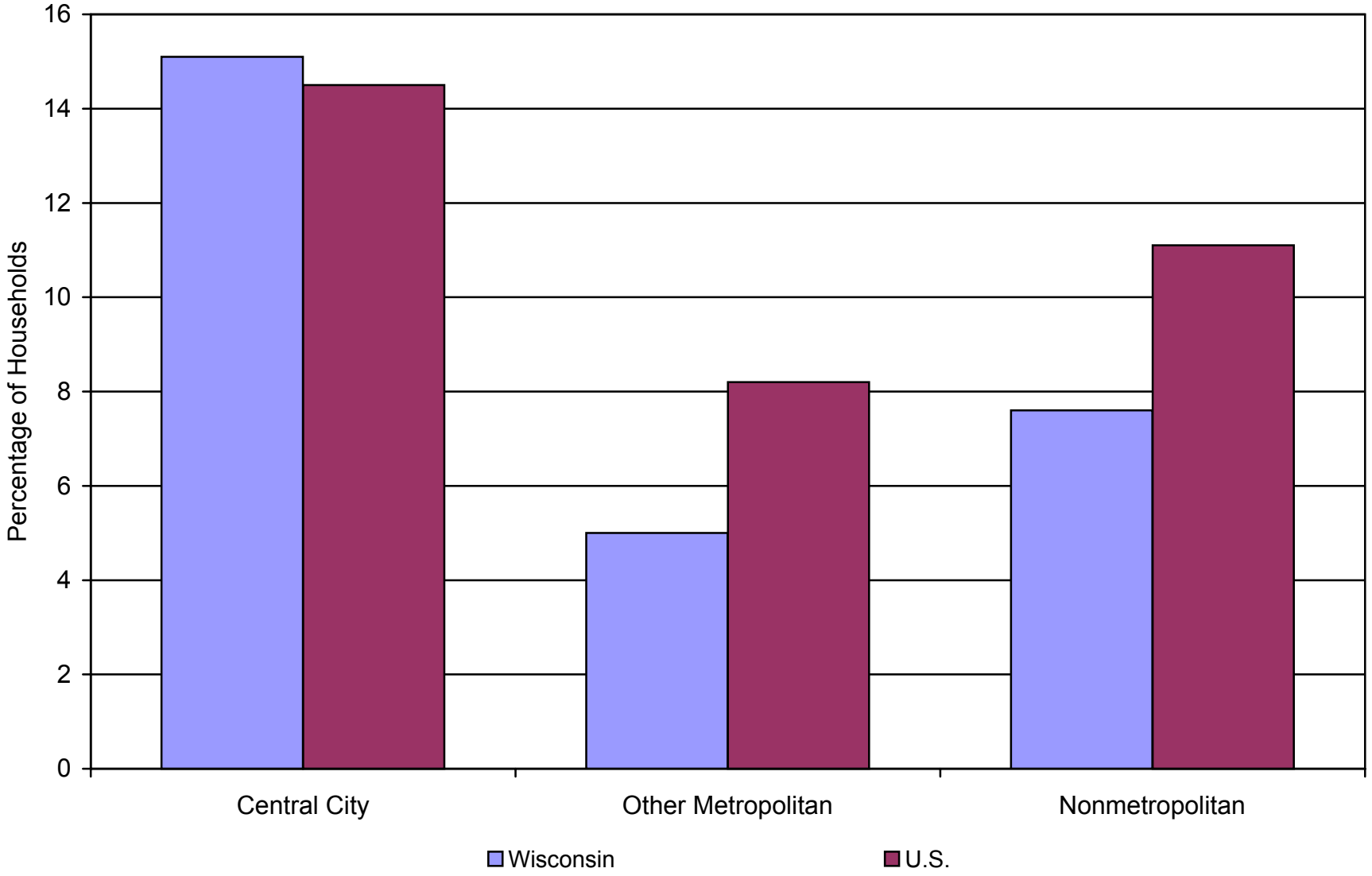
In Wisconsin, food insecurity is most problematic among central-city households, 15 percent of such households being found to be food insecure (Figure 13). This is three times the rate among households in other metropolitan areas in the state (5 percent), and twice the rate in rural areas (7.5 percent). Food insecurity among central-city households in Wisconsin was as common as among such households nationwide, whereas food insecurity among Wisconsin metropolitan households outside of central cities, and also among rural households, was lower than in the nation.

