

# Testing a Probability-Based Online Panel Self-Administration of the Consumer Expenditure Diary Survey

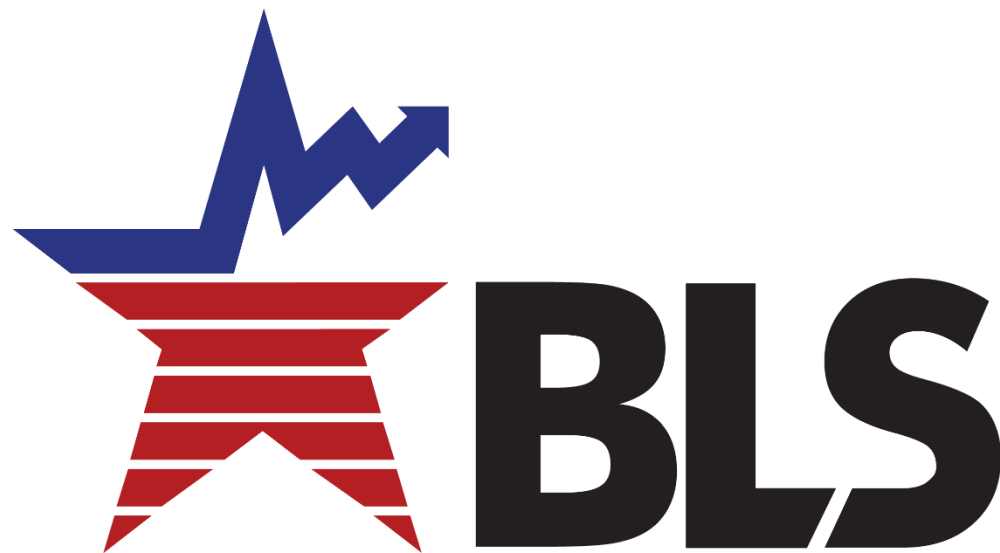
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2022 Joint Statistical Meetings  
August 7, 2022



# Outline

- Background
- Online Panel Self-Administered Diary (OPSAD) test design
- Completion and consent rates
  - ▶ By demographics
- Data quality
  - ▶ Item nonresponse
  - ▶ Entry counts
  - ▶ Itemization
  - ▶ Drop-off
- Next steps



# Consumer Expenditure Diary Survey

- CE Diary Survey traditionally uses two one-week paper diaries to collect household expenditures
- Interviewers place the diaries in person, train respondents how to record the household's daily expenditures, contact them during the week to encourage diary keeping, and collect any forgotten expenditures at the end of the diary period
- Online diary mode available in 2020 using these protocols, with interviewers training respondents on diary-keeping in person, or by telephone due to COVID-19 restrictions
- How would a fully **self-administered** mode compare to our production?
  - ▶ Conducted test in a probability-based online panel to assess the performance of an online diary administered *without* the aid of an interviewer



# Online Panel Self-Administered Diary (OPSAD) Test Design

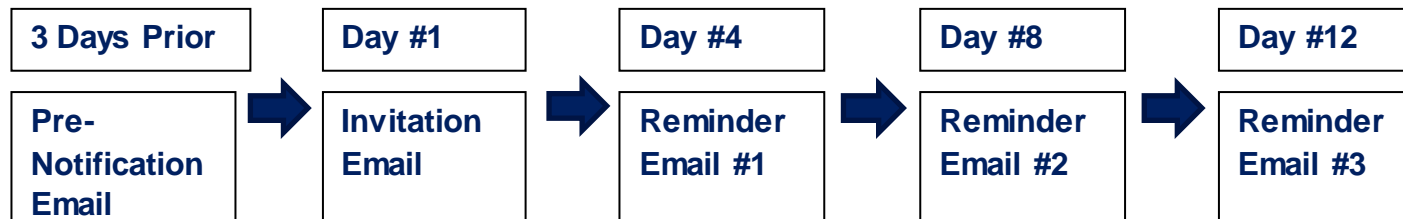
- Conducted on the Ipsos KnowledgePanel<sup>®</sup>, a probability-based web panel designed to be representative of the U.S.
- Field period: November 2021 – January 2022
- Independent samples drawn for each of the 3 months
- Total starting sample: 12,700 adults representing their households
- Stages:
  - ▶ Initial Household Characteristics Survey (developed based on CE CAPI instrument)
  - ▶ Two-week Consumer Spending Diary
- Incentives:
  - ▶ \$2 cash equivalent for completing Household Characteristics Survey
  - ▶ \$50 cash equivalent for qualifying as a complete for the Spending Diary



# OPSAD Test Design – Email Communications

## ■ Household Characteristics Survey (HCS)

- ▶ Refers to days within a given month of the field period



## ■ Spending Diary

- ▶ Refers to days after completing Household Characteristics Survey and agreeing to participate in Spending Diary



# Household Characteristics Survey (HCS)

- In the current Consumer Expenditure Diary Survey, the interviewer records information on the household, including member demographics, work experience, income, and typical household spending.
- For OPSAD, a self-administered version of this questionnaire was developed based on the CE CAPI instrument.
- For some respondent demographics, previously collected Ipsos profile data was available, allowing these questions to be eliminated.
- Median completion time for OPSAD HCS: 11 minutes
- One of the final HCS questions describes the Diary task, informs respondents of the \$50 incentive, and asks if they are willing to participate.
  - ▶ Only respondents who consented to participate in the Diary received an invitation.



# Diary Survey

- One household respondent reports on *all* household expenditures
- Expenditures grouped into four categories:
  - ▶ Food and Drinks For Home Consumption
  - ▶ Meals, Snacks, and Drinks Away from Home
  - ▶ Clothing, Shoes, Jewelry, and Accessories
  - ▶ All Other Products, Services, and Expenses



