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Economic background of families – is it vital for food decisions?

A case study of school milk orders in Germany



Background

- milk products are an important part of a balanced diet, especially during childhood
- the EU School Milk Scheme was developed to support milk consumption
 - subsidy (4.4 cents) for 250 ml school milk per pupil and school day
- milk consumption declines steadily
- research project by the BMELV in North Rhine Westphalia, Germany, to quantify influencing factors
- results show that pupils' decision to order school milk depends on individual and contextual factors

→ The impact of the economic background is analysed in more detail:
„To what extent do influencing factors vary across income groups?“

- three groups of monthly net income per household...
 - low income:** below 2000 € (share: 32 %)
 - middle income:** between 2000 and 3000 € (share: 40 %)
 - high income:** from 3000 € and more (share: 28 %)
- (1 € ≈ 1,3 \$)

Data

- school milk orders on individual level (for each pupil)
- data collection restricted to grades 2, 3 and 4 (age 8-10)
- written questionnaires given to pupils, parents, class teachers, school principals, school milk managers
- total sample of 7,336 pupils from 101 schools

Method

- observations are nested in identifiable contexts: hierarchical data structure
- logistic multilevel analysis (random-intercept model)
- estimation for each income group

Selected results for income groups

| Parameter | low | middle | high |
|-----------------------------------------------------------------|----------|-----------|----------|
| price (level-1) | | | |
| school milk price | -0.41 * | -0.38 * | - |
| pupils (level-2) | | | |
| reason for (not) drinking school milk: | | | |
| <i>milk tastes good</i> | 2.18 *** | 2.29 *** | 2.86 *** |
| <i>milk is healthy</i> | 0.36 * | 0.55 ** | 0.76 ** |
| positive image of milk (yes=1) | - | 0.54 ** | 0.57 * |
| age | -0.26 ** | - | -0.36 ** |
| gender (girls=1) | -0.48 ** | -0.55 *** | -0.48 ** |
| parents (level-2) | | | |
| parents like to drink milk and/or eat milk products | 2.95 ** | - | - |
| “I feel good if my child drinks school milk during breaks” | | | |
| <i>I agree</i> | 1.02 *** | 1.04 *** | 1.18 *** |
| <i>I disagree</i> | - | -0.68 ** | - |
| “School milk facilitates a sufficient milk supply for children” | | | |
| <i>I agree</i> | 0.36 * | - | - |
| class teachers (level-3) | | | |
| teacher drinks milk with the pupils during morning break | - | 0.50 * | - |

* Significant at the 10 percent level; ** significant at the 5 percent level, ***significant at the 1 percent level. Calculations with STATA.

→ **dependent variable:**
 binary outcome variable
 = 1 if pupils order school milk
 = 0 if pupils not order



Conclusion

- income-specific influencing factors, although the expenditure for school milk is negligible
- targeted programs for low-income groups