

Individual and School-level Factors Associated with Non-Communicable Disease Risk Score Among Urban Schoolchildren in Lebanon: a Multi-Level Analysis

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Aim

To explore the association between individual and school levels factors and the novel food-based Global Diet Quality Project Non-Communicable Disease (NCD)-Risk score among schoolchildren in urban Lebanon.

Methods

Study Design: Cross-sectional study using cluster-randomized sampling conducted from January-May 2022.

Participants: 2,125 school children from grades 4, 5, 6 from 47 schools in Greater Beirut.

Data Collection: Children's dietary habits via surveys and school characteristics from director interviews.

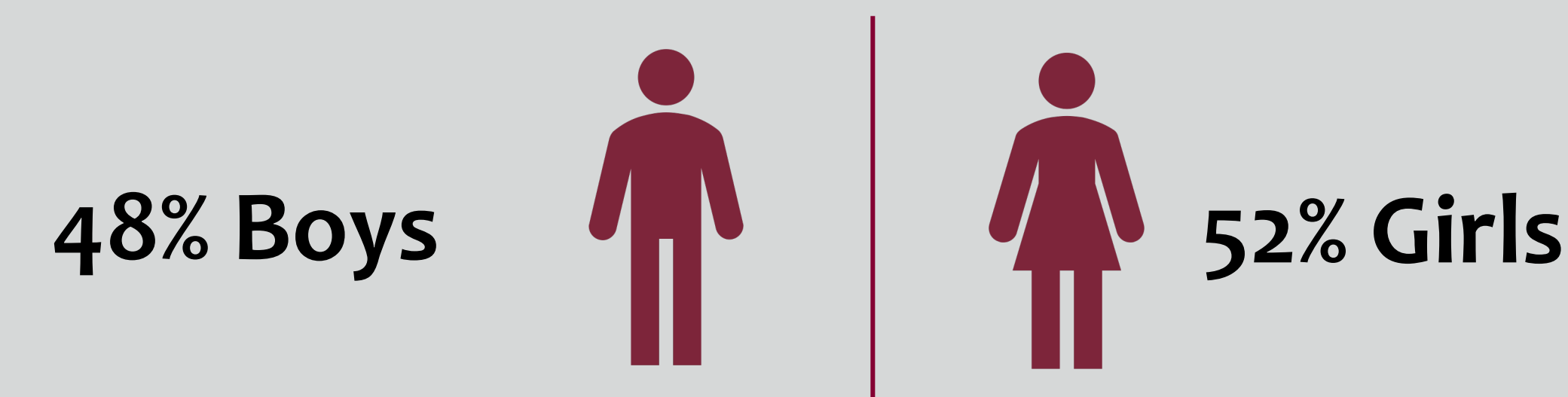
Process: A recall-based dietary assessment was used, collecting data on 110 food items consumed over the previous 24 hours. These items were then categorized into 29 distinct groups based on the Diet Quality Questionnaire.

NCD-Risk Score: Assesses dietary risks for NCDs based on eight critical food groups. Score ranges from 0 to 9.

