

changes in open defecation in rural India: 2014-2018

evidence from a 2018 rural sanitation survey

9th January, 2018



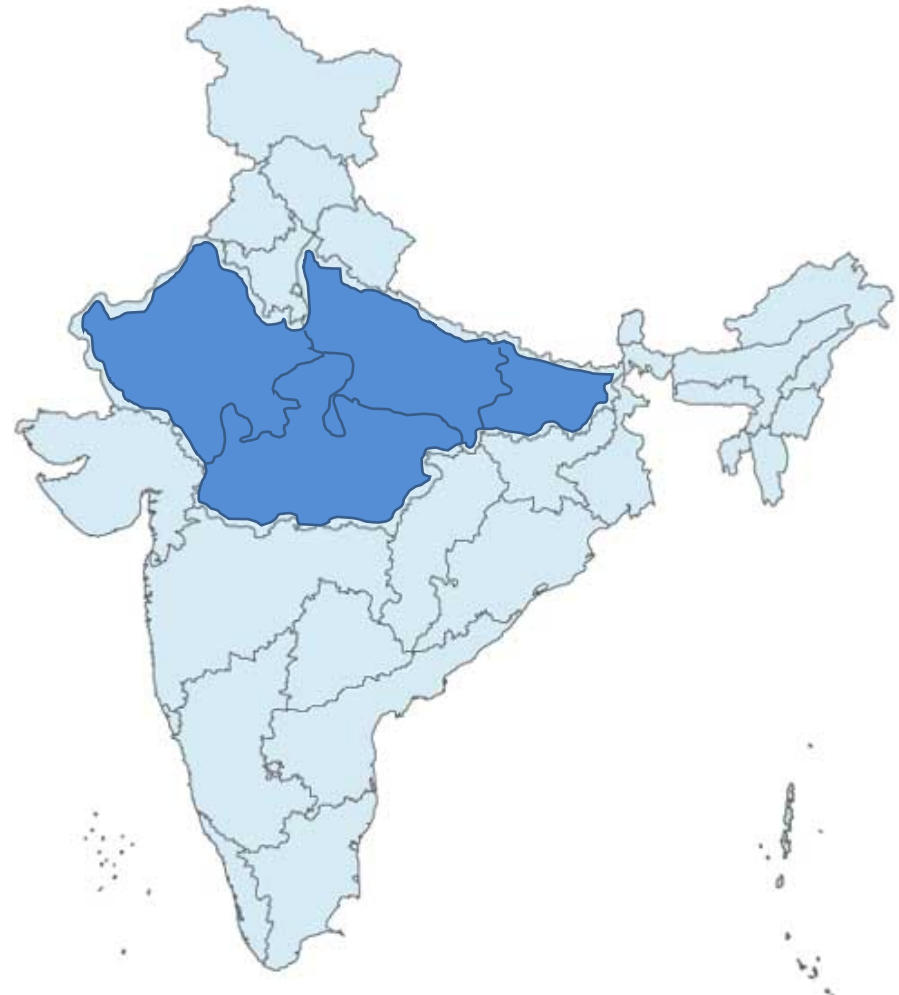


**one: a study design that informs what the SBM did,
and changes in open defecation over time**

40% of rural Indian population

revisited in 2018 the same rural
parts of Bihar, Madhya Pradesh,
Rajasthan, and Uttar Pradesh
that we visited first in 2014

11 districts



research utilized mixed methods



quantitative

9,812 people

1,558 households

qualitative

**156 local government officials
in blocks and villages**

revisiting households first surveyed in 2014

79% of households visited in 2018 survey were first visited in 2014

because we are revisiting the same villages, and in fact in most cases, the same households, we are able to talk about **changes in open defecation** over time

21% of households were visited for first time

we were able to reinterview **88%** of the households we tried to reinterview

preview of findings

the Swachh Bharat Mission has built a lot of latrines

this has reduced open defecation more quickly than before

but open defecation is by no means eliminated, and reductions may not be sustained

