

NUTRITIONAL BEHAVIOUR OF THE AGED IN PRIVATE HOUSEHOLDS

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Aim of the project was to obtain data on the frequency of warm and cold meals, courses and combination of these, and on the kind, frequency and combination of food served. The data obtained will be used for a computerized information system which reflects actual nutritional habits; it is intended as a tool for calculating diets according to individual requirements at favourable cost.

A project concerning nutritional habits of the aged in private households started in September 1993. 181 one- and two-person- households of people aged 65 - 75 years agreed to participate in the project (whole-day protocols) for two periods of 6 weeks each. Household types were selected according to the statistical distribution of comparable households in the Land Baden-Württemberg.

Included in the information package was also an extra questionnaire on the following nutritional aspects:

1. Times of meals (times of food and/or drink consumption)
2. Conditions of food preparation
3. OTC preparations taken besides food and drinks
4. Educational status of the person preparing the food
5. Household appliances available
6. Initial food material
7. Who does the shopping, frequency of shopping, transportation to food shop, use of home delivery services
8. Are fruit and vegetables grown in one's own garden?
9. If fruit and vegetable are stored, what are the methods of preservation?

This questionnaire was answered by all cooperating households, i.e. 14 men and 81 women living in one-person households and 86 couples in two-person households. About 30 % of the households are in places of up to 20 000 inhabitants, another 30 % in places of 20 000 to 500 000 inhabitants, and about 40 % in cities of more than 500 000 inhabitants. It was asked for age, sex and size of the place, net income and earlier professional activities.

The following results refer exclusively to information obtained from the extra questionnaire.

Information about 10 different times of food consumption is available, including traditional meals: 1st and 2nd breakfast, lunch, dinner and a late dinner, and food and or drink consumed between meals: before breakfast, additional food in the morning, in the afternoon and late evening). We got answers for the days from Monday through Friday for Saturday and Sunday (table 1).

Table 1: Answers of persons questioned (n = 267) in 181 households concerning times of food consumption

Times of consumption	% of persons	Ranking
Before breakfast	18,4	8
1st breakfast	98,9	2
2nd breakfast	17,2	9
Additional food in the morning	30,3	6
Lunch	97,0	3
Coffee/tea in the afternoon	60,7	4
Additional food in the afternoon	21,4	7
Dinner	99,3	1
Late dinner	10,9	10
Other food in the evening	50,2	5

On Mondays to Fridays traditional meals (breakfast, lunch and dinner) are of primary importance. Coffee or tea in the afternoon range on place 4 (ca. 60 %), and other food in the evening on place 5 (ca. 50 %). It is surprising that nearly 20 % of the persons questioned eat or drink something before breakfast.

In the distribution of rankings, differences among the various groups (men, women, persons in two-person-households) exist only in places 7 - 10.

We have found it important to ask not only for traditional meals, but also for other times of consumption. An apple or yoghurt eaten between meals may otherwise be neglected or forgotten about.

Table 2: Number of food-consumption times per day

Differences among the individual groups exist in the number of consumption times per day for both traditional meals and snacks (see figure 1). So five times of food consumption per day are indicated by about 32 % of persons in one-person households and by about 30 % of those in two-person households. Persons living one-person households eat more frequently than those in two-person households (5 and 6 times of food consumption).

Data about the initial material used for the preparation of meals will enter the system as basic data for recipes.

Table 3: Initial material most frequently used for food preparation (n = 181 households)

Of initial materials most frequently used, fresh food ranks first. For soups and sauces, however, more than one fifth of the respondents use dry products.

One fifth also prefer deep-frozen produce for fish dishes. It should be added here that fresh fish is not available everywhere in this region which is more than 800 km away from the sea.

Table 4: Initial material most frequently used for food preparation
(n= 181 households)

For cereal dishes, "pasta" was given as an example. As it takes relatively much time to make noodles oneself, commercial products are usually preferred. However, 20 % of the questioned still make pasta themselves. An explanation may be that in many Swabian households only homemade "spätzle" (a special kind of noodles) are accepted.

For various initial food materials differences have been found to exist between household types: one-person households use more dry products for soups than two-person households. The same is true for sauces.

These results and those concerning the number of eating times per day have to be taken into account by those concerned with menu planning. The information allows to establish menu plans also according to target groups, i.e. according to household types. In this way different consumption patterns are reflected.

Results concerning the availability of household appliances used for food preparation are available as well. Equipment most frequently used is shown in the following table.

Table 5: Availability of household appliances in households (n = 181); appliances most frequently used

Refrigerator and range(oven and hot plates) exist in nearly any household. 95 % of households have electric hand mixers or mixers, 48 % have both.

The frequency of use of these appliances may be of interest as well. Pressure cookers available in 75 % of all households are used daily or nearly daily by more than 20 %. About 50 % use pressure cookers once a week. Electric coffee grinders available in nearly 60 % of households are used daily by only 12 %, less than once a month by 50 % and never by 27 %.

