

How can we measure policy impact on important experiences like hunger and happiness?

Strategic Goal

Governor Gina Raimondo's food strategy plan for Rhode Island aims to "reduce food insecurity in Rhode Island to below 10 percent by 2020." One key policy to reduce food insecurity is Supplemental Nutrition Assistance Program (SNAP) Split Issuance which will issue SNAP benefits twice, instead of once a month. How do we measure impact on hunger and food insecurity?

Assessment

We must have an accurate way to measure food insecurity and hunger. Traditional survey methods ask questions about hunger retrospectively over long periods of time, from the past 30 days to the past year. This retrospective approach leads to recall bias – can you remember if you were hungry at any point two weeks ago? Respondents may provide inaccurate answers to questions, given the challenges associated with remembering, with specificity, subjective experiences like hunger.

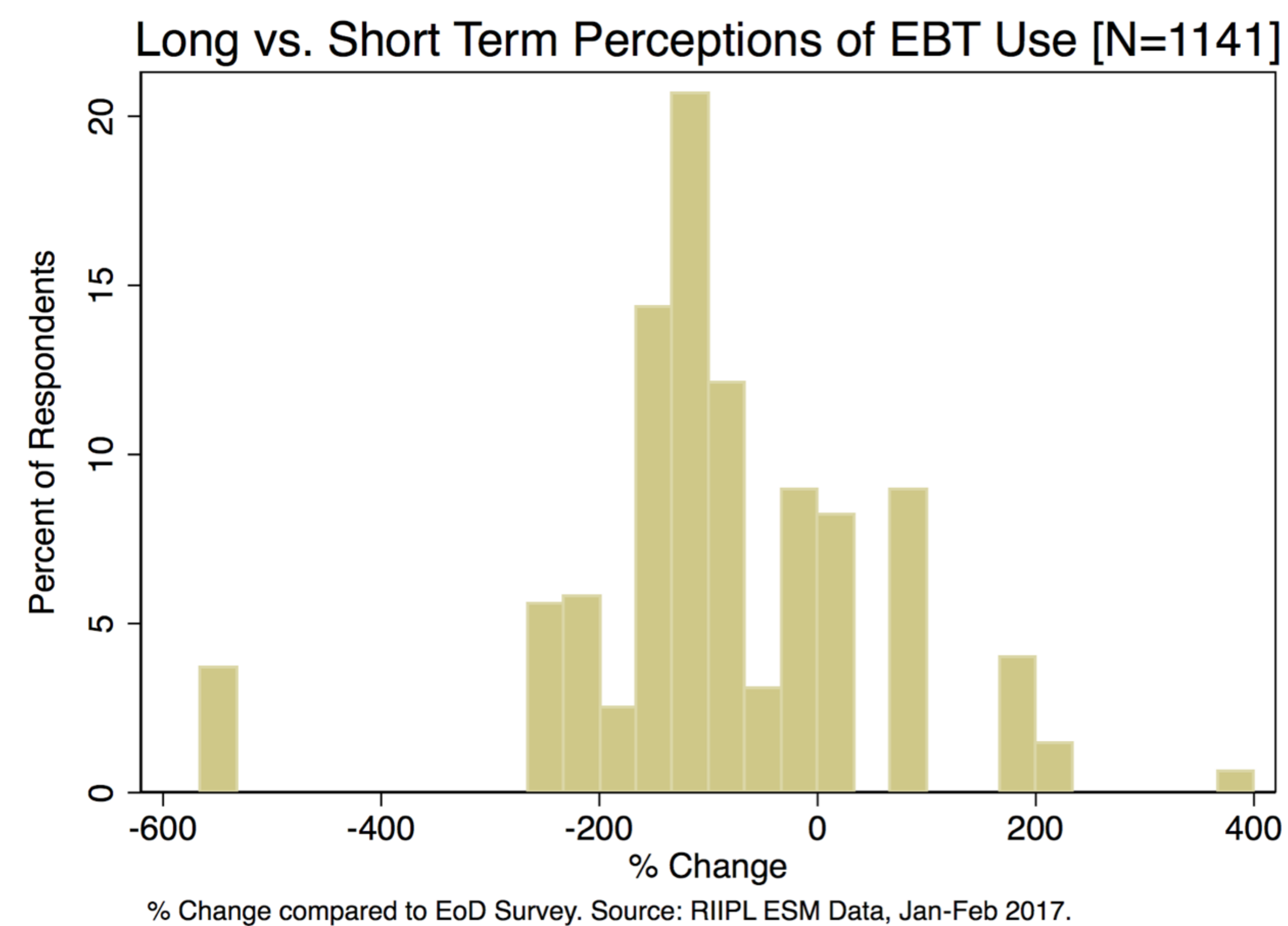


Figure 1: Change in how respondents viewed their Electronic Benefits Transfer (EBT) use during the month vs the end of the month