it happened through threats and coercion

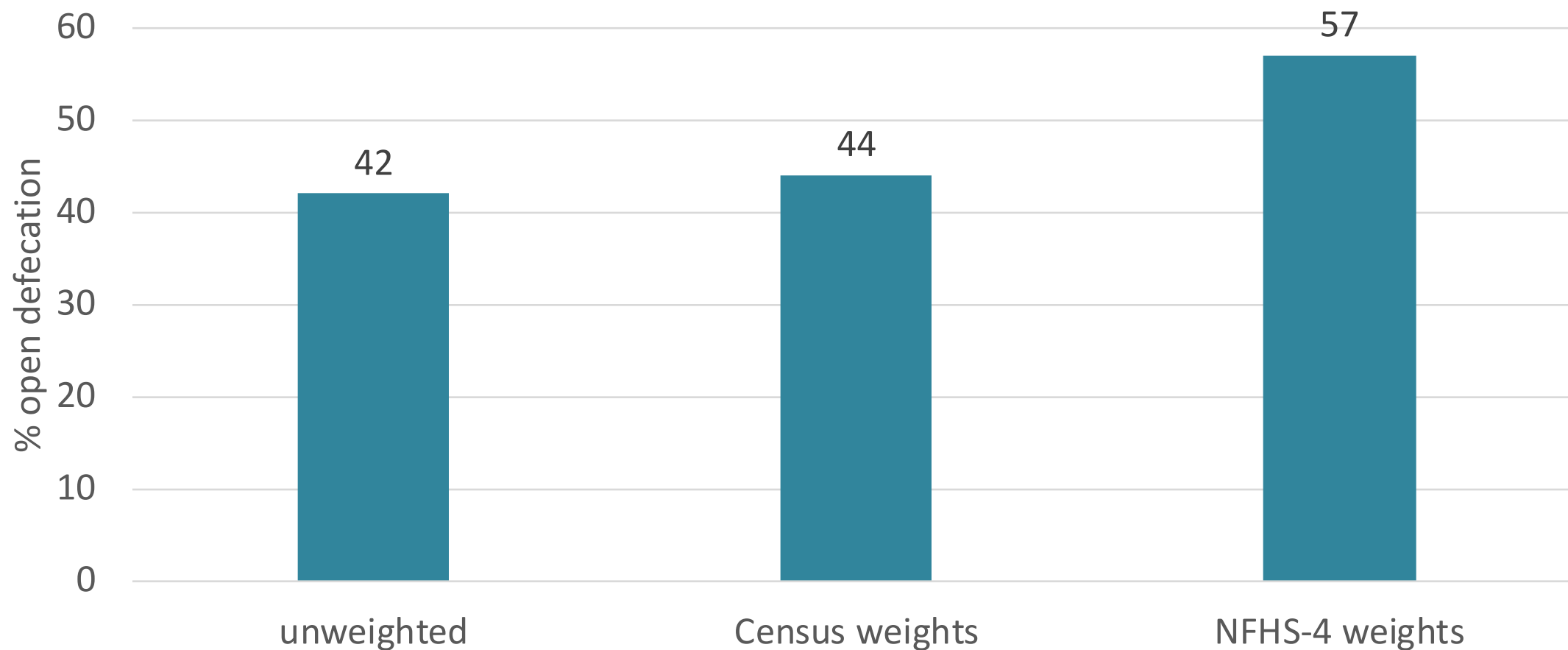


two: much open defecation remains

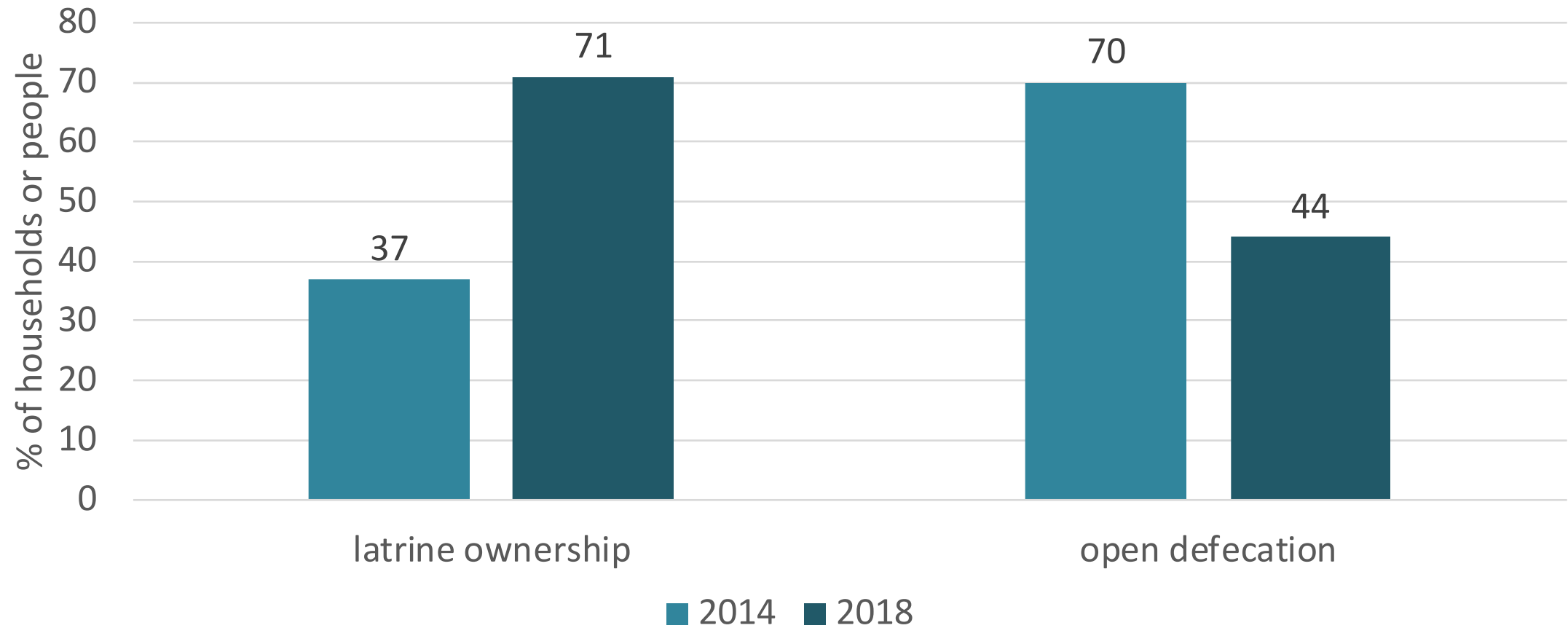
three different estimation strategies

1. **Unweighted** – the fraction of people in our sample who defecate in the open
2. **Census weights** – the fraction of people in our sample who defecate in the open, weighted by age and sex to be representative of the population of the region
3. **NFHS-4 weights** – the fraction of people in our sample who defecate in the open, weighted