Table 6: Availability of household appliances. Comparison of own data to official statistics

Our results correspond well to those of the official statistics in Baden-Württemberg, except for those concerning the combination of refrigerator/freezer. However, official statistics are based on a somewhat different age grouping.

Plenty of information was obtained also on shopping habits. In one-person households, the persons questioned make their purchases themselves; for 17 % also other persons (usually the children) do the shopping occasionally. In 38 % of the two-person households, one

partner only does the shopping, while in 62 % both partners do. In only 3.5 % of two-person households shopping is occasionally done by third persons.

Table 7: How often do you buy the following food? (n = 181 households)

More than 50 % of households buy bread, milk and dairy products, fruit and vegetables several times per week, 25 % at least once a week. It should be noted that in Germany, differently to other countries, milk is not home-delivered.

Meat and sausage are bought less frequently, by more than one third of the households less than once a week.

The answers "seldom" and "never" in the case of fruit and vegetables need to be supplemented by the information that more than one third of the persons questioned grow fruit and vegetables in their own gardens.

Differences between one- and two-person households have been found to exist also in the way food shops are reached.

Table 8: How do you reach the food shop?

More than 50 % walk to their preferred shop, but more than one third of the two-person-households go there by car, certainly not because the persons questioned live in small towns and rural areas, but because larger food quantities have to be transported.

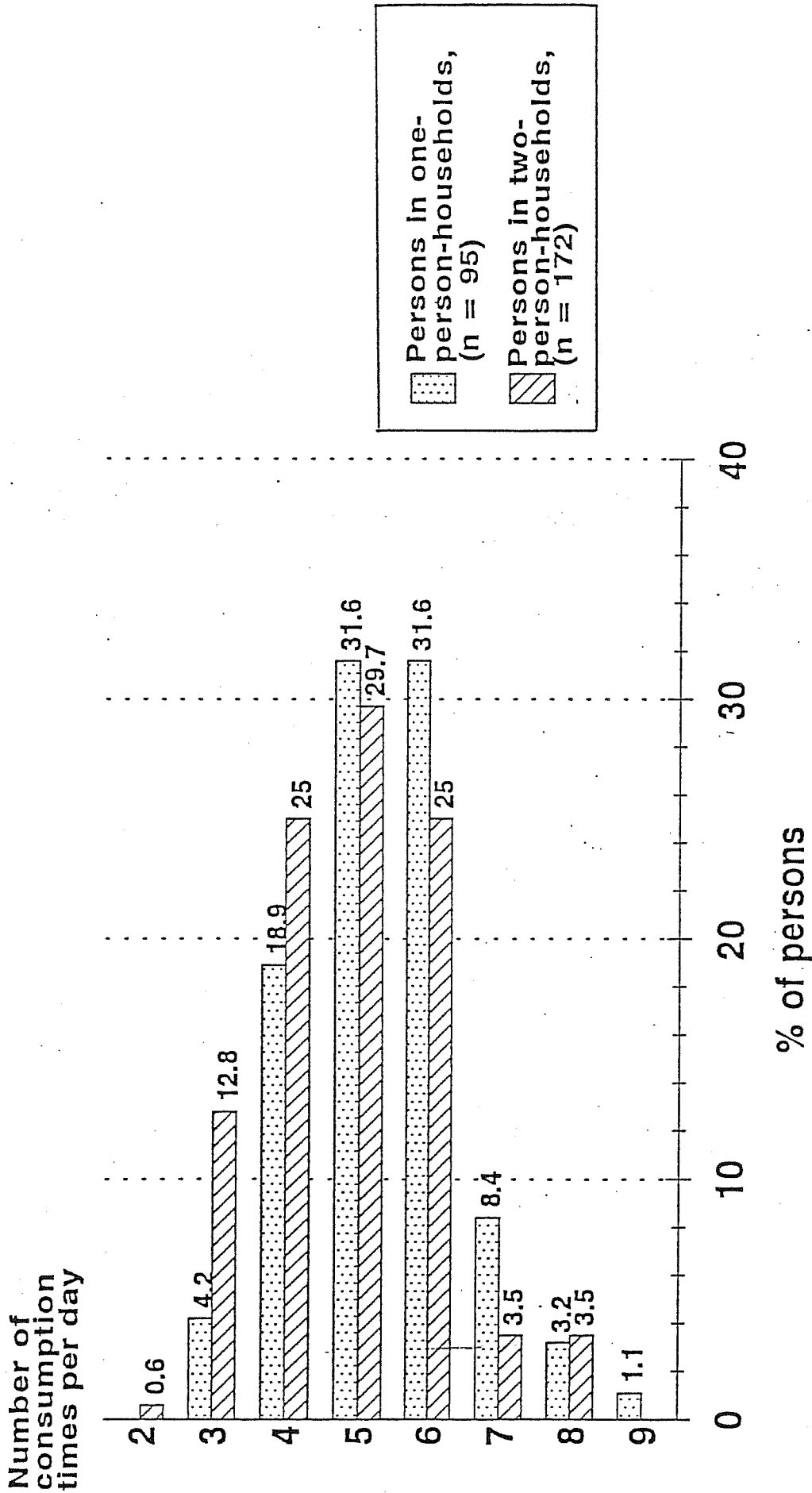
Table 9: Do you buy food (including frozen food) from a home deliverer?