# Diary Instructional Materials for Respondents

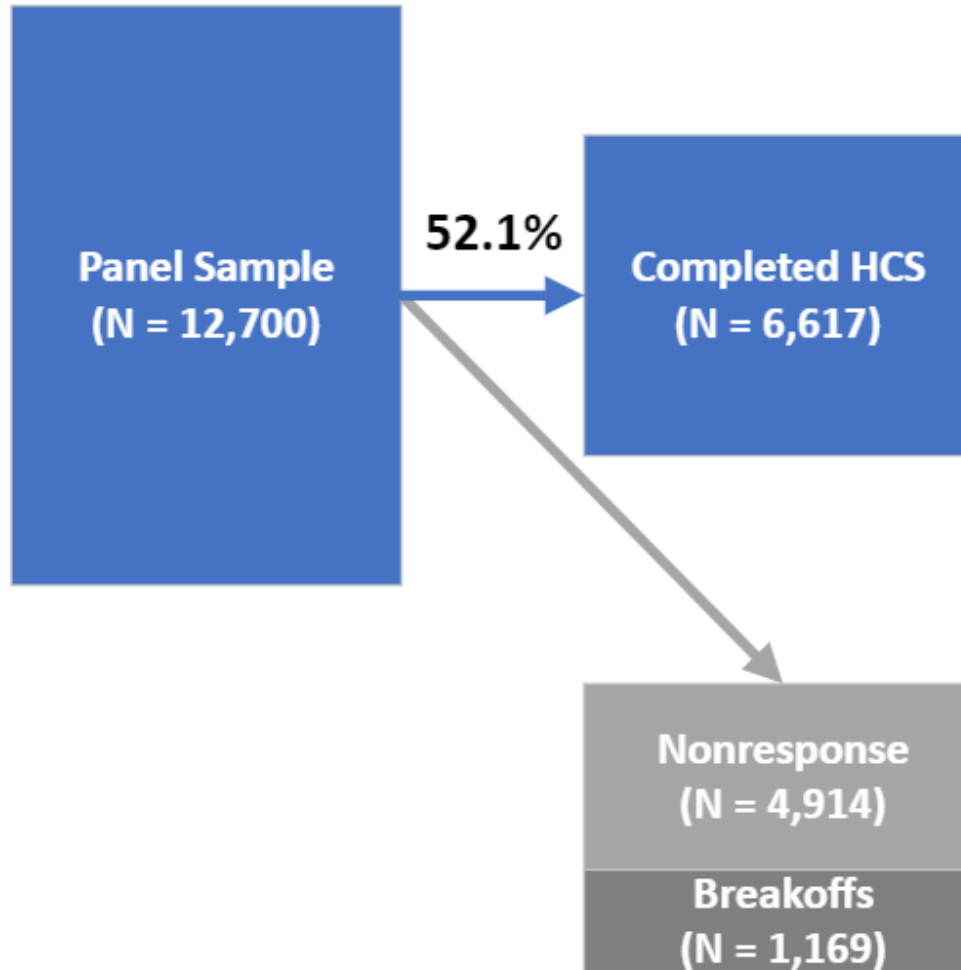
- In the online diary instrument:
  - ▶ User Guide pdf
  - ▶ Instructions, FAQs, Definitions, Examples
  - ▶ Video Tutorial Links
- Help Desk for users to contact with any questions or concerns
  - ▶ Access and navigation
  - ▶ Survey concepts (e.g., what level of detail to include in reporting, where to report items)