by age, sex, schooling, and asset ownership to be representative of the population of the region

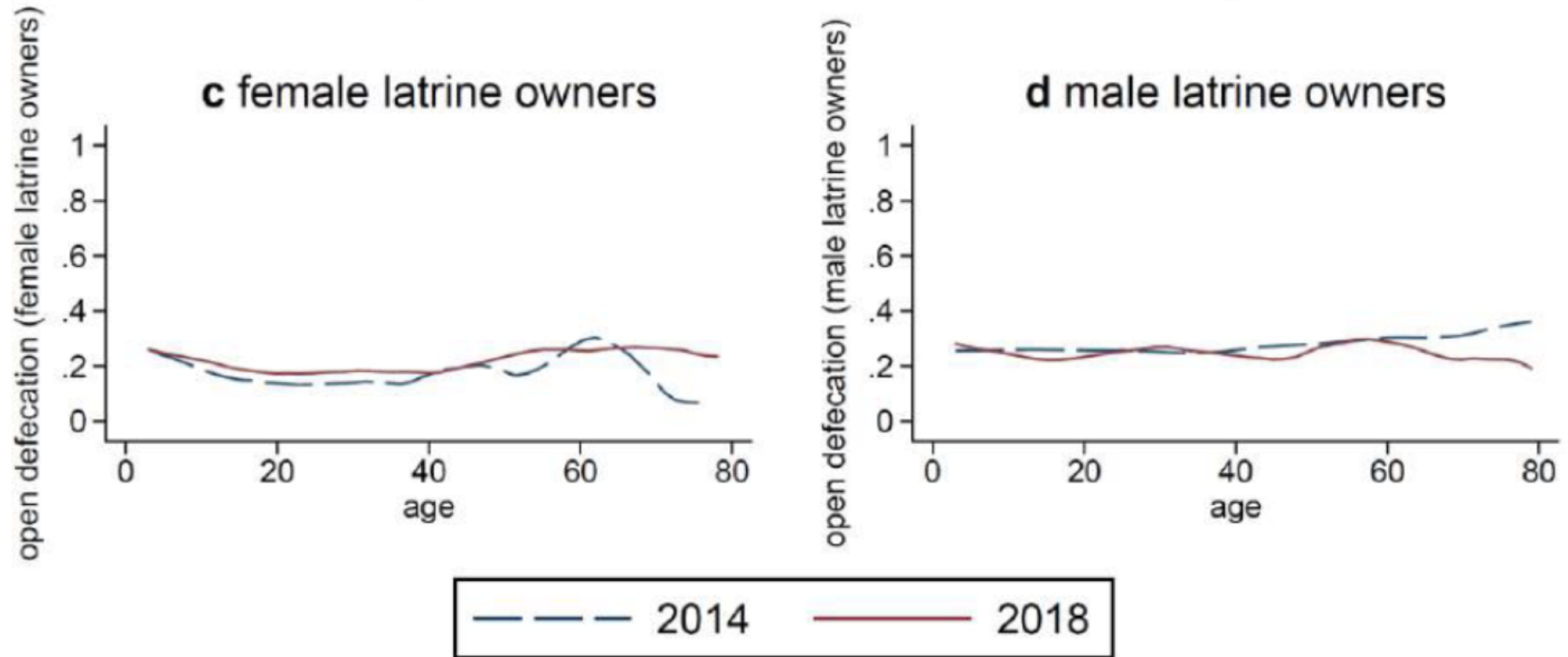
open defecation in rural north India, 2018



reduction in open defecation and increase in latrine ownership



open defecation among latrine owners is unchanged



reduction in open defecation is primarily explained by **increase in latrine ownership**, not by an increase in use among latrine owners

local officials were far more likely to focus on latrine **construction** rather than latrine use

