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Who donates food purchase data for research? Results from two nationwide data collection efforts in Finland

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Introduction & Background

Food retailers' transaction data are increasingly used for research. Unlike many other digital footprints, the representativeness of automatically accumulating food purchase data as such is less biased as food is consumed by all individuals. However, the process of obtaining individual/household level data requires consents from the consumers and, thus, may create selection bias.

Objectives & Approach

The aim of this work is to describe the recruitment process and participant characteristics in the Finnish LoCard study to evaluate the selection mechanism.

The Finnish LoCard study comprises two cohorts collected in 2018 and 2023 with 47,066 and 42,340 participants, respectively, who have consented to release their food purchase data for research. The study collaborates with S group, the leading retailer in Finland with 47% market share. Members from their loyalty card program were invited to consent to their purchase data being used for research and voluntarily respond to a background questionnaire.

Relevance to Digital Footprints

Our analyses may provide further insights into the selectivity of consumers who are willing to share their purchase data for research purposes.

Results

For both LoCard cohorts, all loyalty card holders (n 2.3M) were considered. In LoCard I, the invitations were sent to 1.1M primary card holders with confirmed email addresses, of whom 47,066 (3.9%) participated and consented to their purchase data being used for research. In this cohort, women, middle-aged individuals, individuals with higher education, and employed individuals were overrepresented whereas the retired individuals, those with lower education and individuals with children were underrepresented. In the LoCard II, loyalty card holders (n 2.24M) with an email address were invited. Of these, 852,009 (37.7%) opened the invitation link, and a further 42,340 provided the consent, resulting in response rate of 1.9% from the original population and 4.9% from those reacting to the email invitation. Data on the characteristics of LoCard II participants are not available yet but will be presented in the conference presentation.

Conclusions & Implications

This work investigates selection mechanisms in the Finnish LoCard study and evaluates the feasibility of reaching underrepresented groups in health studies, such as socioeconomically disadvantaged groups or young men, through a combination of loyalty card program and email invitations.