RIPL data demonstrate this recall bias. When asked every day for 30 days whether they used their EBT card, and then when asked to estimate at the end of the month how often they thought they used it, half of survey respondents underestimated their overall EBT use by at least 100%. How can we use technology and data to get better, more reliable measures of subjective experiences like hunger and food insecurity?

Empirical Design

We developed a high-tech, low-cost method using the Experience Sampling Method

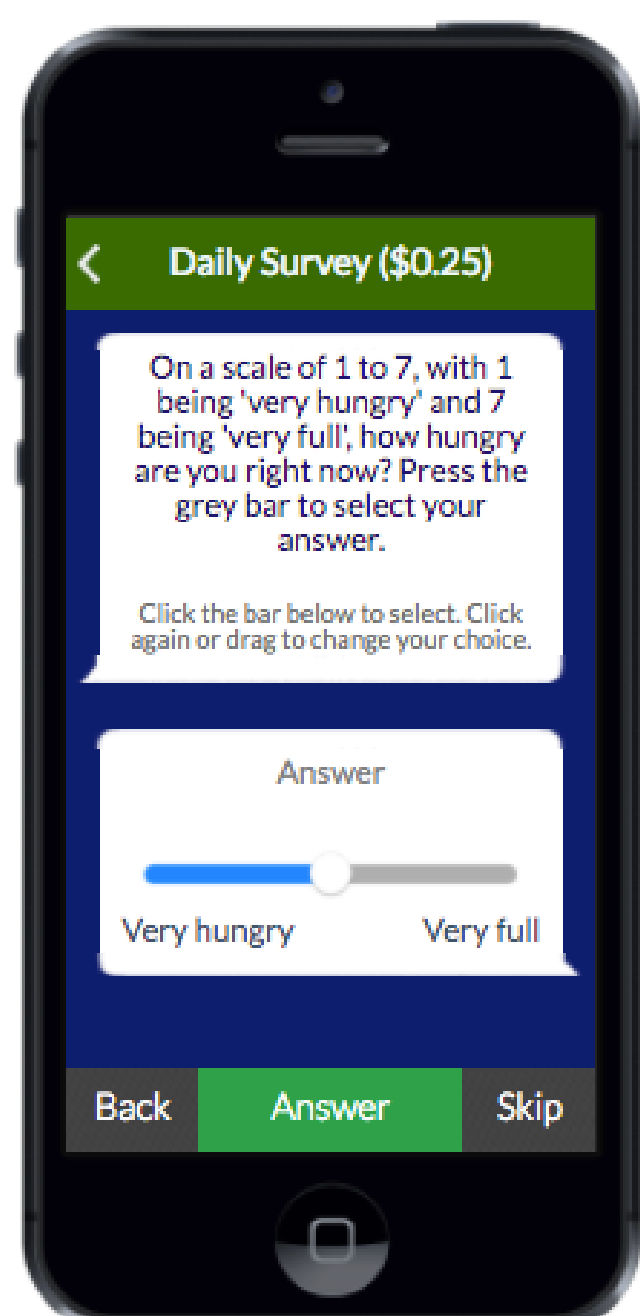


Figure 2: RIPL uses mobile technology to gather rich data

(ESM), which collects 'in-the-moment' data using an app. This offers several advantages:

1. Overcomes recall bias. Respondents reply to multiple, fast survey questions each day about their moods and daily experiences.
2. Standardizes measures of subjective experience: By collecting many observations from one individual, we can establish an individual 'hunger' or 'stress' baseline for each person, and then measure changes from a personal baseline.

We collected data through MetricWire, a mobile app that delivers surveys on smartphones.