**“Humein jaise motivation kar diya,
par motivation ke sath-sath mein
construction par bhi hum apana
dimag lagae rakhte the. Hamein
motivation karna hai lekin hamare
pas target bhi hai, ki bhai hamara
jo hai humein athara hazar latrine
humein 2 oct ke pehle banwani
hain. To phir hune motivation ko
side mein rakh diya aur
construction ko target bana liya.”**

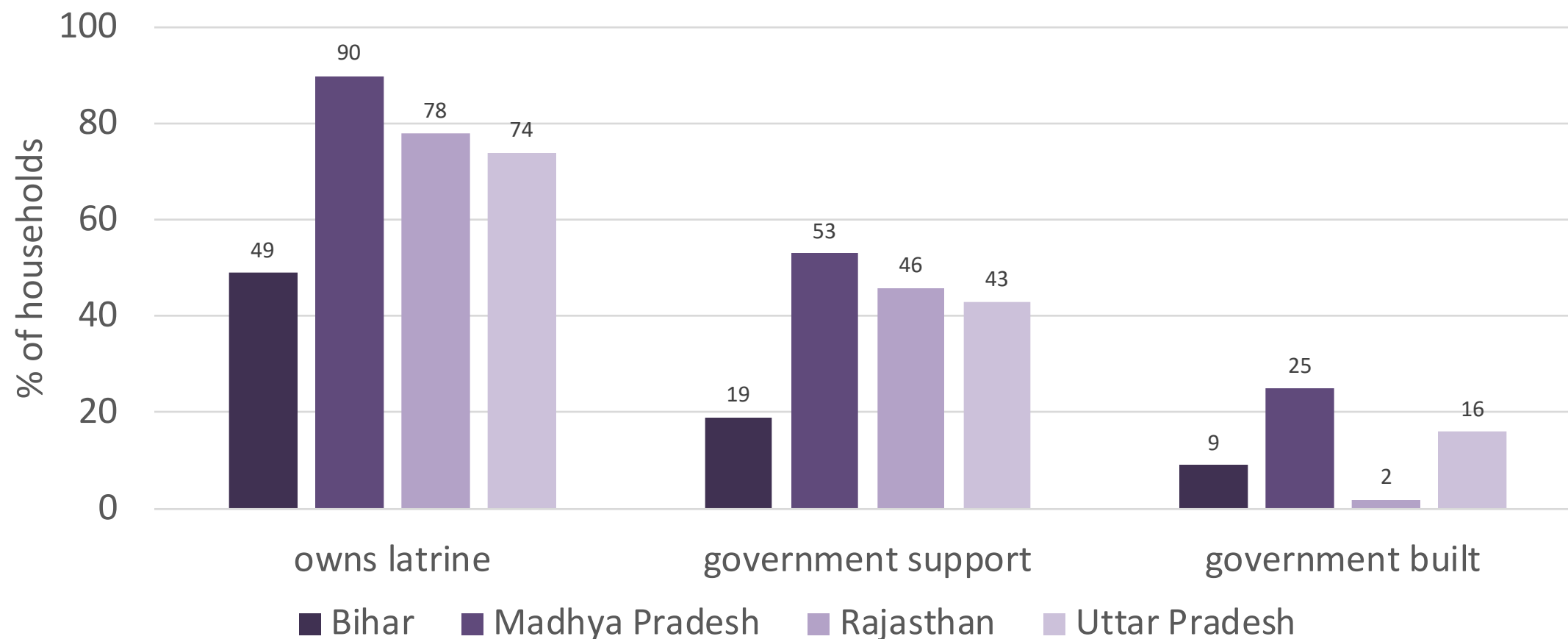
**- block coordinator in Madhya
Pradesh**





