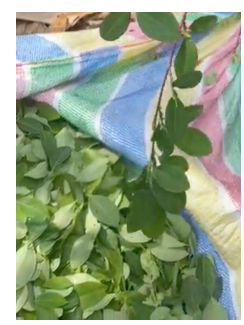




# Hidden child labour use and gender in coca economies: Evidence from Peru

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September 16-18, 2026 organised by Universities of Kassel and Göttingen, Göttingen, Germany



## Overview

|                |                                                                                                                                                                                            |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Objective      | Estimate <b>hidden child labor use</b> in coca production and examine gender heterogeneity                                                                                                 |
| Treatment      | <b>Child labor use</b> in coca production                                                                                                                                                  |
| Data           | 732 farming households in La Convención, Cusco, Peru                                                                                                                                       |
| Identification | List experiment (indirect questioning method)                                                                                                                                              |
| Main results   | Child labor: <b>22.3% LE vs. 6.0% DQ</b> ; reporting gap: <b>+16.3 pp</b> . Female-headed households with female respondents: <b>32.7% LE vs. 6.0% DQ</b> ; reporting gap: <b>+26.6 pp</b> |

## Literature review

- **Measuring child labor in coca production**
  - Previous studies document child labor in coca-growing areas, but rely primarily on **direct questioning** (Dammert, 2008; Sviatschi, 2022)
  - In legal cocoa production, list experiments reveal substantial **underreporting of child labor** under direct questioning (Jouvin, 2024)
- **Gender in coca economies**
  - Previous studies document **gendered labor roles and vulnerabilities**, but focus mainly on adults (Sviatschi, 2022; Busnel and López, 2023; Duque et al., 2025; Vélez-Torres and Chiavaroli, 2026)

✓ **Research gaps:** No existing evidence uses a list experiment to estimate **child labor use in coca production** and examines whether its **concealment differs by gender**.

## Research Objectives

### Measuring hidden child labor in coca production

- **Objective 1:** Estimate the prevalence of **child labor use** in coca production and identify its **concealment** by comparing list experiments with direct questioning.
- **Objective 2:** Examine whether the prevalence and concealment of **child labor use** differ by **gender**, particularly by household-head gender.