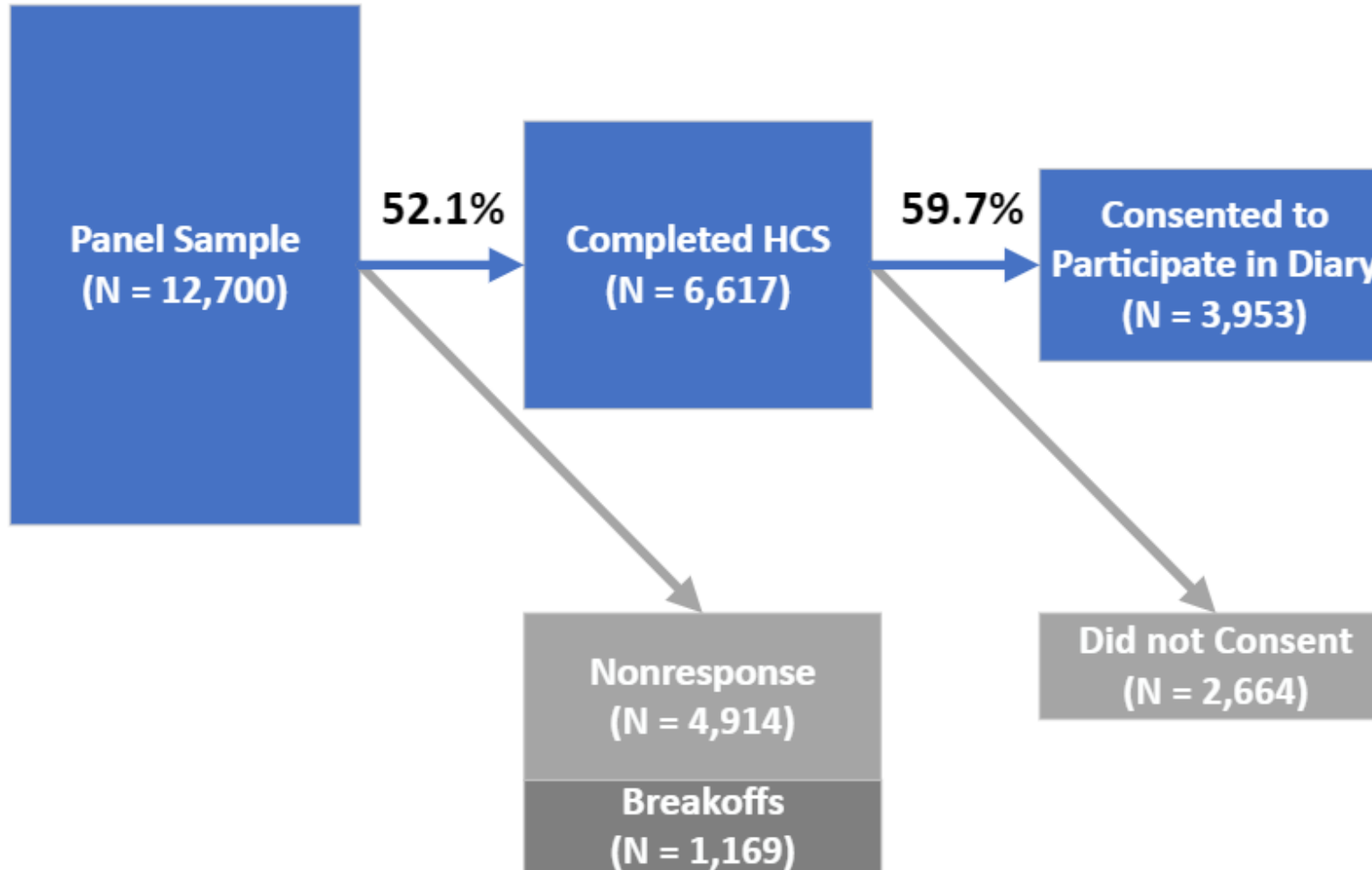
# Completion and Consent Rates



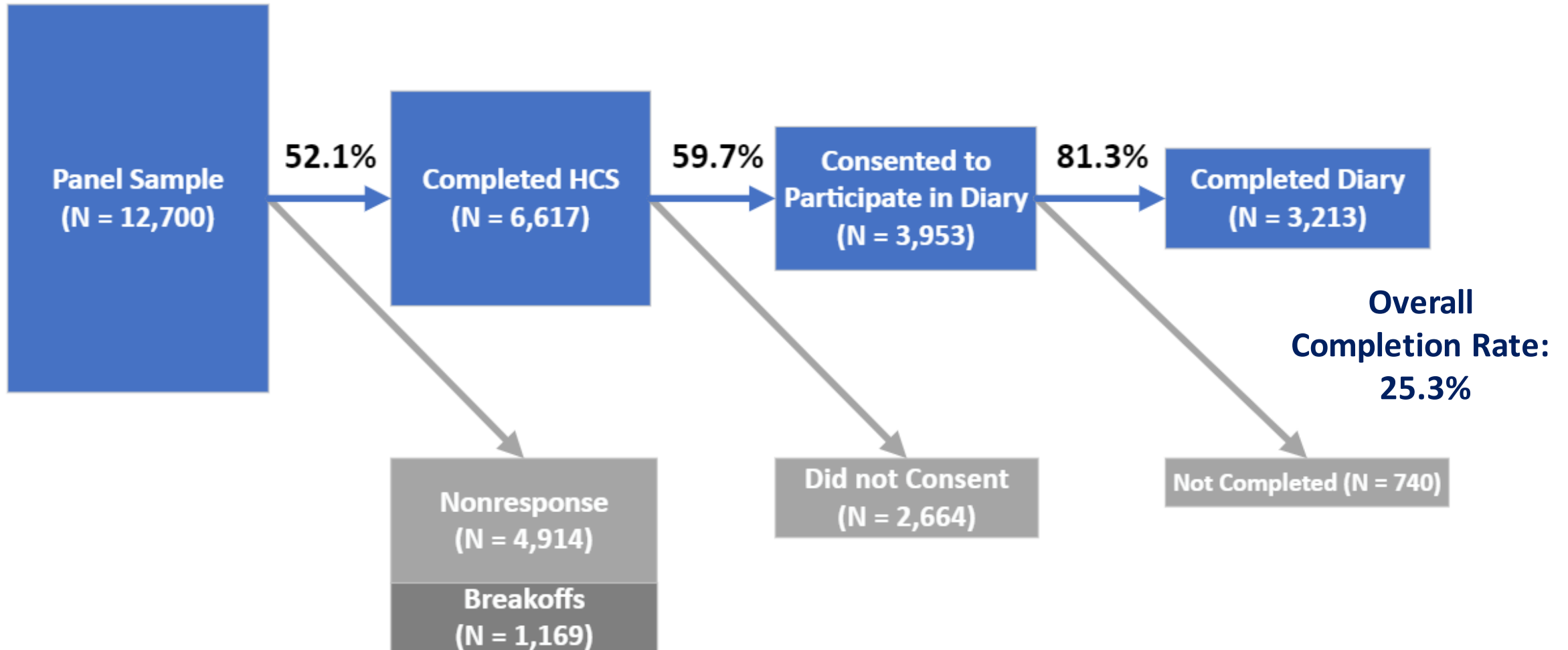
# Step 1: HCS Completion



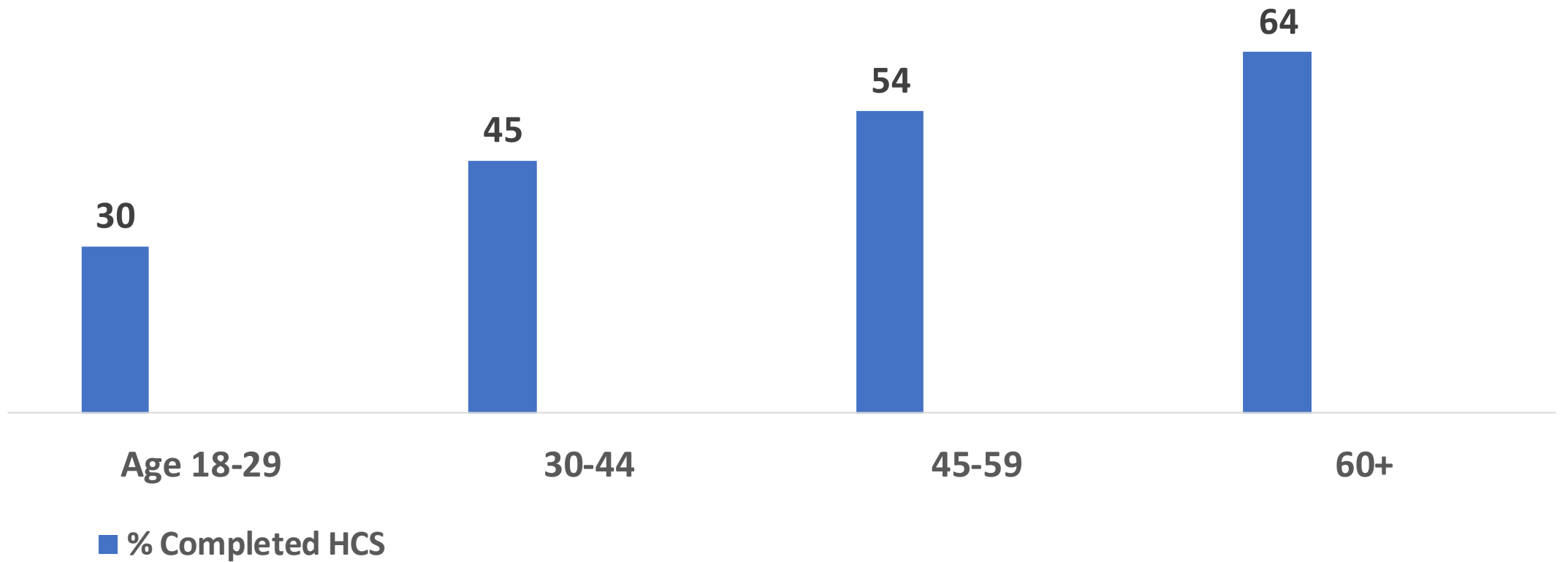