18 % of the households buy frozen food also from home delivery services. More than 26 % buy meals and beverages, and 96 % of these only beverages from home delivery services. Division according to household groups is shown in table 12.

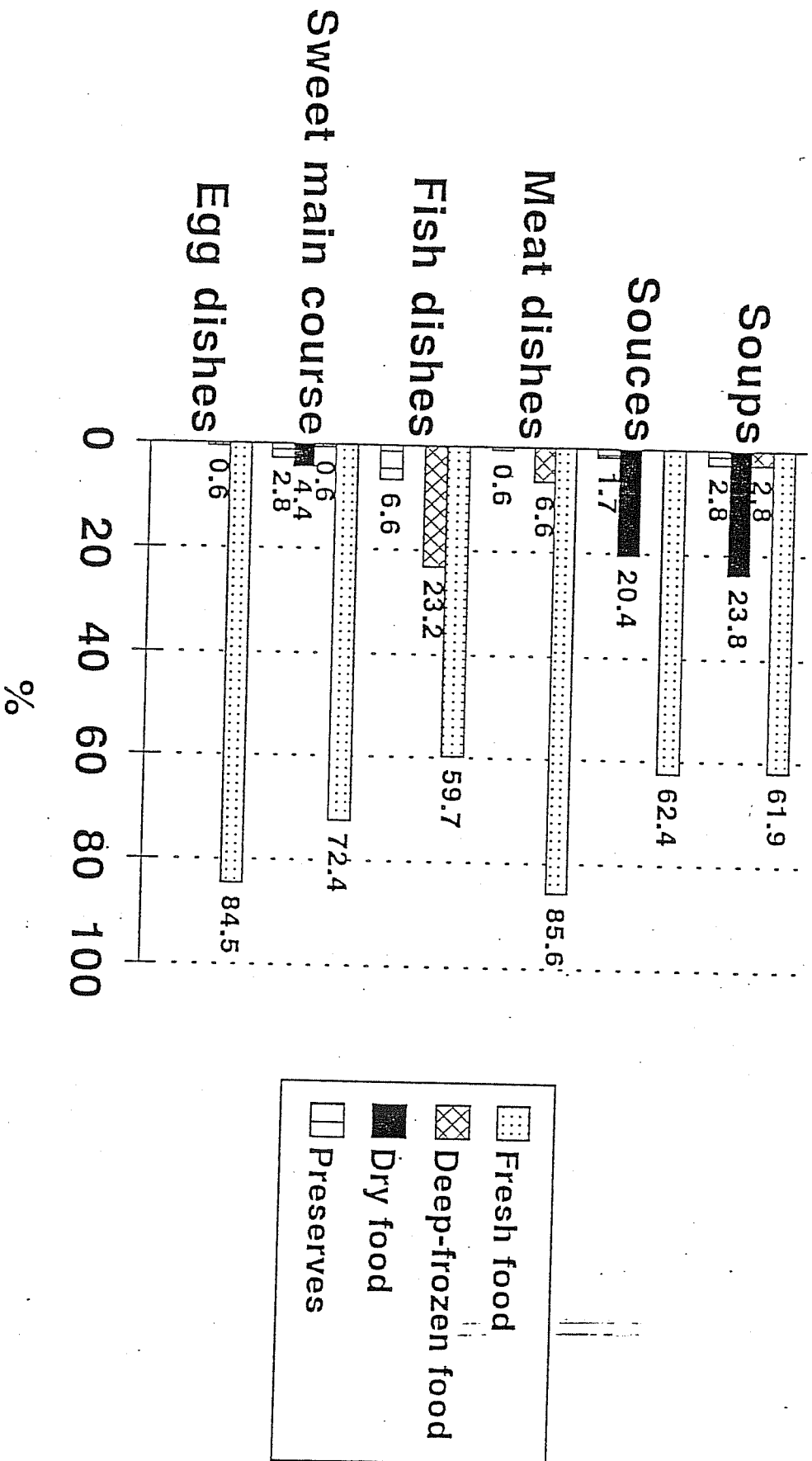
Regarding home delivery of frozen food there is no difference between one- and two-person households. Beverages, however, are delivered to a higher number of one-person households.

Altogether plenty of information on various aspects of the nutritional behaviour was obtained through the questionnaires. This includes substantial information on eating times and initial food materials for menu planning and calculation of cost saving diets according to individual requirements. Whole-day protocols will now provide information about food consumed, its combination in menus and the frequencies at which food items appear in the daily diet. Such information cannot be obtained by means of questionnaires. It remains to be checked also whether answers given in the questionnaire are confirmed by the precise whole-day protocols.