Consistent with the higher prevalence of food insecurity in central cities, the NSAF data indicate that children in Milwaukee County were much more likely to live in a family with worries or difficulty affording food than were children living elsewhere in the state—30 percent versus 19 percent (not shown). Nonetheless, almost three-quarters of children in households with worries about or difficulty affording food during 1999 lived outside of Milwaukee, as did 71 percent of children whose families cut back or skipped meals.

Specific Factors Associated with Food Insecurity

The statistics presented above indicate how food insecurity varies among groups with particular characteristics. However, many of the risk factors that were identified tend to occur together. For instance, households headed by single mothers are more likely to be poor than are married-couple households, and black households are more likely to live in central cities than are white households. Multivariate analyses are useful in identifying the extent to which particular characteristics are associated

FIGURE 13
Food Insecurity by Location, Wisconsin and Nationwide



Source: Current Population Survey, Food Security Supplement.

with a higher likelihood of a particular outcome, such as food insecurity, after controlling for other factors.

Appendix Table 1, whose results are described in this section, presents a multivariate analysis of food insecurity status based on the CPS data. This analysis controls for a range of characteristics and identifies the unique risks associated with each. Specifically, the analysis controls for the following household characteristics: poverty status (coded in five categories), race and ethnicity of household head, household structure, presence of a worker in the household, presence of a disabled adult in the household, presence of elderly persons in the household, location of household (central city, other urban, or rural), and home ownership status. The results indicate that the various risk factors identified earlier are each linked to a greater risk of food insecurity, even after controlling for other differences among households. Specifically, this analysis documents the following patterns among otherwise similar households:

- The risk of food insecurity is greatest for households with income levels below the poverty line, and decreases as income increases.
- Households with children have a higher risk of food insecurity than do childless households; among households with children, the highest risk of food insecurity occurs among those headed by a single mother.
- Households headed by blacks have a higher risk of food insecurity than do otherwise similar households headed by whites. Although differences remain between black and white households, a large share of the difference seen in the descriptive results can be explained by differences in income, household structure, and likelihood of living in central city areas.
- Households with a disabled adult have a substantially higher risk of food insecurity than do other households.
- Households headed by a renter, as compared to a homeowner, have a higher likelihood of food insecurity. This may reflect the fact that homeowners have more assets than do renters, and thus greater ability to protect against food insecurity.
- Households with elderly members have a significantly lower risk of food insecurity than do otherwise similar households without elderly members.
- Households with and without workers have similar risks of food insecurity, after controlling for differences in income and other characteristics. This does not imply that employment has no beneficial impact on food security, but rather that the benefits of employment occur through the associated gains in income.

- Finally, households in central-city areas have a higher risk of food insecurity than do similar households in other urban or rural areas. Higher costs in central city areas may contribute to the greater risk of food insecurity, although the current analysis is not able to explore this possibility. Further analyses not shown here reveal that the greater prevalence of food insecurity in central-city areas partly explains the high rate of food insecurity among black households.

The results from the above analysis are useful in identifying factors that are associated with an increased risk of food insecurity. The results can also be used to estimate the risk of food insecurity among households with particular combinations of characteristics. The model described above suggests that the likelihood of food insecurity varies dramatically among households:[5]

- White married homeowners with children, having income above 1.85 times the poverty line, with at least one worker and no elderly or disabled members, living in a rural county in Wisconsin, have only a 3 percent likelihood of being food insecure.
- Households with the same characteristics as those above, but which rent rather than own their homes, have an 8 percent risk of being food insecure.
- Households with the same characteristics as above, but which have incomes below the poverty line, have a much higher risk of food insecurity—33 percent.
- Households headed by a single mother, but otherwise similar to those above, face a still higher risk of food insecurity, at 53 percent.
- Households similar to those above, but living in a central-city area have a food insecurity risk of 63 percent.
- Finally, households similar to those above, but with a black household head, have a still higher risk of food insecurity—73 percent.

The above examples show that the various risk factors—poverty, race, single motherhood, living in central-city areas—have cumulative impacts on the risk of food insecurity. These results reveal that households with multiple risk factors face strikingly high chances of experiencing food insecurity.

[5]These estimates are derived from the coefficients of the probit model shown in Appendix Table 1.