# Step 2: Diary Consent



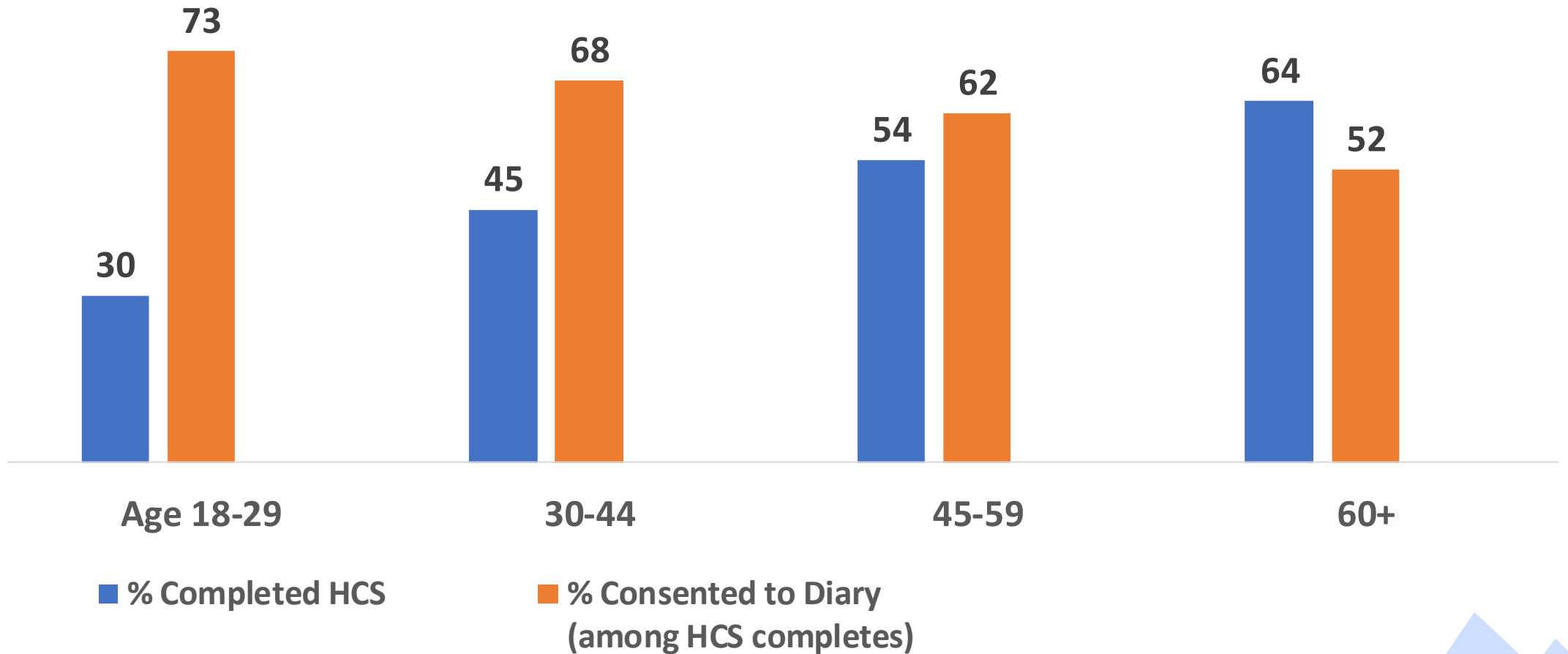
# Step 3: Diary Completion



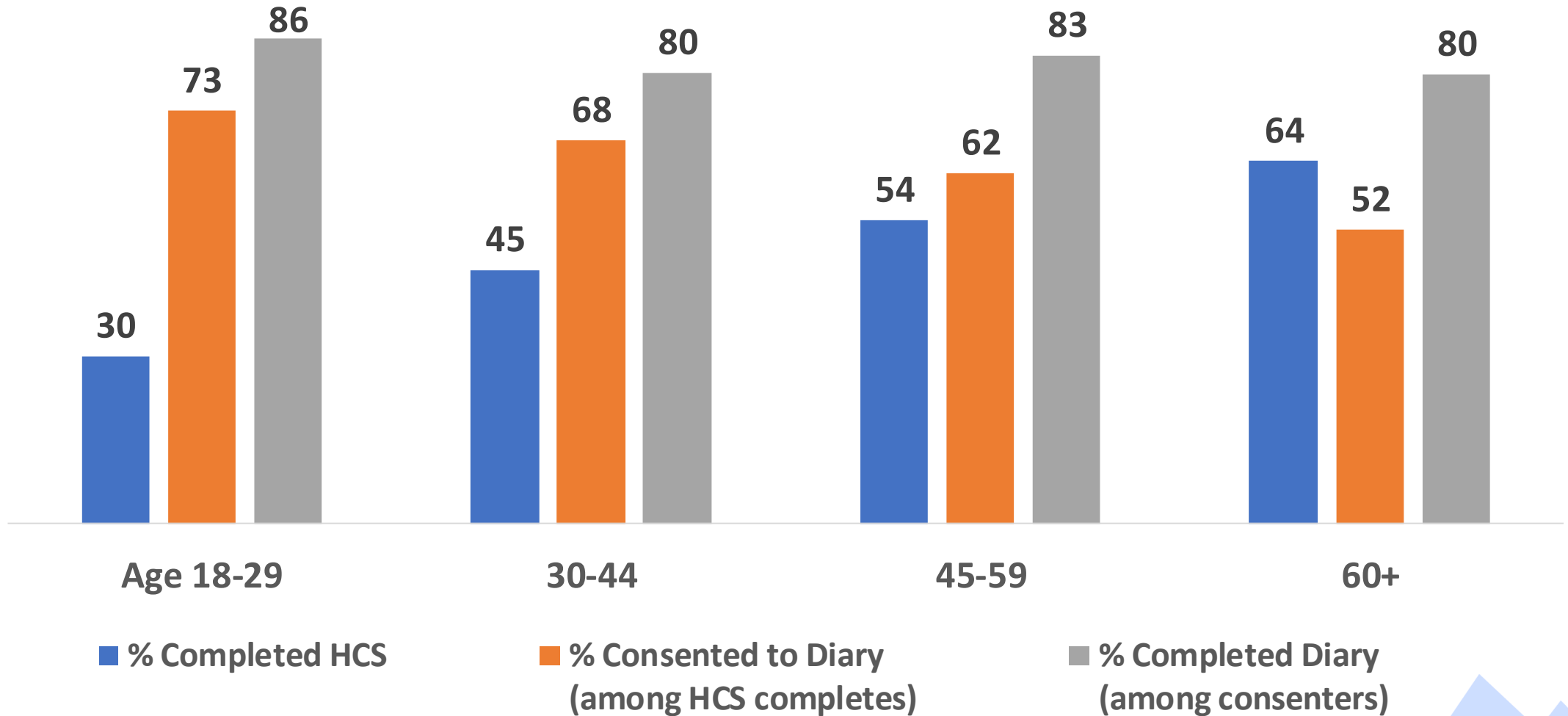