three: variation in implementation

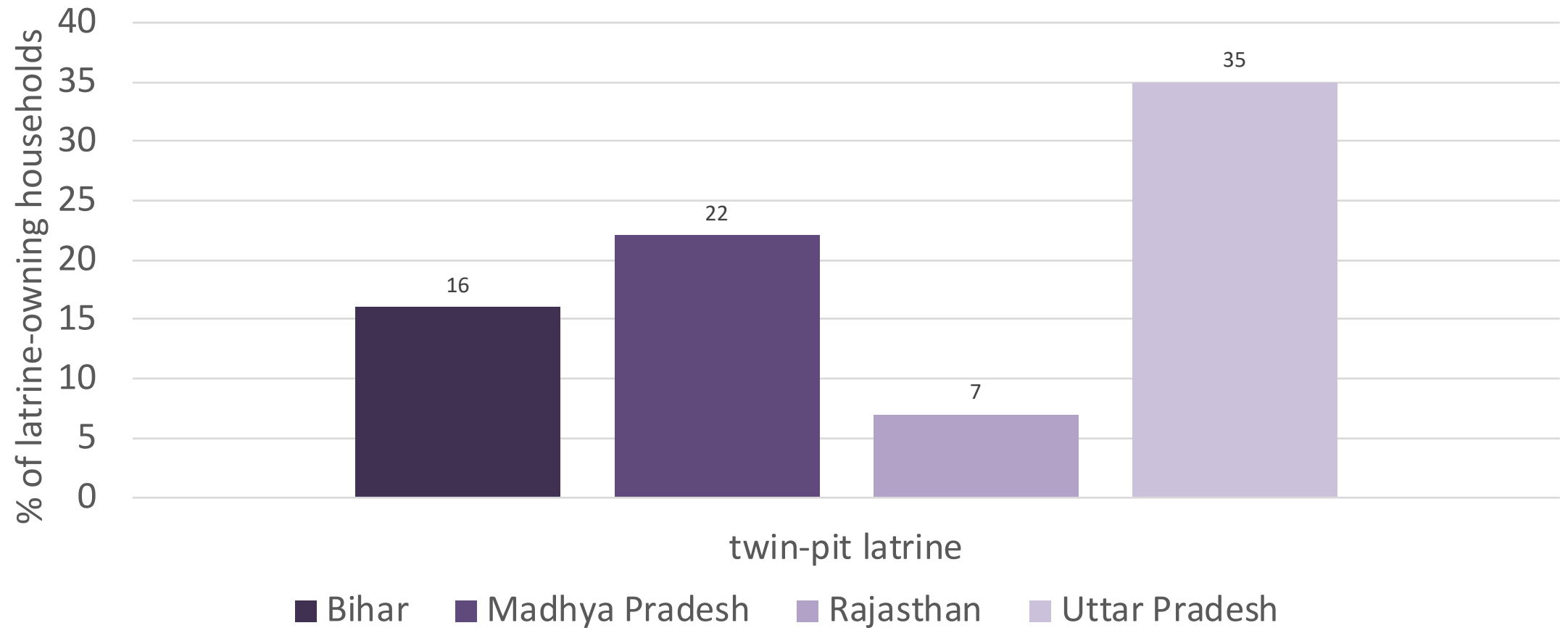
differences in whether you have a latrine and how you got it





contractor-constructed latrines
are **10 percentage points less**
likely to be used than latrines
constructed by households

twin-pit latrines are uncommon



almost half of households with twin-pit latrines have connected the two pits to each other

this modification creates a **subjectively larger pit** that takes more time to fill

it also **prevents the feces** from decomposing before emptying



commonalities across places

local block and district level officials were far more actively engaged than in previous sanitation policies

tight deadlines that officials often felt they could not meet



“Itna zyada pressure tha government ka tab ki saam,daam,dand, bhed kuch bhi [karo] lekin mereko ODF chahiye. Shaunchalay “Open deficiency free.” Unko ODF chahiye tha paper pe. kuc bhi ho ganv mien lekin khule mein shaunch mukht dikhana hai. mujhe paper pe pora [dikhana hai].”