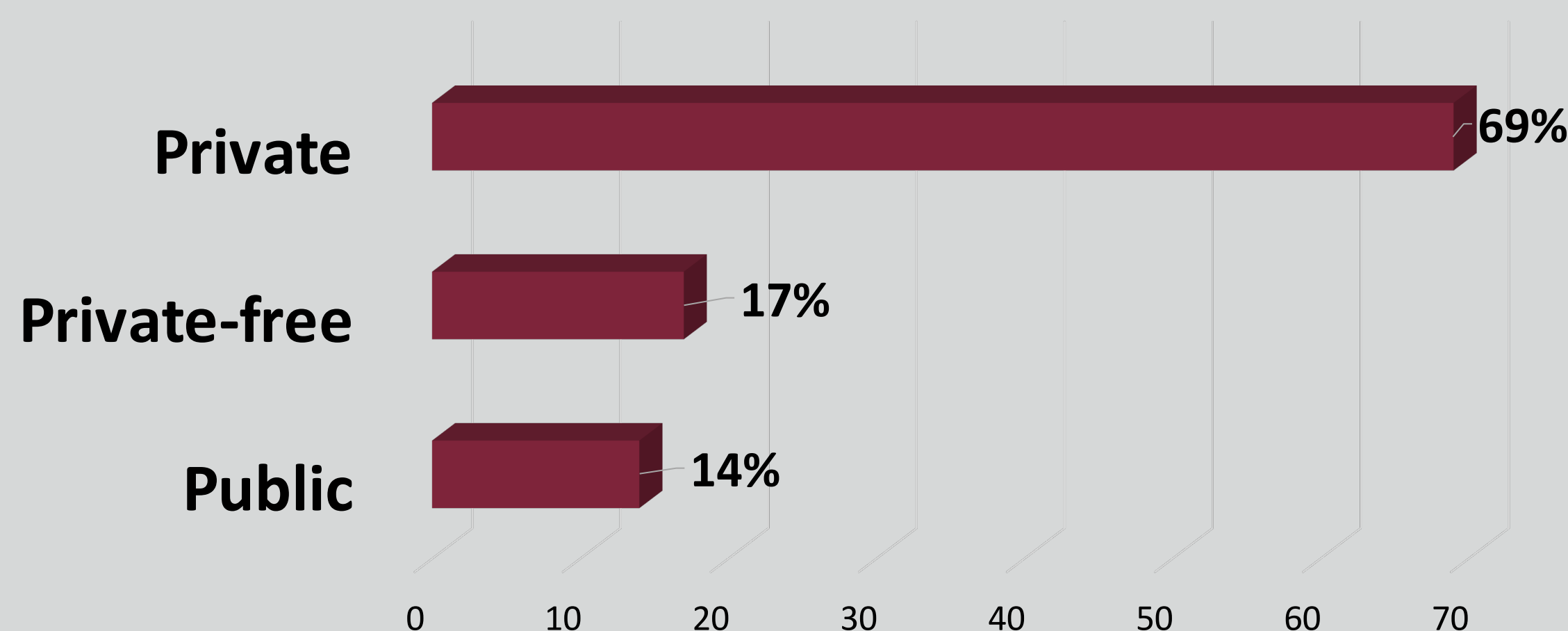
Analysis: Multi-level mixed regression to identify factors associated with NCD-Risk score.