Pilot Survey and Results

We enrolled a random sample of 54 SNAP households during January and February 2017. We tracked individuals' changes in stress and hunger throughout the course of the month, validating the monthly food insecurity cycle for SNAP households. Daily and weekly surveys sought information about financial security, food usage in the household and children's behavior. Respondents felt more anxious about hunger at the end of the month, and parents reported their children becoming more irritated at the end of the month.

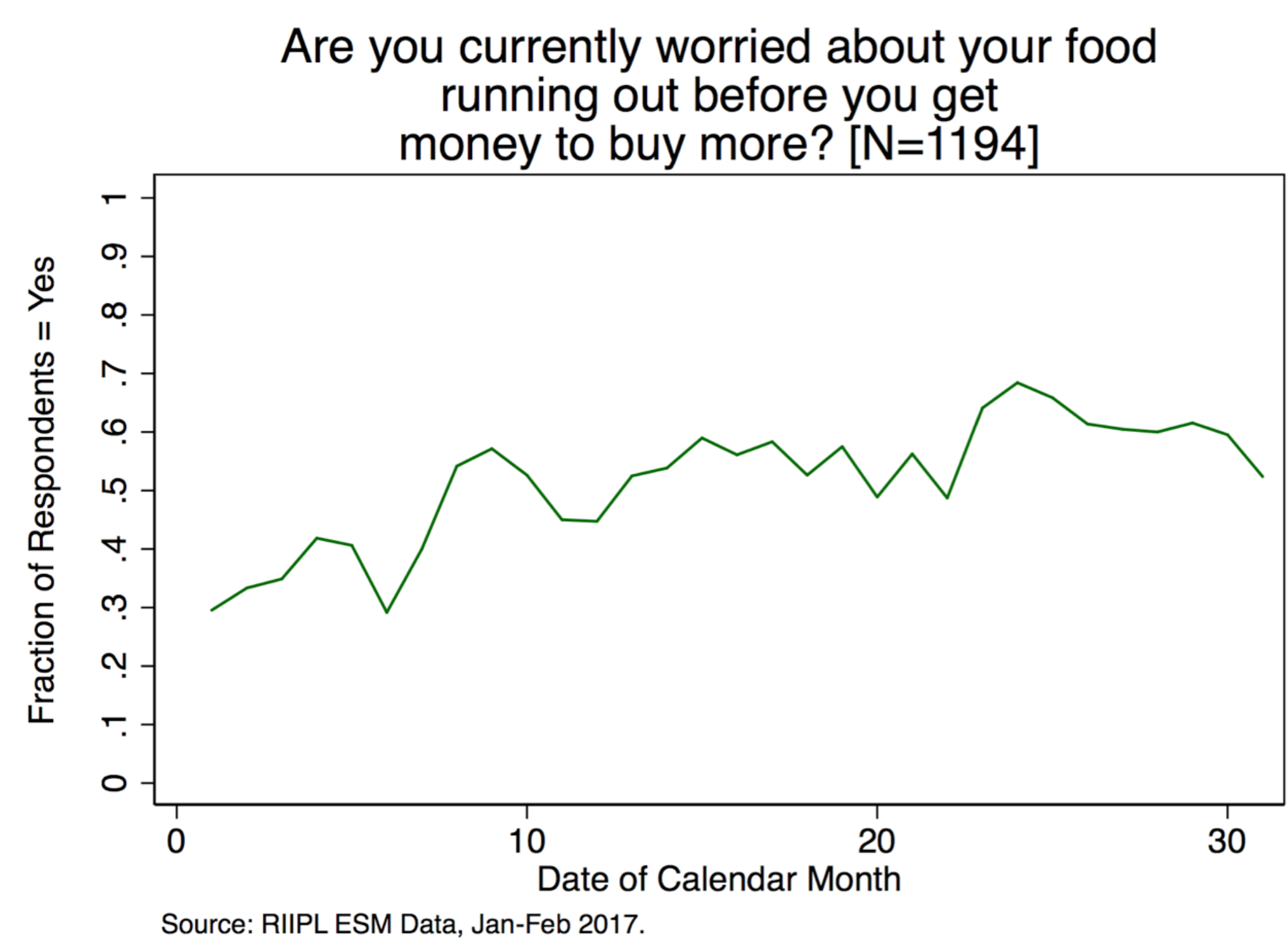