- Sarpanch in Madhya Pradesh



four: the costs? coercion and threats

activities we measured

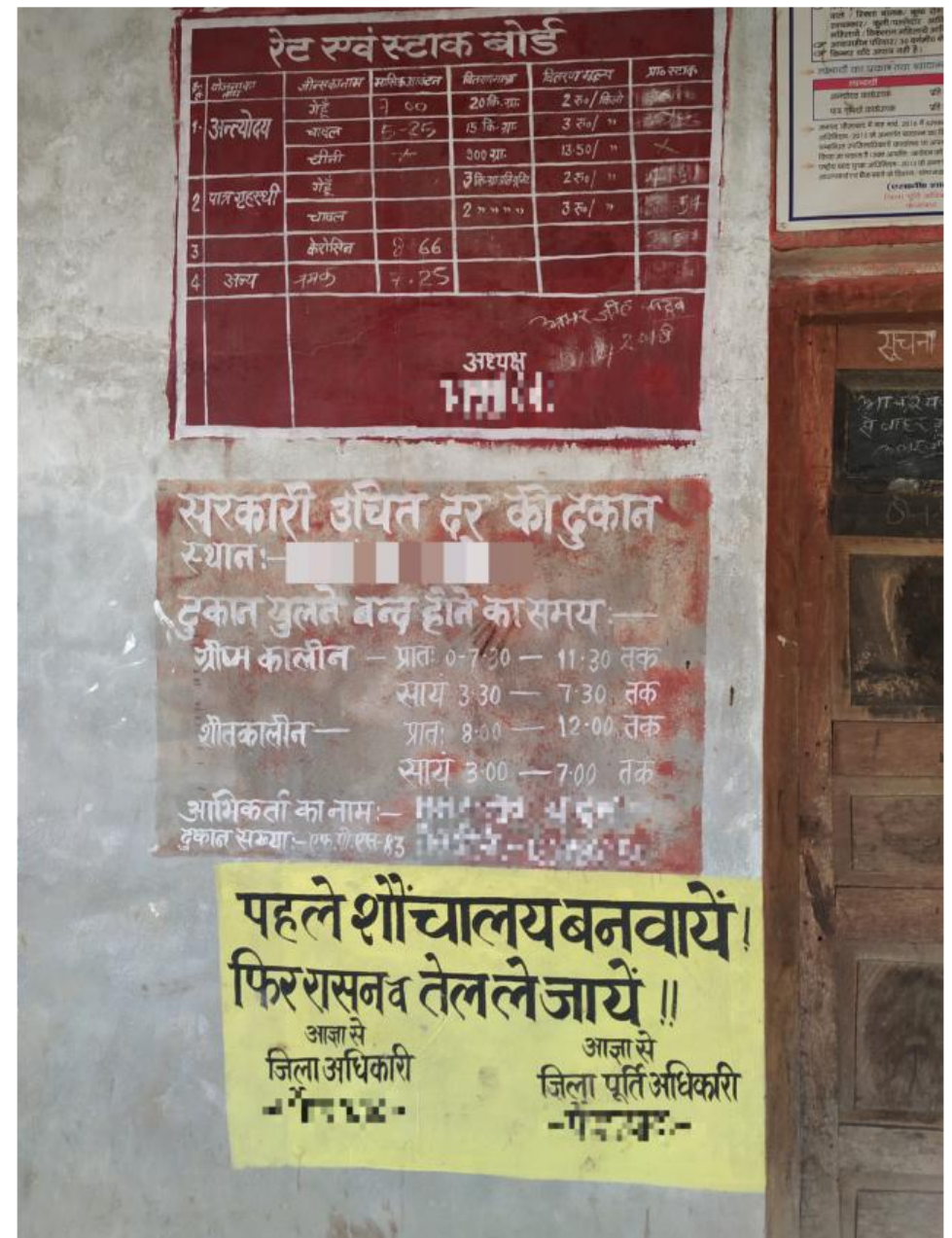
1. whether people were **prevented from defecating in the open** or were harassed while doing so
2. whether people lost or were threatened with loss of **public benefits**