Results

- Mean age (SD): 10.7 years (1.2)
- Sex

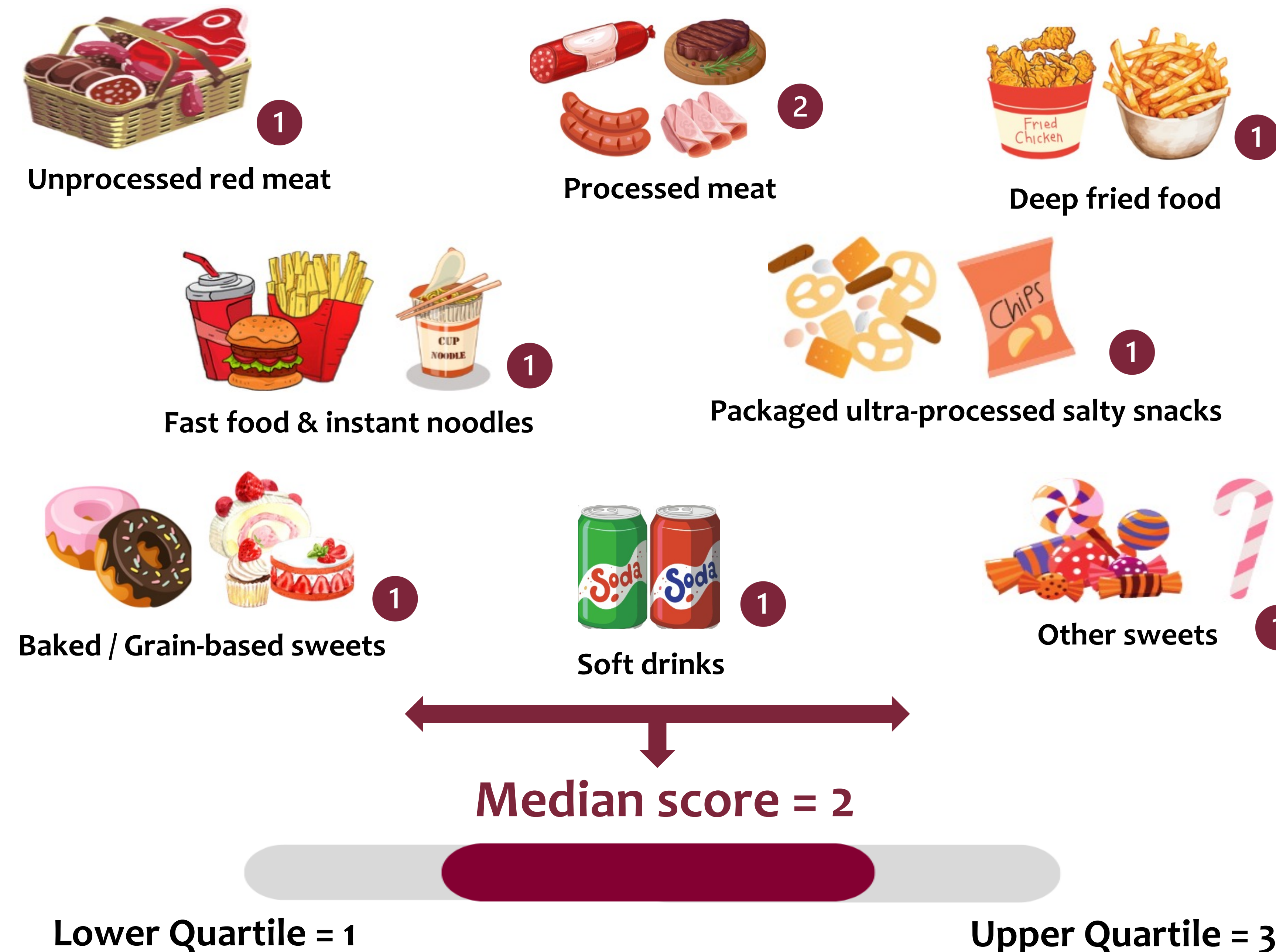


- School type



Main Findings

➤ Non-communicable Disease Risk Score in Children



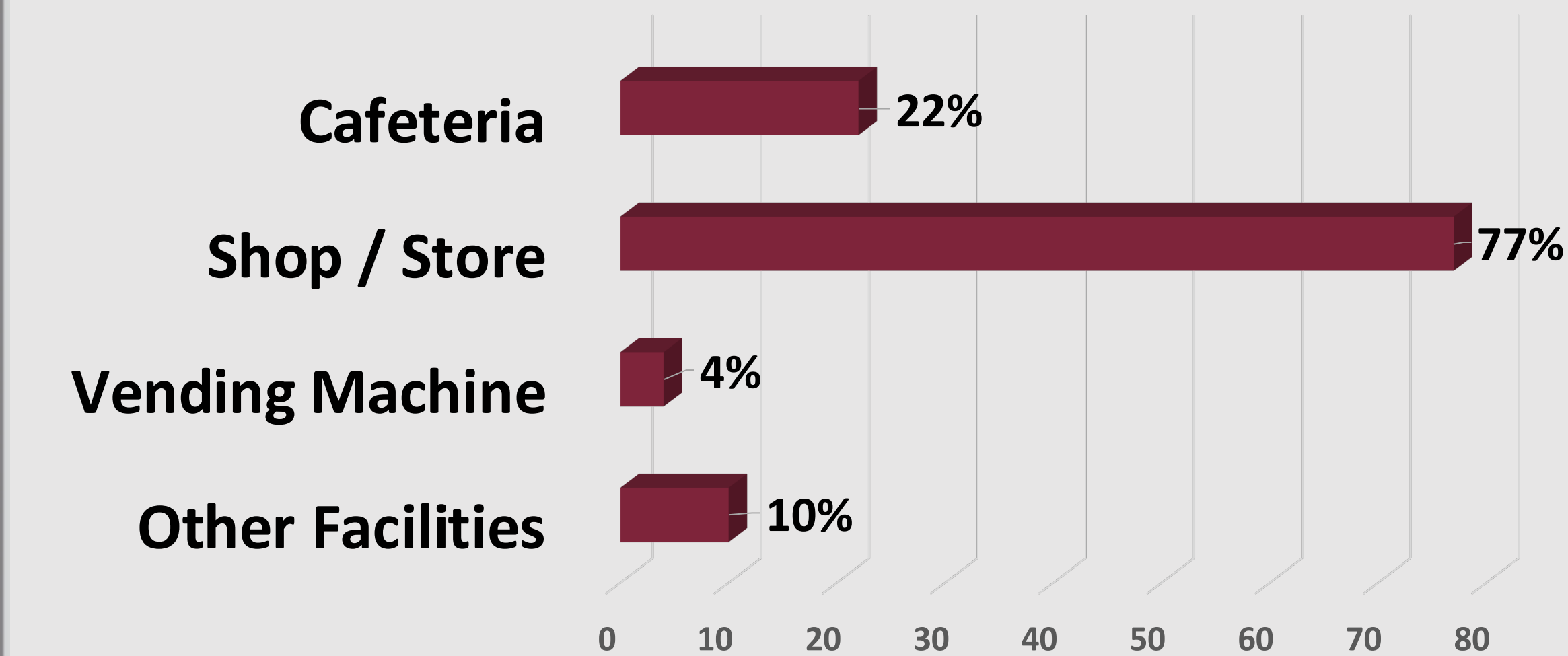
1 : Weight of food group within NCD Risk Score calculation