# Completion and Consent Rates – by Age



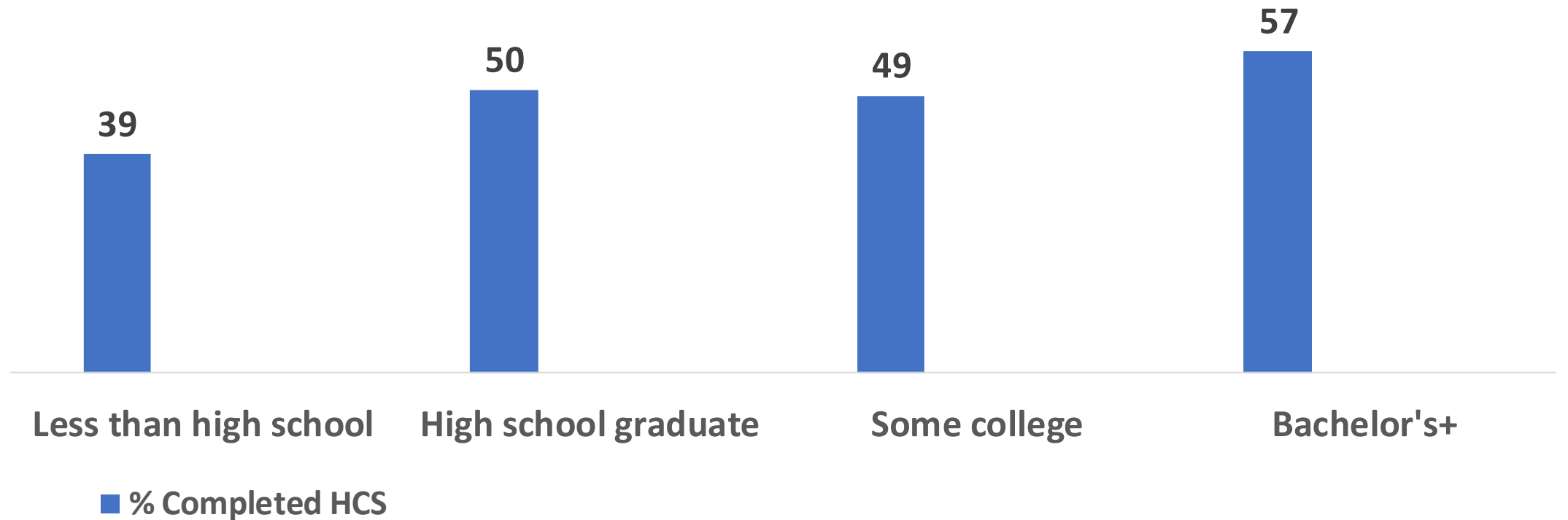
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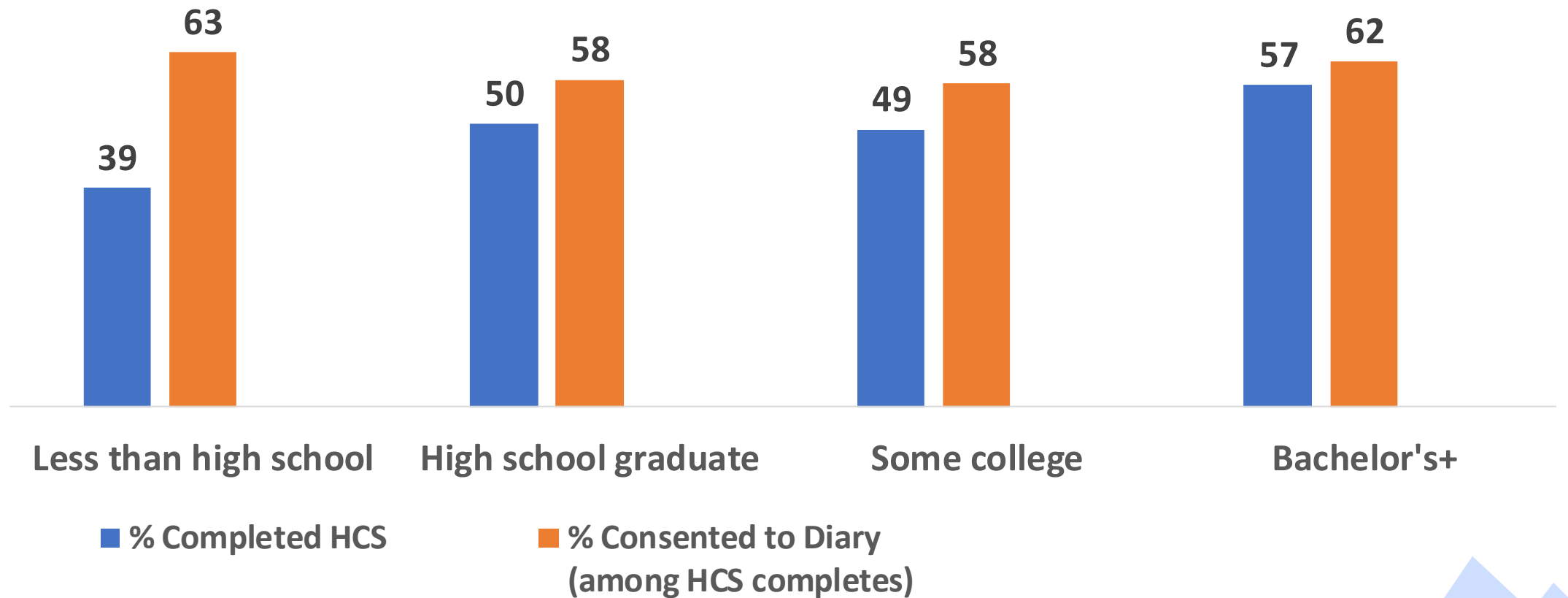