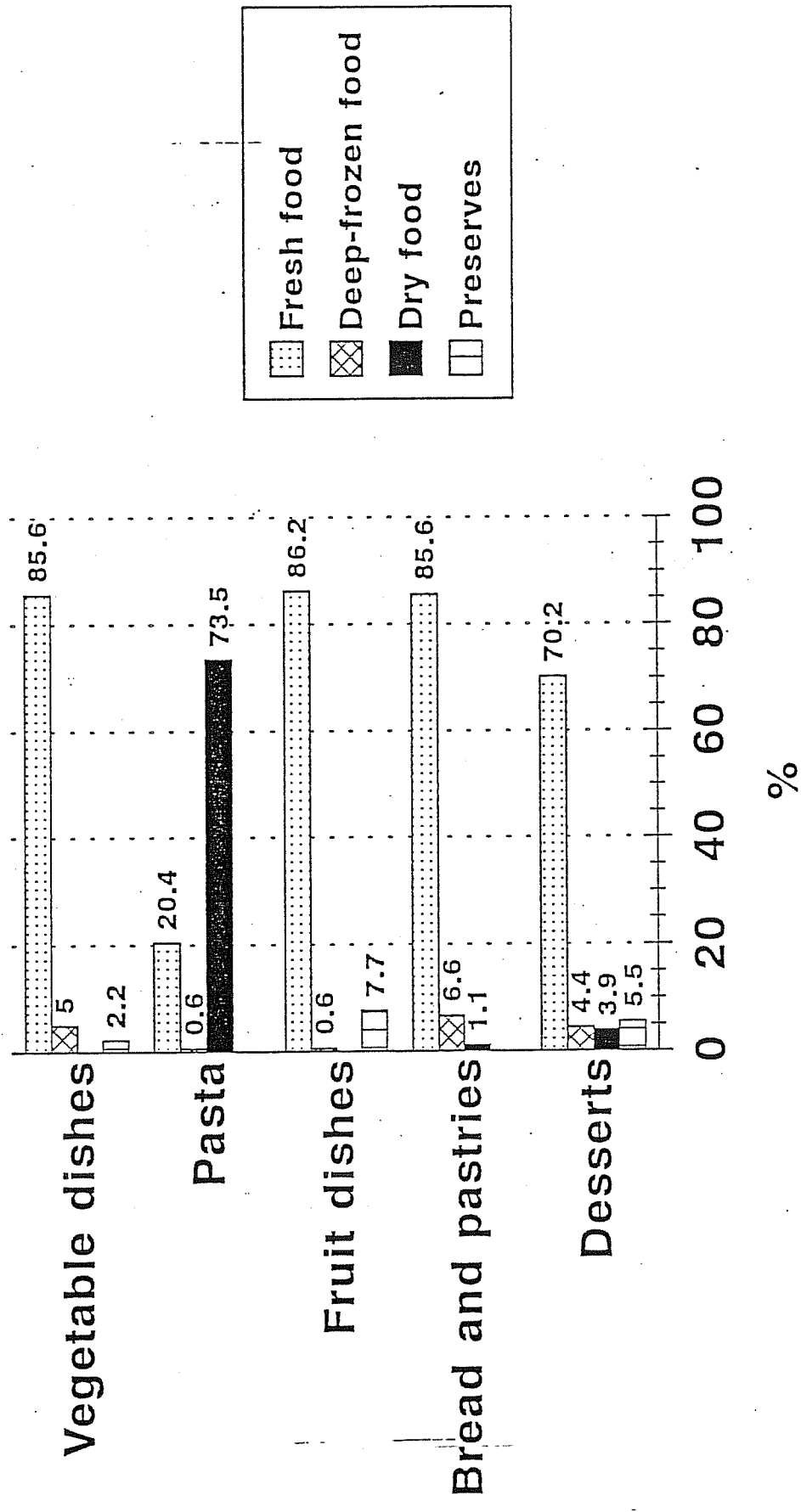
Number of consumption times per day



Initial material most frequently used (n = 181 households)