97% of schools have food service areas

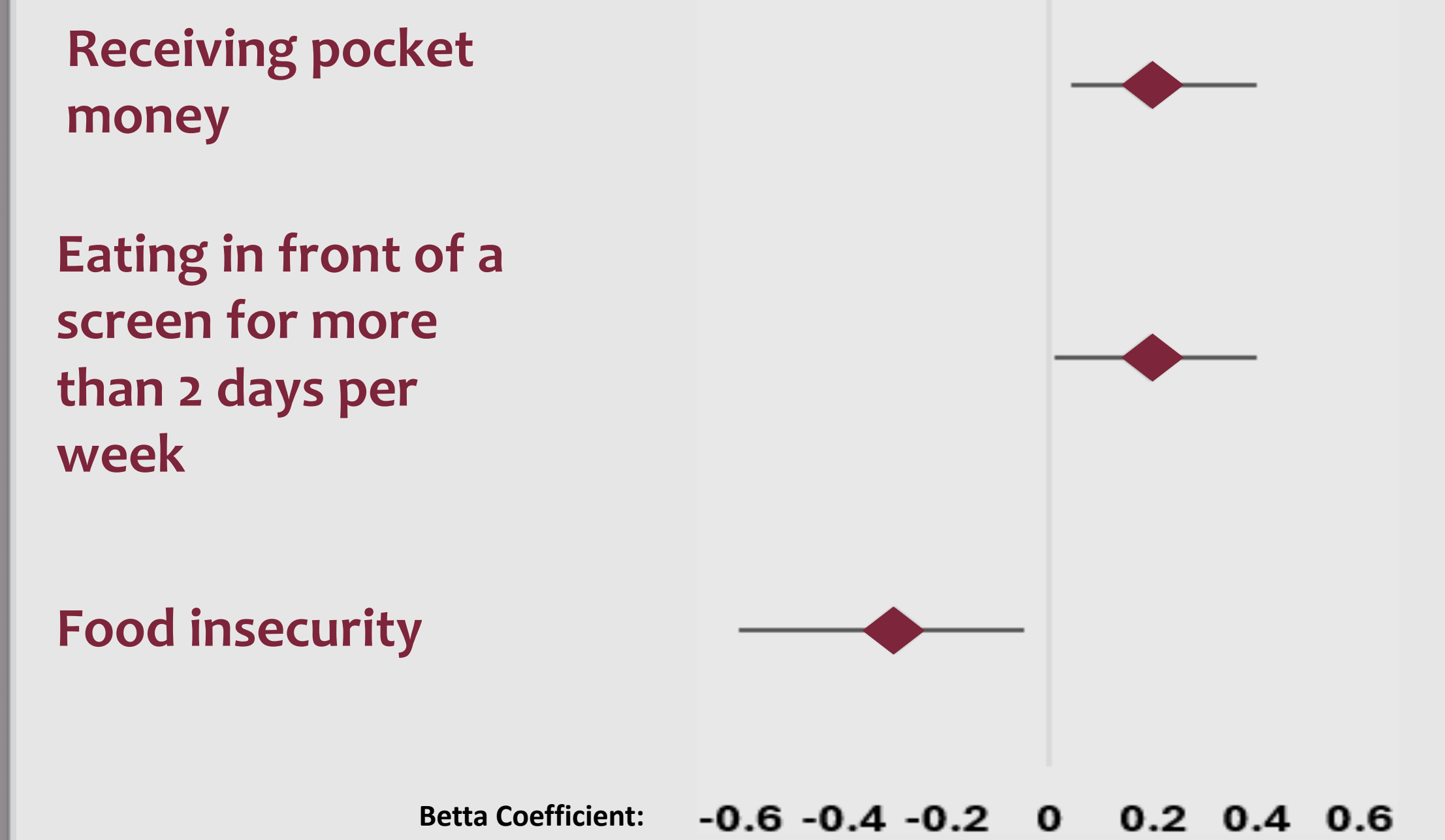
➤ Availability of food service areas in schools is associated with increased non-communicable disease risk in school children

Food service areas in schools are associated with half a point increase in NCD risk score of school children

- Food service areas' typology



- Additional significant associations with NCD risk score



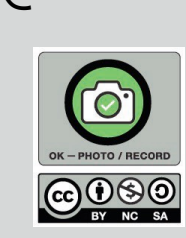
Conclusion

- The availability of food service areas was associated with an increased risk score for non-communicable disease among school children in the urban Beirut, Lebanon.
- Several factors spanning the socio-ecological model were differentially associated with NCD risk among school children.
- In the context of Lebanon, it is important to implement policies that regulate the sale of unhealthy food within schools.

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