# Completion and Consent Rates – by Education

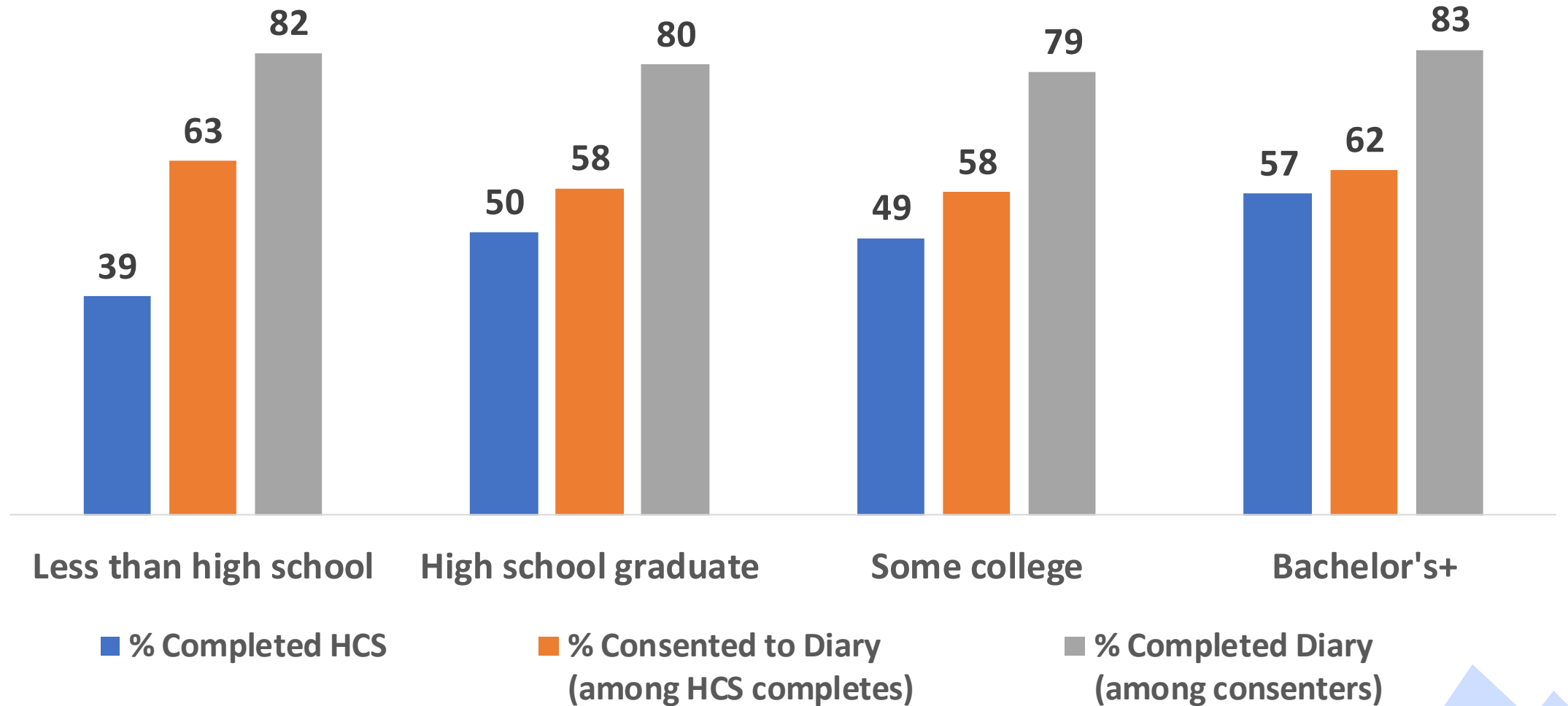




# Completion and Consent Rates – by Education



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# Completion and Consent Rates – Summary

- Wide variation in HCS completion rates across demographic groups
  - ▶ Lower rates among typically harder-to-reach groups (e.g., young adults)
- But – among those who do complete the HCS, after being informed of the \$50 incentive, the diary consent rates of these groups rebound, and in some cases exceed the rates of other groups
- At final stage, minimal demographic differences in Diary completion rates (among those who completed the HCS and consented to the Diary)

# Data Quality

## *Preliminary Results*



# Comparisons with Large Scale Feasibility Test (LSF) of the Online Diary

- CE production data from a comparable time period are not publicly released yet, so this analysis uses the LSF as a comparison
- LSF included both online and paper diaries
  - ▶ Push to online diary if the household respondent was eligible
  - ▶ If they refused or were ineligible, they received paper diaries
- Online and paper diaries were placed and picked up by interviewers in person
- LSF starting sample size: 2,500 addresses
- LSF field period: October 2019 - April 2020

# Item Nonresponse

- For each item, respondents were required to provide:
  - ▶ Date of purchase
  - ▶ Business where item was purchased
  - ▶ Expense category (e.g., ‘Food and Drinks for Home Consumption’)
- But other fields could be left blank:
  - ▶ Cost
  - ▶ Item Description

- Overall, item nonresponse rates were low, but...
- Leaving fields blank was more common in OPSAD.
- Share of entries with blank fields:

	OPSAD	LSF
Cost	1.73%	0.42%

	OPSAD	LSF
Item Description (excl. Food Away category)	1.68%	0.32%

# Expenditure Entry Counts

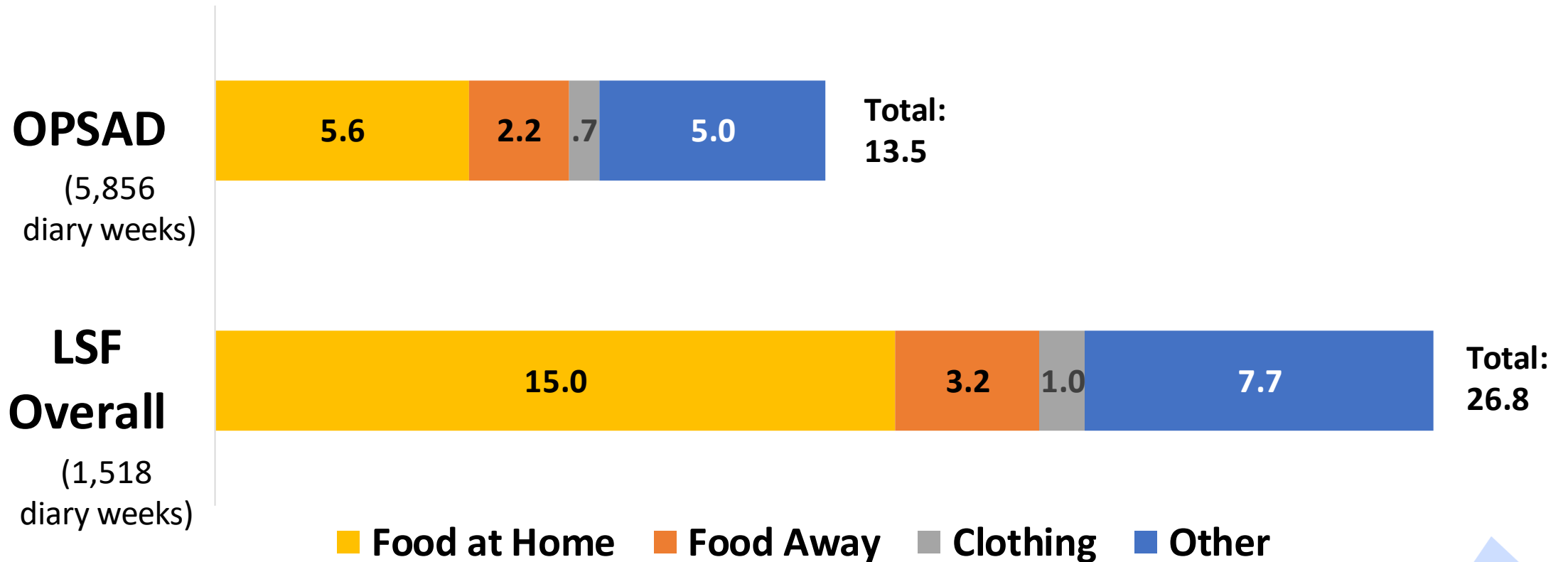
- Average weekly entry counts (for non-blank diaries) lower in OPSAD than in LSF

	OPSAD	LSF Overall	LSF Online	LSF Paper
Number of weekly diaries	5,856	1,518	646	872
Mean	<b>13.5</b>	26.8	23.9	28.9
Median	<b>10</b>	20	16	24



# Counts by Section

Average number of weekly diary entries, by expense category:






# Adherence to Itemization Instructions

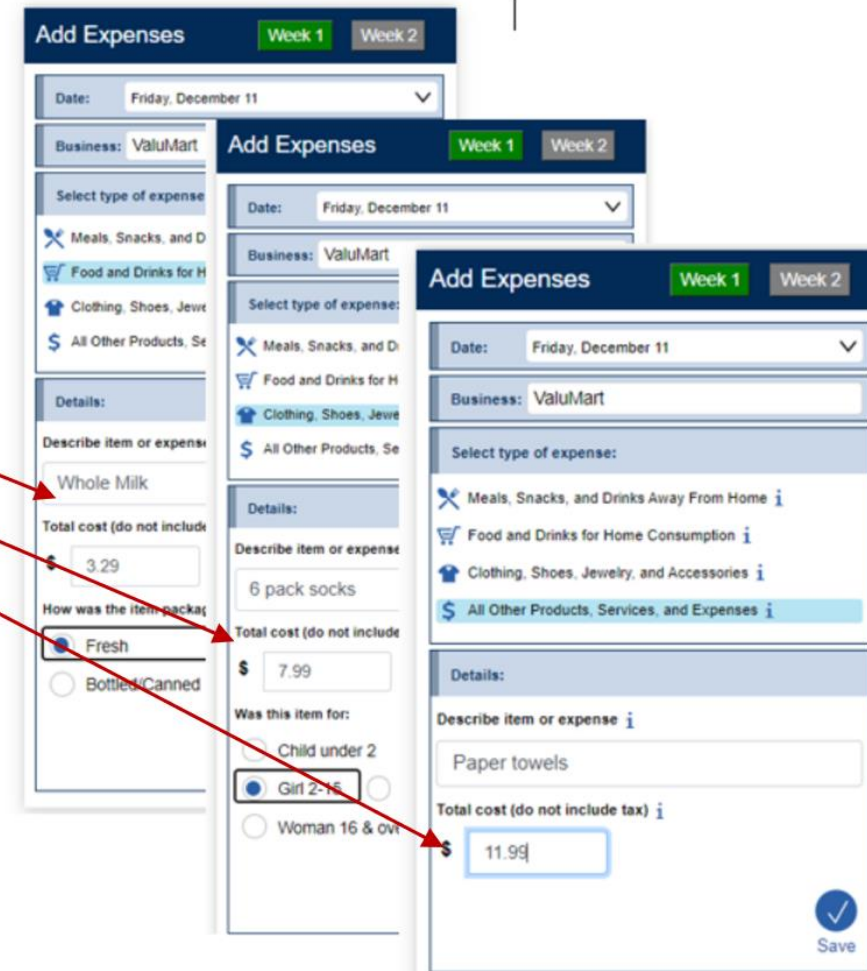
- For all expense categories except Food Away, respondents are instructed to itemize – enter each item purchased as a separate entry

**VALMART**  
FALLS CHURCH, VA 23156 – 703.893-8934



267198321	VM WHOLE MILK	3.29
986945631	6-PK SOCKS	7.99
063022838	PAPER TOWELS	11.99
073965782	LAUNDRY DETERGENT	18.99
037121340	SHAMPOO	2.94
037121345	CONDITIONER	2.94
256971531	SZ 3 DIAPERS	41.99
	SUBTOTAL	99.30
	VA TAX 5.0%	4.97
	TOTAL	104.27

SIGN UP FOR A VALUMART CARD  
AND SAVE 5% ON EVERY PURCHASE!



**Add Expenses** Week 1 Week 2

Date: Friday, December 11

Business: ValuMart

Select type of expense:

- Meals, Snacks, and Drinks
- Food and Drinks for Home Consumption
- Clothing, Shoes, Jewelry, and Accessories
- All Other Products, Services, and Expenses

Details:

Describe item or expense: Whole Milk

Total cost (do not include tax): \$ 3.29

How was the item packaged?