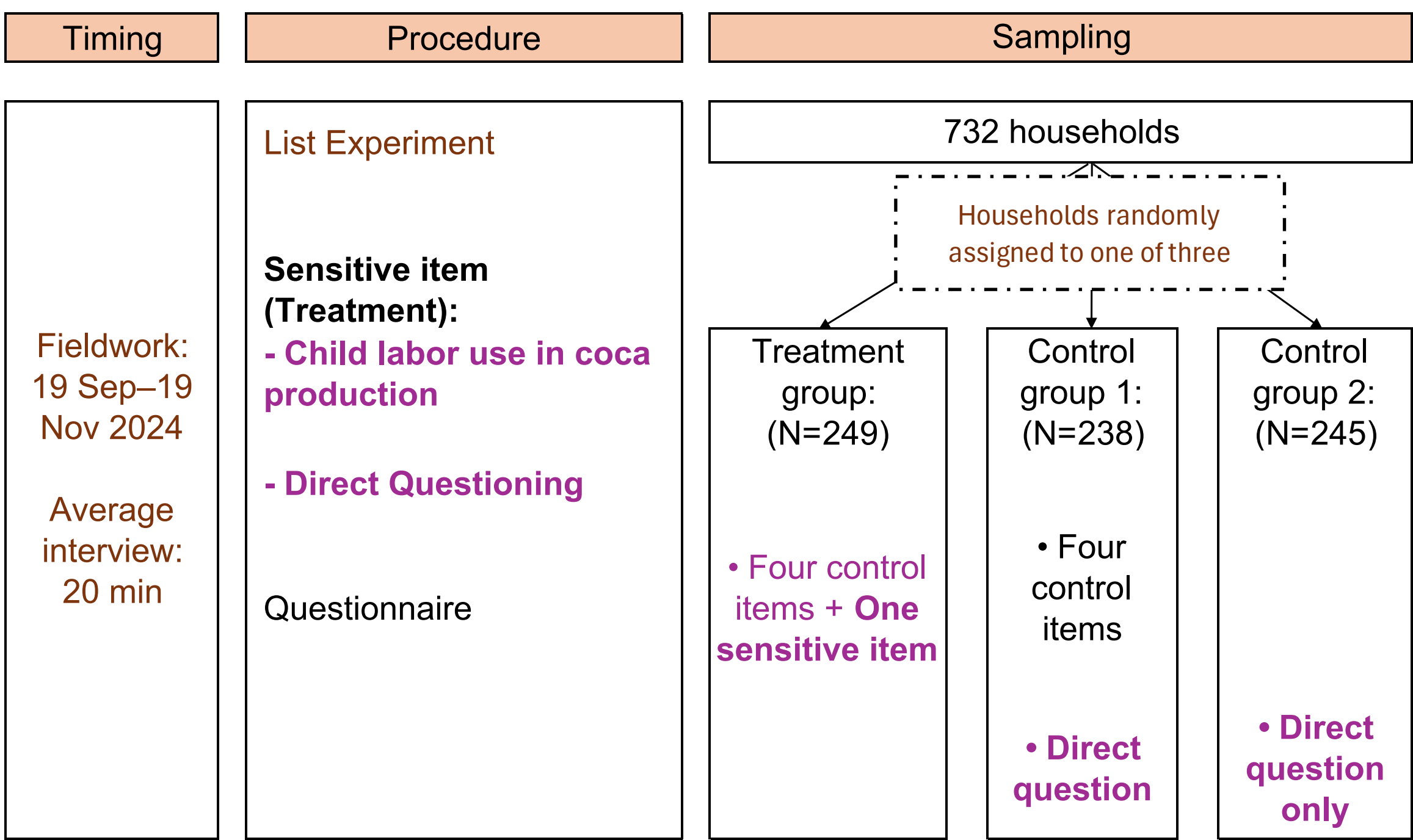
## List Experiment Design

- **Reason:** To mitigate social desirability bias (Blair and Imai, 2012)

| Control Group         | Treatment Group                    |
|-----------------------|------------------------------------|
| 4 non-sensitive items | 4 non-sensitive + 1 sensitive item |

Respondents report only the total number of affirmative items. The difference in mean counts identifies prevalence. To compare prevalence estimates from list experiments and direct questioning, a Wald test is used following Lépine et al. (2020)

Fig 1. Experimental design flow



Note: Households were randomly assigned at the household level.