3. whether people were **fined** or were threatened with a fine

56% of respondents report being aware
of some form of coercion within the
village

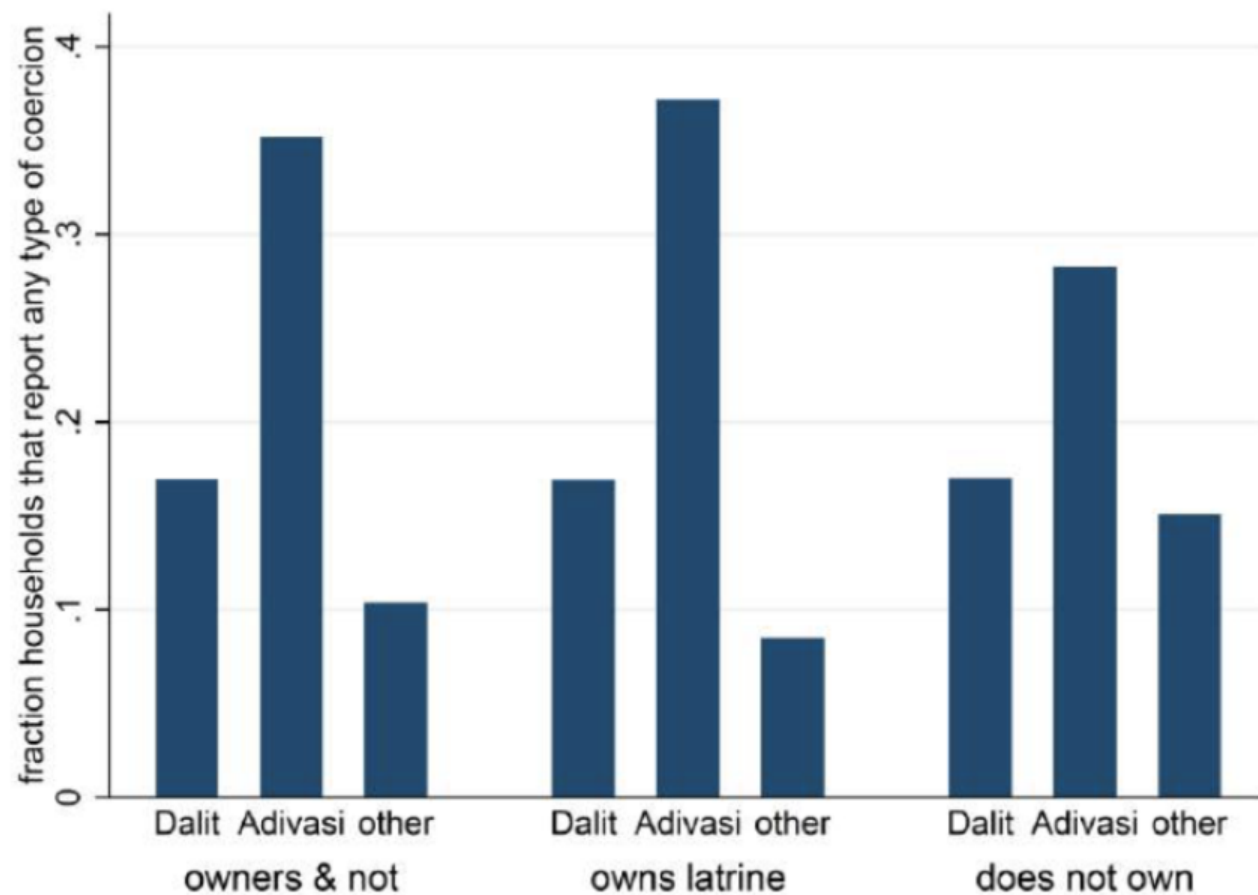
few officials expressed that these tactics were inappropriate and many readily talked about them