- Fresh
- Bottled/Canned

Was this item for:

- Child under 2
- Girl 2-15
- Woman 16 & over

**Add Expenses** Week 1 Week 2

Date: Friday, December 11

Business: ValuMart

Select type of expense:

- Meals, Snacks, and Drinks Away From Home
- Food and Drinks for Home Consumption
- Clothing, Shoes, Jewelry, and Accessories
- All Other Products, Services, and Expenses

Details:

Describe item or expense: 6 pack socks

Total cost (do not include tax): \$ 7.99

**Add Expenses** Week 1 Week 2

Date: Friday, December 11

Business: ValuMart

Select type of expense:

- Meals, Snacks, and Drinks Away From Home
- Food and Drinks for Home Consumption
- Clothing, Shoes, Jewelry, and Accessories
- All Other Products, Services, and Expenses

Details:

Describe item or expense: Paper towels

Total cost (do not include tax): \$ 11.99

Save

# Itemization in OPSAD

- Item descriptions containing the following strings were flagged as “non-itemized” entries:
  - ▶ GROCERIES
  - ▶ FOOD
  - ▶ CLOTHES
  - ▶ CLOTHING
  - ▶ HOME IMPROVEMENT
  - ▶ HOUSEHOLD
  - ▶ MISCELLANEOUS
  - ▶ MISC



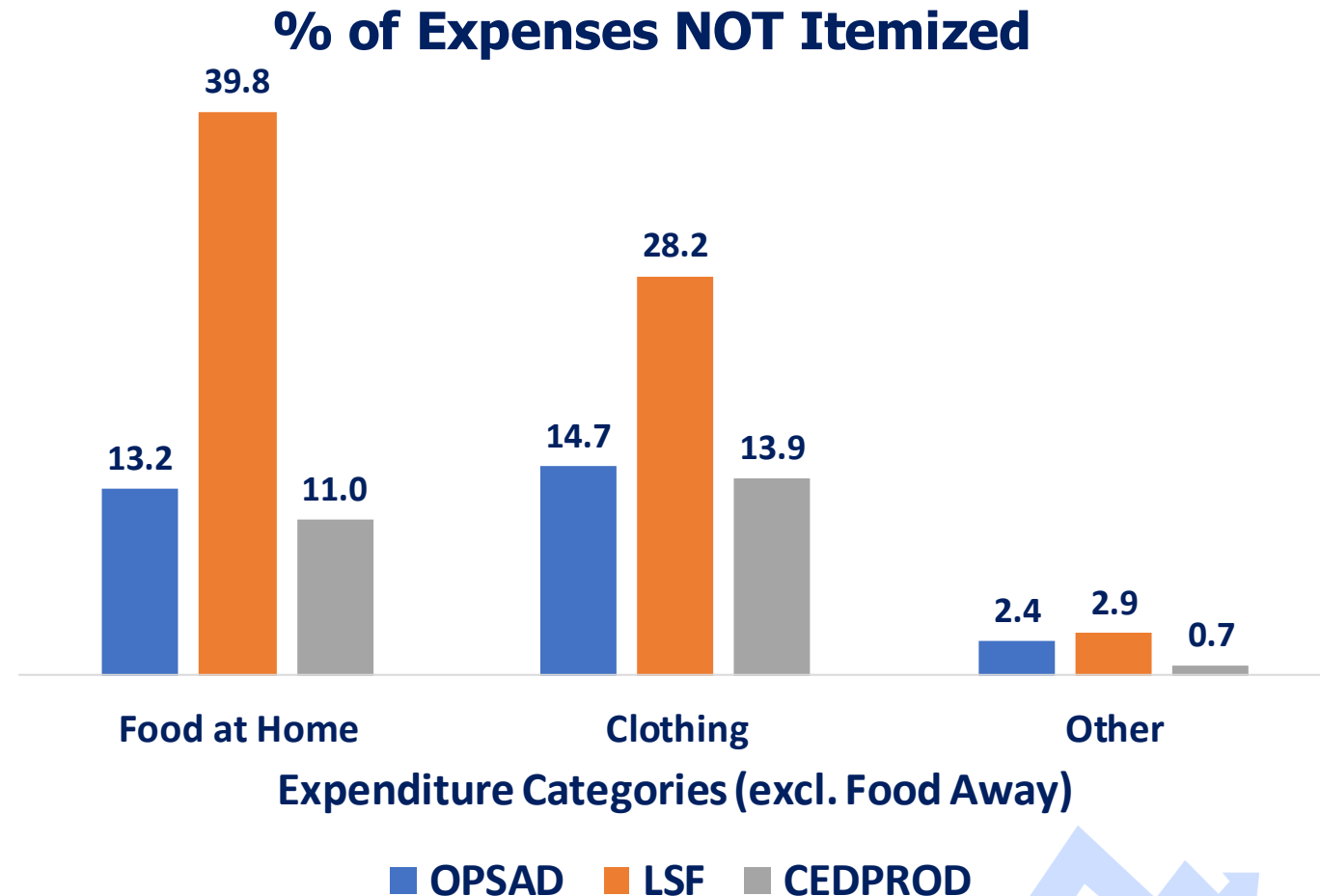
# Itemization – Comparison Between OPSAD, LSF, and CE Production

## ■ Comparison of 3 data sources:

- ▶ **Online Panel Self-Administered Diary**
  - N=68,894 expenses
- ▶ **Large Scale Feasibility Test (LSF Overall)**
  - N=25,750 expenses
- ▶ **CE Production Diary Data (CEDPROD)**
  - N=195,131 expenses

■ Much higher rate of non-itemized purchases in LSF

■ Compared to CEDPROD, rates were slightly higher in OPSAD across all expenditure categories



# Drop-Off in Entry Counts

- Respondents may experience fatigue from the reporting process and report fewer expenditure entries over the diary period
- Drop-off measure: Averaged percentage of each household's two-week entries reported in Week 1
- Calculated for households having at least one expenditure in both weeks

	OPSAD (n=2,702)	LSF Overall (n=780)	LSF Online (n=334)
Week 1 mean entries	15.1	27.9	24.6
Week 2 mean entries	13.2	24.2	21.6
Mean entries (Weeks 1 + 2)	28.2	52.1	46.2
<b>Avg. % of two-week entries reported in Week 1</b>	<b>54.4%</b>	<b>53.3%</b>	<b>54.4%</b>

# Summary of Preliminary OPSAD Results

- Higher rates of blanks in cost and item description fields, though still low overall
- Fewer entries (particularly 'Food at Home' section entries)
- Lower rates of non-itemization than in prior test that included an online diary option, suggesting stronger adherence to diary-keeping instructions to itemize
  - ▶ Further research needed to explore relationship between non-itemization and entry counts
- Drop-off in entries across weeks similar to prior tests



# Next Steps

- Comparisons with CE production data, including online diaries, from the same time period
- Itemization analysis
- Expenditure amounts
- Analysis of paradata
- Improvements to the CE online diary instrument and protocols



# Contact Information

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