## List Experiment Design

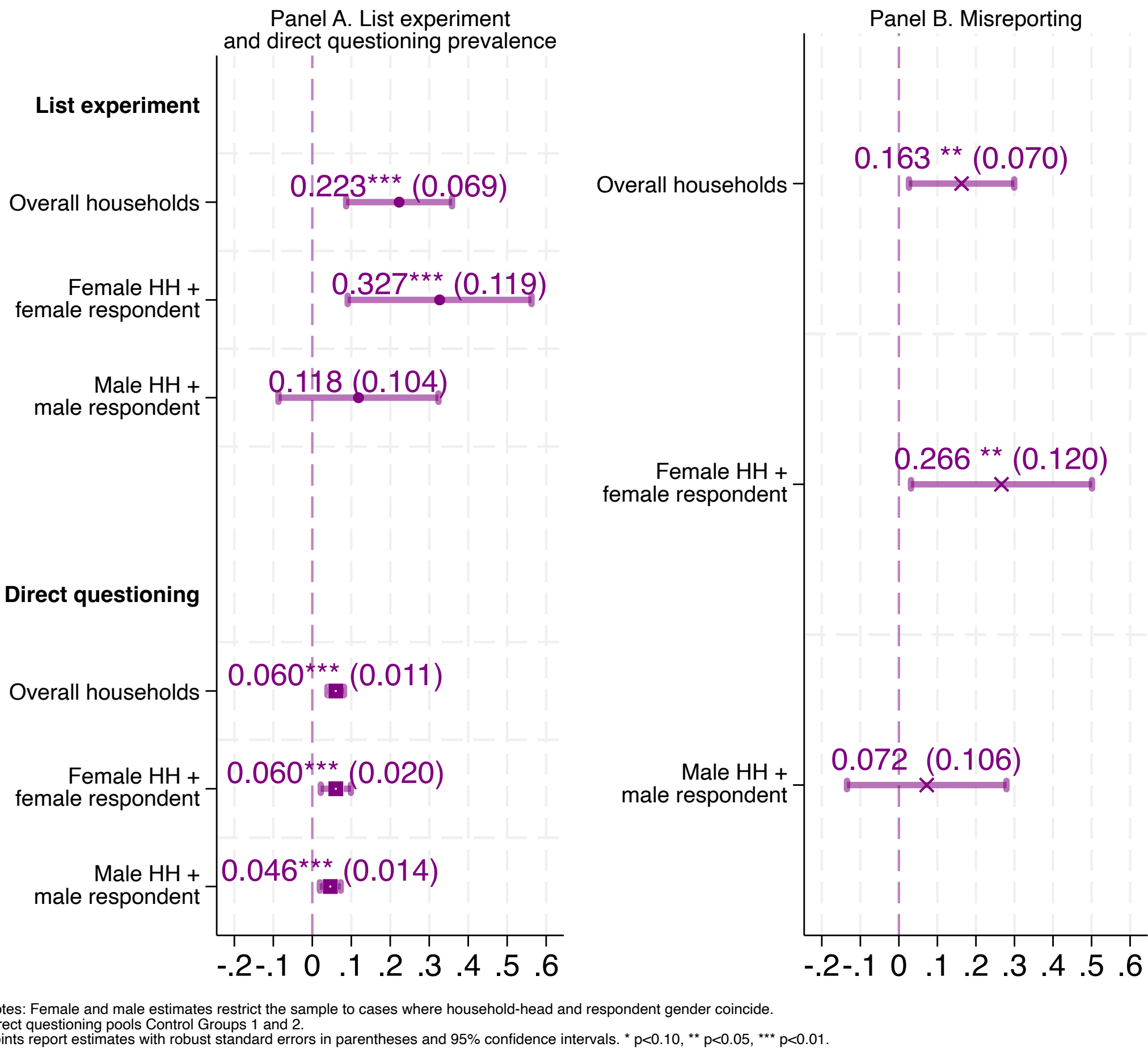
Table 1. Experimental design procedure

| Procedure                   | Total (N= 732)                                                                                             |                          |                          |
|-----------------------------|------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|
|                             | Treatment group: Child labor use in coca production (N=249)                                                | Control group 1 (N= 238) | Control group 2 (N= 245) |
|                             | (1)                                                                                                        | (2)                      | (3)                      |
| Phase 1: List Experiment    | Please indicate HOW MANY of the questions your answer is YES                                               |                          |                          |
|                             | Have you live in a community where coffee cultivation is practised in the last 12 months? 1                |                          |                          |
|                             | Have you exclusively use an automated system for all stages of coffee cultivation in the last 12 months? 2 |                          |                          |
|                             | Have you trade or sell your coffee harvest in the last 12 months? 3                                        |                          |                          |
|                             | Have you cultivate coffee plants on your farm in the last 12 months? 4                                     |                          |                          |
|                             | Have you ever sent your children to work in coca production in the last 12 months?                         |                          |                          |
|                             | Not applicable                                                                                             |                          |                          |
| Phase 2: Direct Questioning | Please answer YES/NO to the following question:                                                            |                          |                          |
|                             | Have you ever sent your children to work in coca production in the last 12 months?                         |                          |                          |

Note: Observed affirmative rates for items 1–4 were 94.5%, 0%, 89.1%, and 93.9%. Randomization was balanced, floor/ceiling responses were 3.7%, and no design effects were detected.

## Main Results: Misreporting magnitude

Fig.2 Child labor use prevalence



## Discussion

**Concealment:** LE 22.3% vs. DQ 6.0% (+16.3 pp), potentially reflecting **stigma and legal risk**.

**Gender:** Female-headed households show greater concealment (+26.6 pp) and vulnerability, potentially increasing reliance on **children's labor** alongside household and childcare responsibilities.

## Implications and Limitations

- **Application:** Indirect methods can uncover hidden child labor in sensitive agricultural settings
- **Limitation:** Evidence is specific to five districts in La Convención Valley and may not generalize to other coca-producing areas
- **Future work:** Extend indirect methods to other high-risk settings and identify causal interventions that reduce reliance on child labor

## References

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