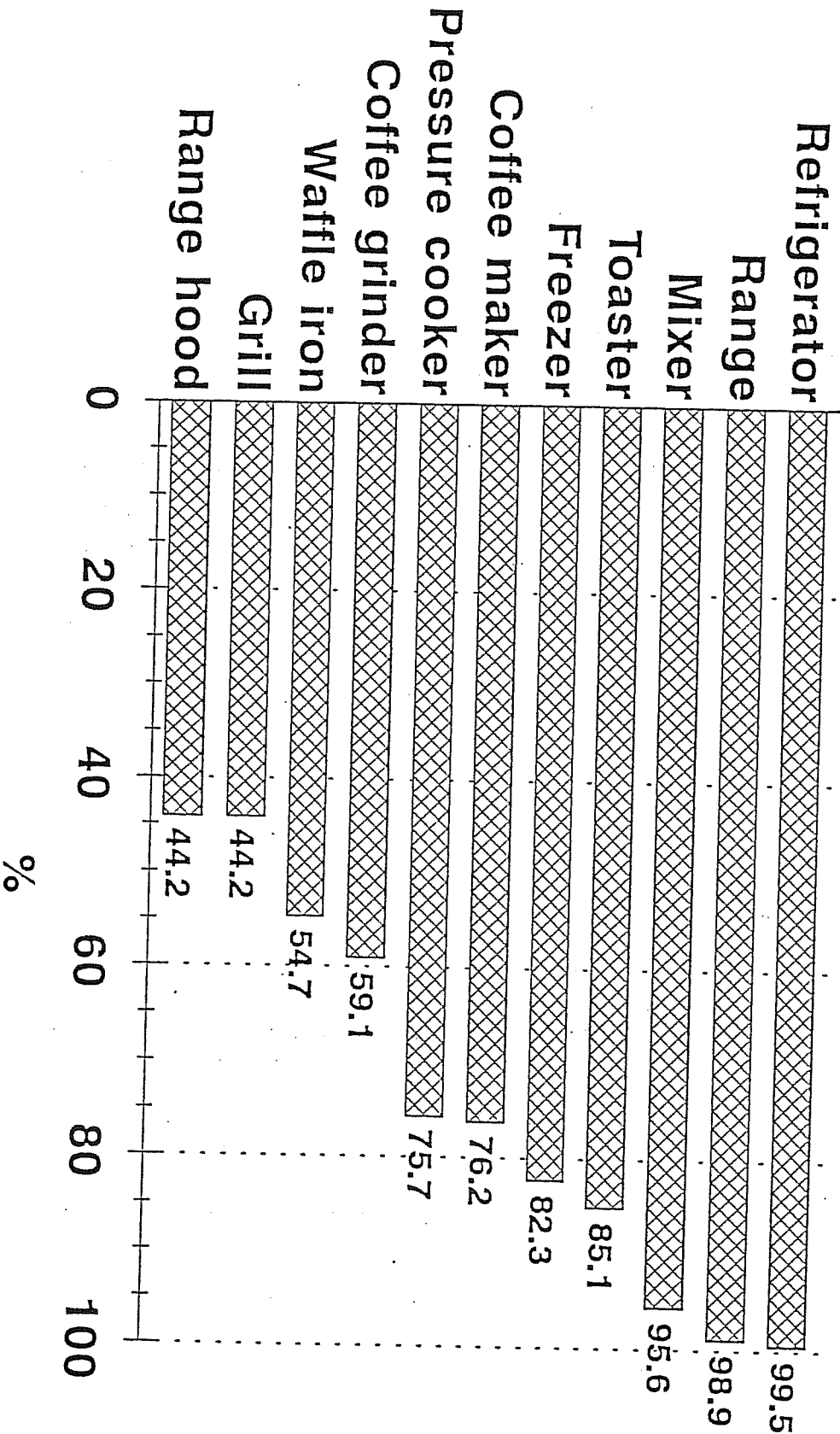


Initial material most frequently used (n = 181 households)



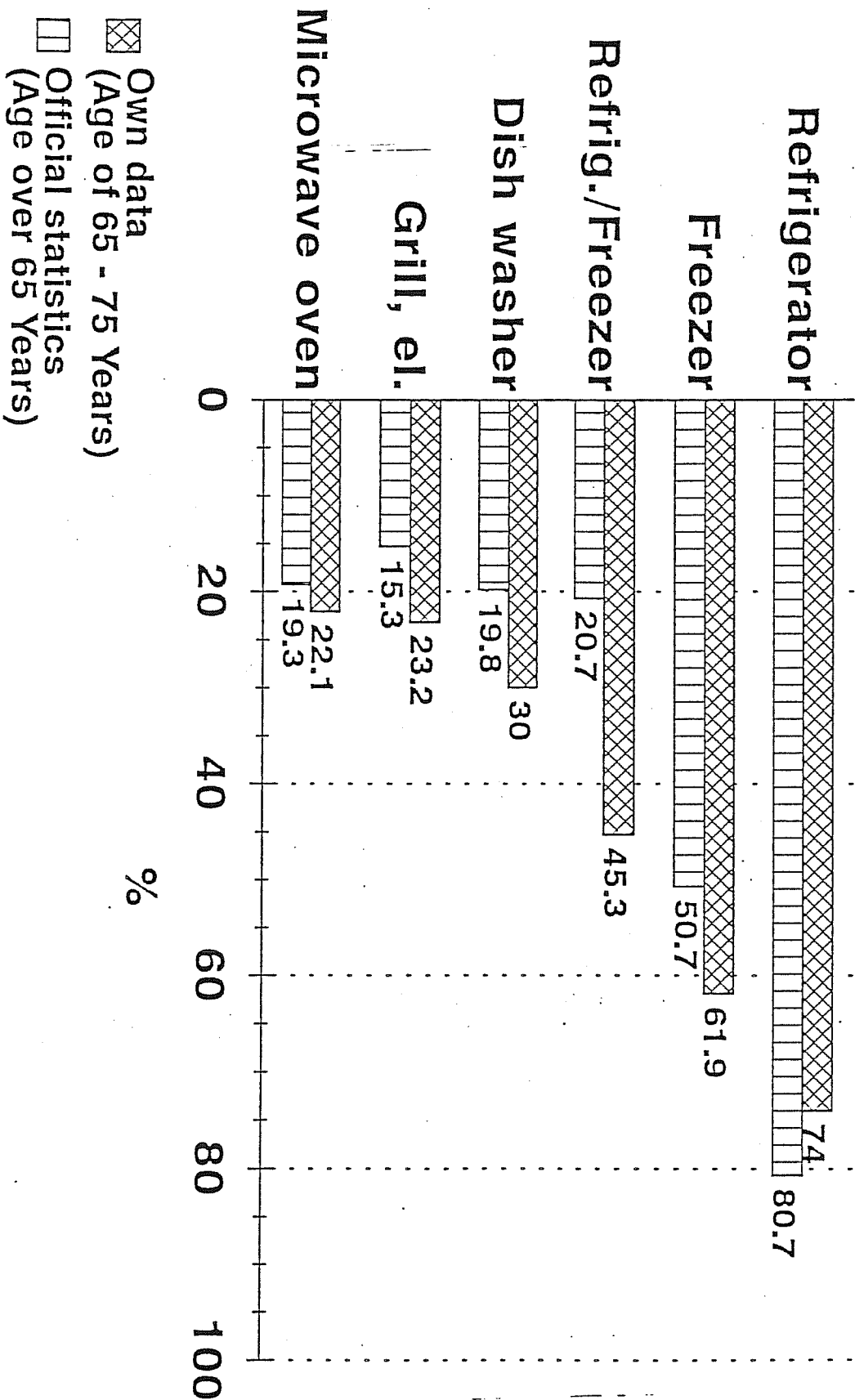
Availability of household appliance (n = 181)