Figure 3: Anxiety about food security rises at end of the calendar month

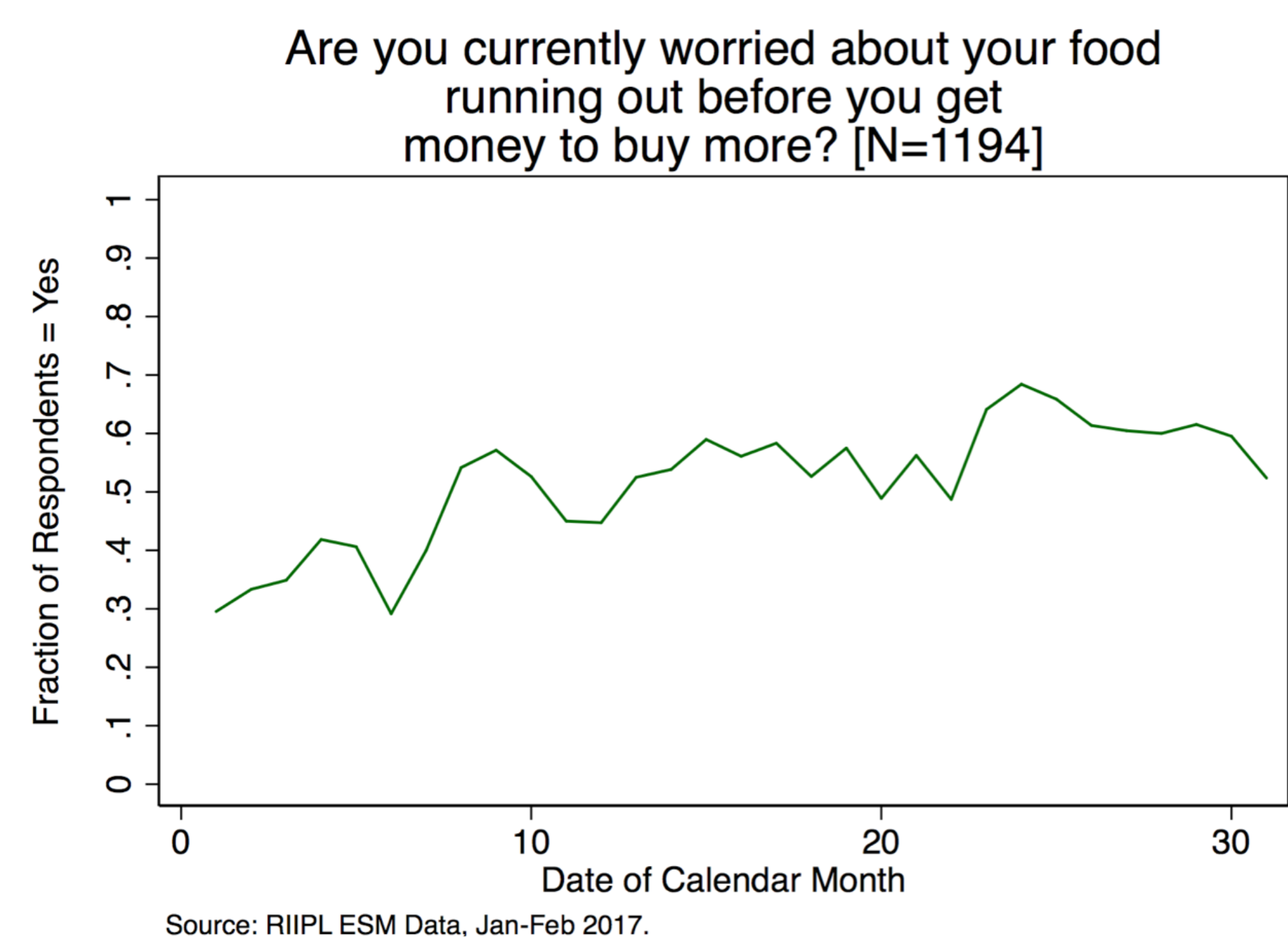


Figure 4: Children's anxiety rises at end of the calendar month

Conclusion

RIPL has developed a high-tech, low-cost way to track the monthly cycle of food insecurity on a day-by-day and week-by-week level, allowing real-time insight into policy changes and how they impact the every-day quality of life for low-income Rhode Islanders. We plan to apply this technology to measure impact of Split Issuance, and then adapt it to deliver insights across a range of innovative policy projects.