CONCLUSIONS

This report tells a mixed story about food security in Wisconsin. On one hand, food insecurity is less widespread in Wisconsin than in the nation as a whole, a finding that is consistent across both data sources considered here. This stems in part from Wisconsin's lower poverty rate. The difference in income distribution between Wisconsin and the United States accounts for roughly 60 percent of the difference in food security outcomes.

Although Wisconsin fares better than the nation as a whole, there are reasons for concern. During 1999, one in five children in Wisconsin lived in a family that had worries or difficulties affording food, and one in ten lived in a household in which people cut back or skipped meals due to lack of money for food. During 1996–2000, more than 8 percent of Wisconsin households were considered food insecure according to the official food security measure. These numbers are disturbingly high even if below the national average, particularly in light of the growing body of evidence linking food insecurity to negative behavioral and health outcomes.

Especially troubling is the striking racial disparity in food insecurity. Blacks in Wisconsin fare significantly worse than do whites on all food security outcomes considered here, a finding that is also true at the national level. Furthermore, blacks in Wisconsin fare significantly worse than blacks nationwide, in contrast to all other demographic groups considered. Much of the difference between black and white households can be explained by differences in income, family structure, and likelihood of living in central-city areas. Even after controlling for these factors, however, blacks have a greater risk of food insecurity, a difference that is significant in both statistical and substantive terms.

This report documents other important risk factors for food insecurity in Wisconsin. Households with children fare worse than childless households, and households headed by a single mother are at a particular disadvantage, even after controlling for other characteristics. Other factors linked to greater food insecurity include low income, having a disabled adult in the household, renting rather than owning

a home, and living in a central-city area. Because these factors appear to each confer an additional risk, the estimated likelihood of food insecurity among groups with multiple risk factors is quite high.

Finally, these results confirm the fact that food insecurity is not a problem limited to the unemployed. Three-quarters of all food insecure households in Wisconsin have at least one worker, and almost 60 percent have a full-time worker.

APPENDIX TABLE 1
Probit Model of Food Insecurity among Wisconsin Households, 1996–2000

	Coefficient	Standard Error
Race/ethnicity		
White	(omitted)	
Black	.29*	.15
Hispanic	.15	.22
Other	.13	.23
Household structure		
No children	(omitted)	
Married couple with children	.18*	.10
Single mother	.71***	.13
Single father	.41*	.25
Other households with children	-.03	.25
Poverty level		
Below 50% of poverty line	.61***	.22
50%–100% of poverty line	.96***	.12
101–130% of poverty line	.78***	.14
131–185% of poverty line	.54***	.12
>185% of poverty line	(omitted)	
Location		
Rural	(omitted)	
Central city	.25**	.11
Other metropolitan	-.02	.22
Not identified	-.13	.11
Housing arrangement		
Renting	(omitted)	
Owned	-.34***	.09
Occupied without payment	-.46	.35
Disabled adult in household	.43***	.15
Elderly in household	-.52***	.14
Worker in household	-.02	.13
Intercept	-1.68***	.24
Log-likelihood	-641.9	
N	2775	

Source: Current Population Survey, Food Security Supplement.
*Statistically significant at 10% level; **Statistically significant at 5% level; ***Statistically significant at 1% level.

References

Bickel, G., M. Nord, C. Price, W. Hamilton, J. Cook. 2000. *Guide to Measuring Household Food Security*. Revised 2000. Alexandria, VA: USDA, Food and Nutrition Service.

Center on Hunger and Poverty. 2002. *The Consequences of Hunger and Food Insecurity for Children: Evidence from Recent Scientific Studies*. Waltham, MA: The Heller School for Social Policy and Management, Brandeis University.

Hamilton, W. L., J. T. Cook, W. W. Thompson, L. F. Buron, E. A. Frongillo, Jr., C. M. Olson, and C. A. Wehler. 1997. *Household Food Security in the United States in 1995*. Technical Report prepared for USDA, Alexandria, VA: USDA, Food and Consumer Service.

Nord, M. 2002. "Food Security Rates Are Higher for Elderly Households." *FoodReview* 25(2): 19–24.

Nord, M., and C.F. Brent. 2002. *Food Insecurity in Higher Income Households*. USDA, Economic Research Service, Report E-FAN No. 02016, Washington, DC.

Nord, M., M. Andrews, and S. Carlson. 2002. *Household Food Security in the United States, 2001*. USDA, Economic Research Service, Food Assistance and Nutrition Research Report No. 29, Washington, DC.