- Appliance most frequently available -

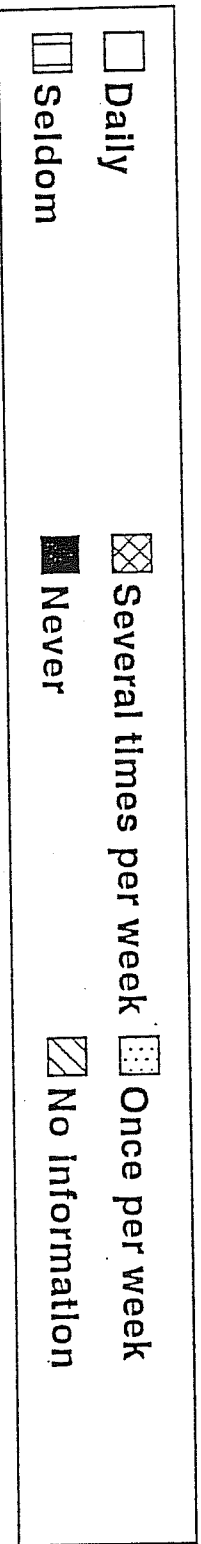
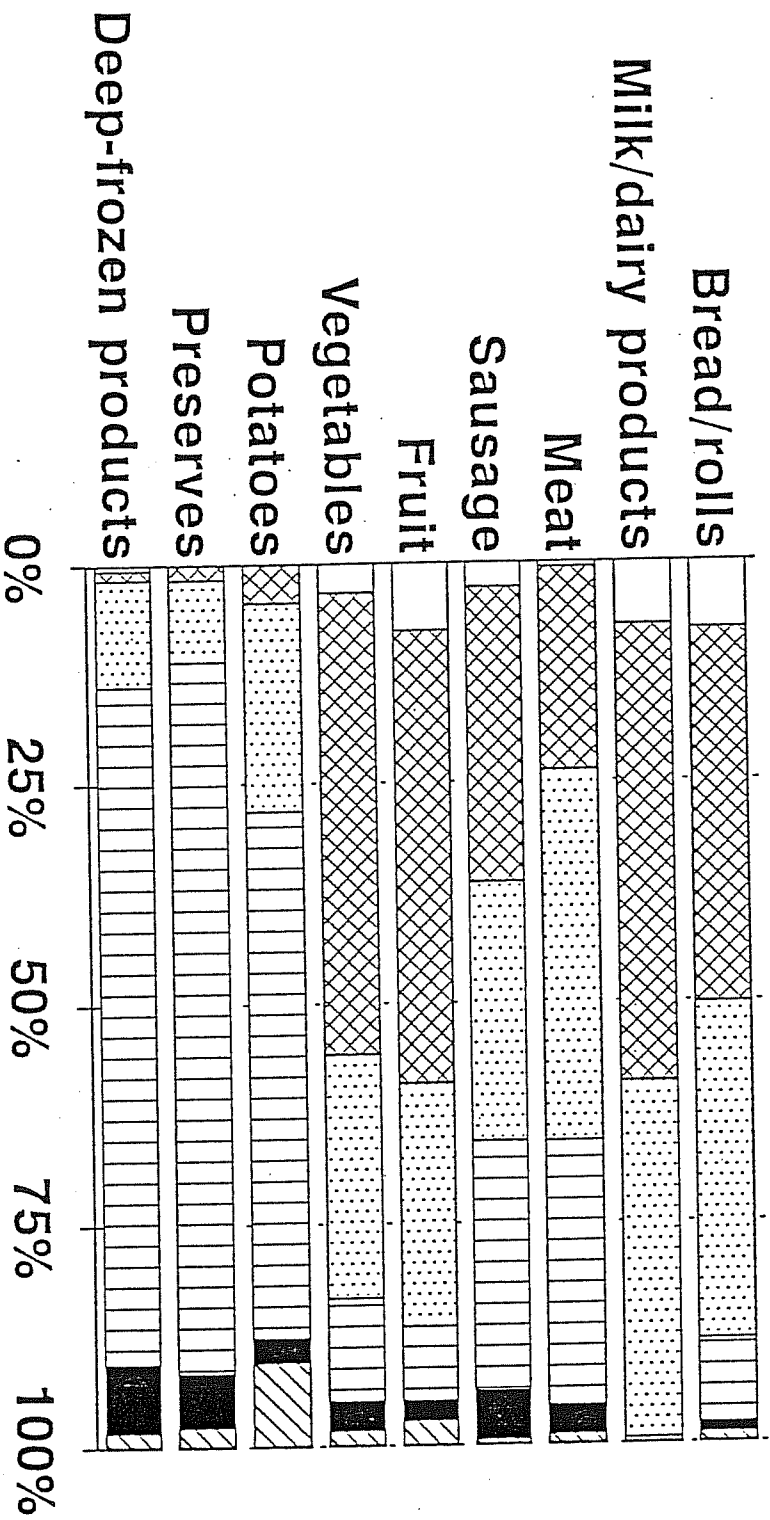


Availability of household appliance

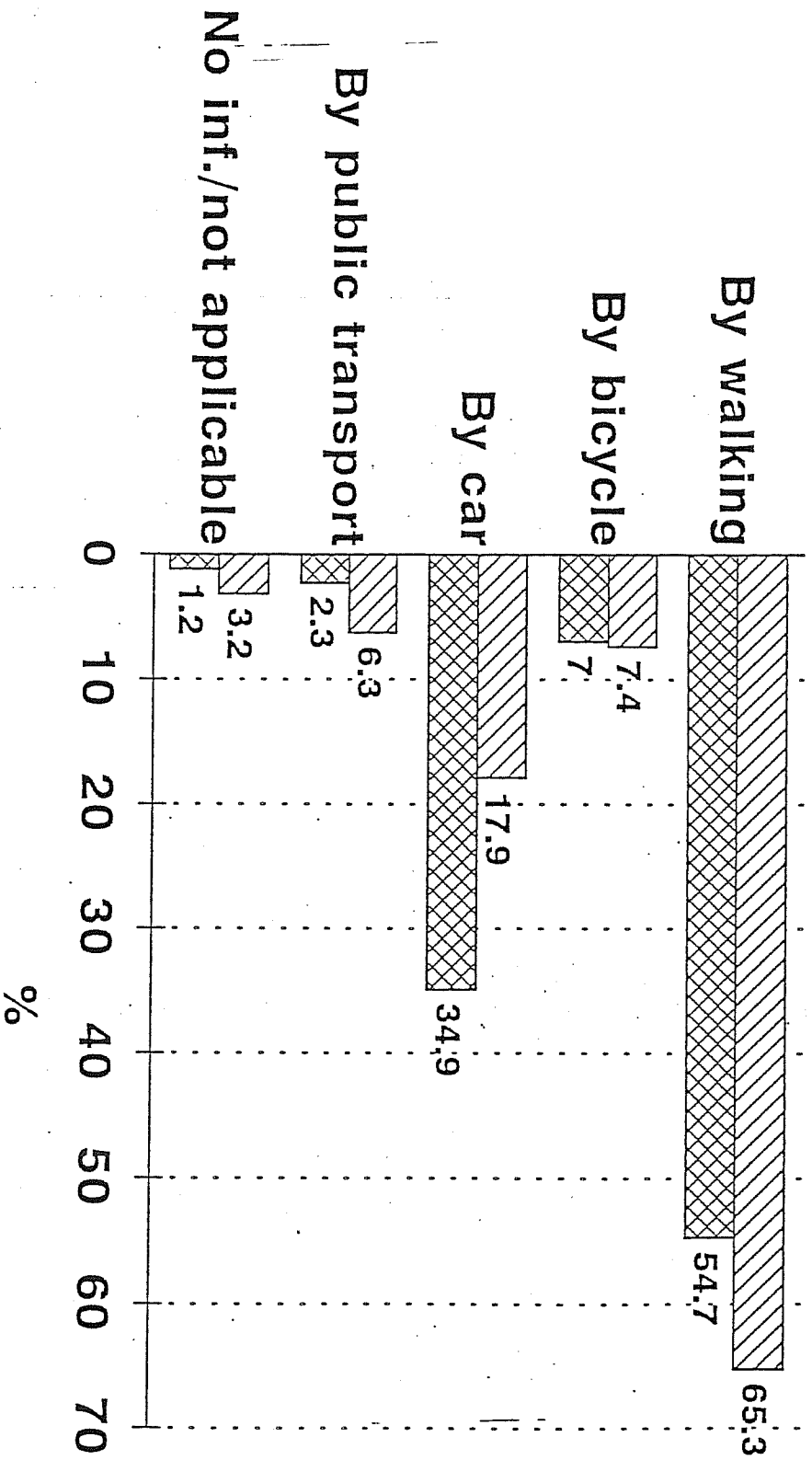
Comparison of data: own data - official statistics



Shopping frequency, as a function of product (n = 181 households)



How do you reach the shop?





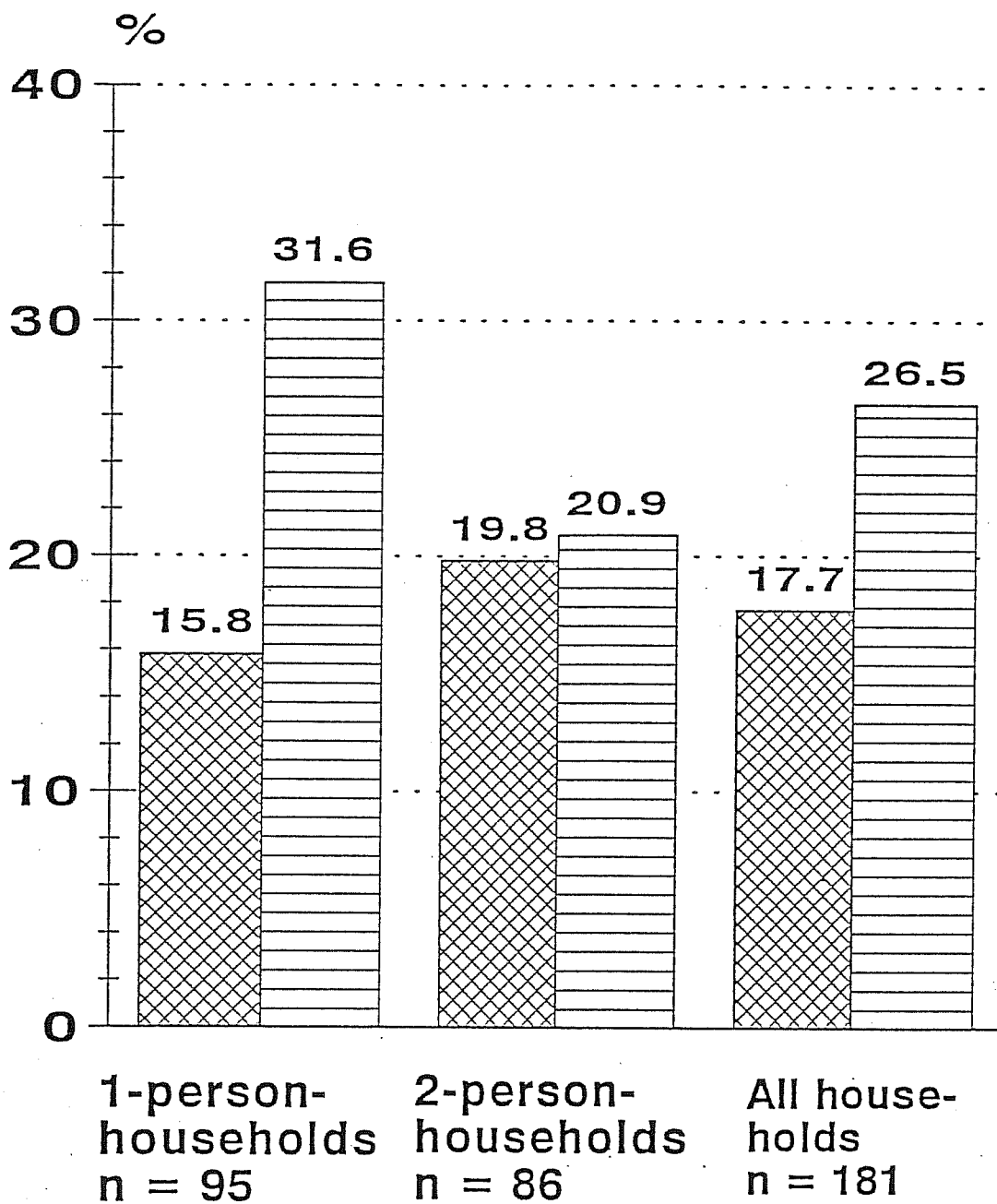


 One-person-households
  Two-person-households

Table 9



 Supply by home delivery services for frozen food
 Meals and/or beverages from home delivery services