“Dabav yahe tha ki aap nahe banwaoge to ration nahe milega, aapka ration kat jaega. Sarkari suvidhaein jo hain wo nahe mileingi. [DM sahib ki taraf se aadesh tha ye]. Ration kisi ka katna nahe pada, jaise is mahine milna tha. Jis date ko milna tha, us date ko bata diya ki jab tak ap shaunchalay nahe banwaoge ration nahe milega. Shaunchalay banwa lejiye ration le jaeye. Kata kisi ka nahe, sirf yahe [dhamki de] ki han agar nahe banwaoge to kat jaega. Lagbhag chalis percent logon ka ration rokna pada.”

- Pradhan in Uttar Pradesh



Dalits and Adivasis more likely to report experiencing coercion

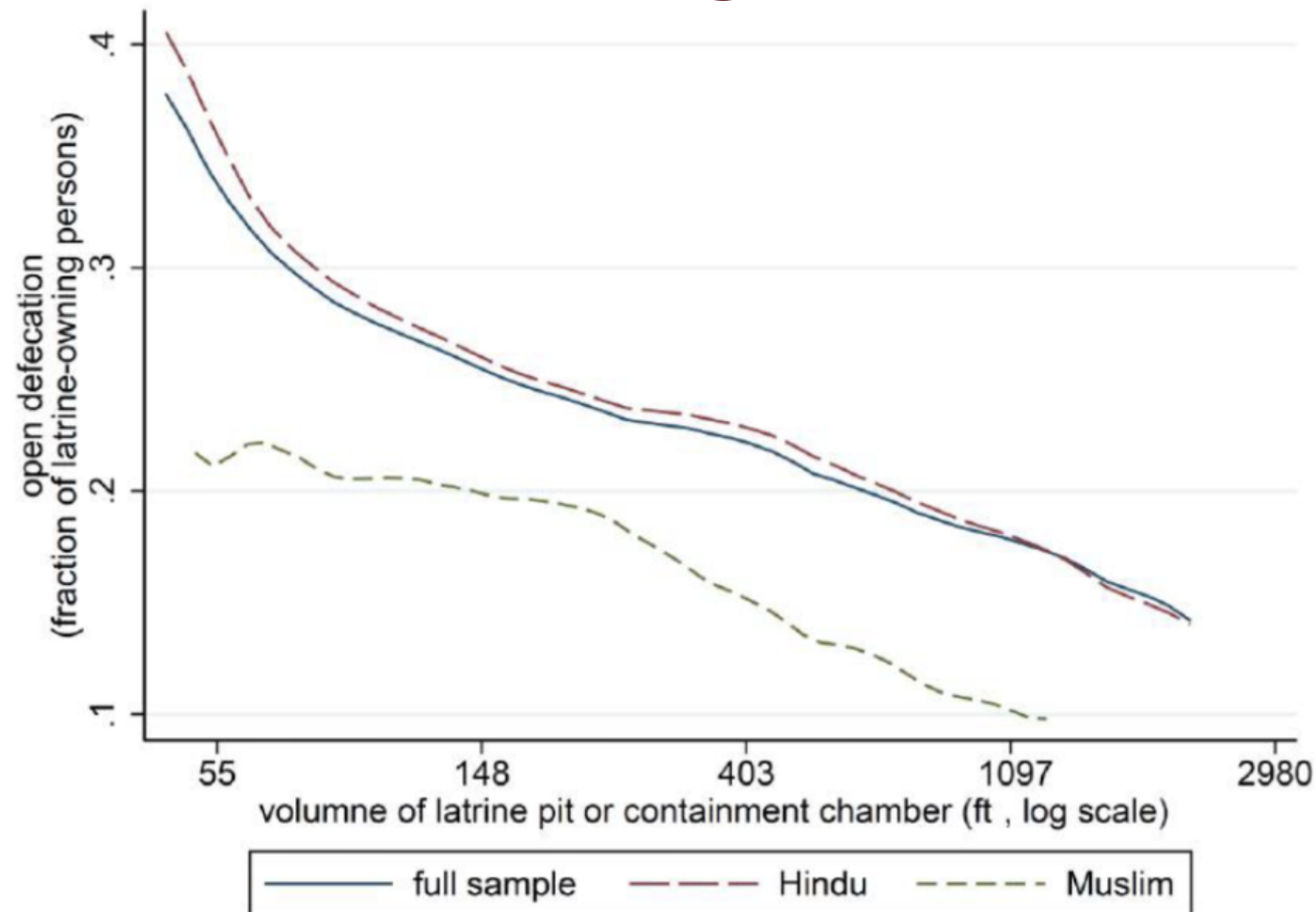


instead of challenging caste prejudices, the SBM reinforced them



five: attitudes of ritual purity related to untouchability and the caste system are still important

open defecation among latrine owners, by pit size and religion, 2018



smaller pits are perceived to require more **frequent emptying**, an activity which is associated with caste impurity

larger pits don't require such frequent emptying, and don't invoke the same fears

because of these fears, rural Indians still prefer constructing and using **expensive latrines with large pits** to twin-pit latrines

latrines constructed by households cost on average **Rs. 34,000**

the efforts of the SBM to change these attitudes have been **inadequate**



six: the next rural sanitation policy

these findings show us that...

not every household has a latrine

not everyone who has a latrine **uses** it

we still need a **rural sanitation policy** that promotes latrine use

these findings inform how the next rural sanitation policy could improve on the past

coercive tactics should be **stopped**

latrine use should be prioritized, and should be encouraged for everyone, not just women

efforts should be made to **transform attitudes around purity** and untouchability

Appendix

Table 1: Description of fieldwork and sample

	persons	households	households in 2014 sample	households not in 2014 sample	villages
focus states (full sample)	9,812	1,558	1,224	334	120
Bihar	2,669	367	293	74	30
Madhya Pradesh	2,660	459	347	112	34
Rajasthan	1,539	241	172	69	25
Uttar Pradesh	2,944	491	412	79	31

Table 2: Summary of qualitative interviews in each state

	Bihar	Madhya Pradesh	Rajasthan	Uttar Pradesh
pradhan/sarpanch/mukhiya	9	11	6	14
secretary/assistant sec.	1	12	5	1
ward member	15	0	1	0
health/nutrition worker	2	9	6	2
ration dealer	0	3	5	1
block official	6	2	1	4
swacchagarhi	5	0	0	7
chowkidar	0	5	0	1
rozghar sevak	0	0	1	4
other	2	5	6	3
<i>total</i>	<i>40</i>	<i>47</i>	<i>32</i>	<i>37</i>

Table 3: Open defecation in rural north India, 2018

Sample	Latrine owners	weight	focus states	Bihar	Madhya Pradesh	Rajasthan	Uttar Pradesh
All	Owners & not	no weight	42%	59%	24%	52%	38%
All	Owners & not	Census	44%	60%	25%	53%	39%
All	Owners & not	DHS weights	57%	77%	29%	62%	53%
Adults	Owners & not	no weight	41%	57%	23%	52%	38%
Adults	Owners & not	Census	43%	57%	23%	54%	38%
Adults	Owners & not	DHS weights	54%	73%	27%	61%	50%
All	Latrine owners	Census	23%	21%	16%	40%	21%
Adults	Latrine owners	Census	23%	19%	15%	41%	21%
Adult F	Owners & not	Census	41%	57%	21%	53%	34%
Adult F	Latrine owners	Census	20%	18%	13%	39%	17%
Adult M	Owners & not	Census	44%	56%	25%	56%	41%
Adult M	Latrine owners	Census	25%	21%	17%	43%	24%

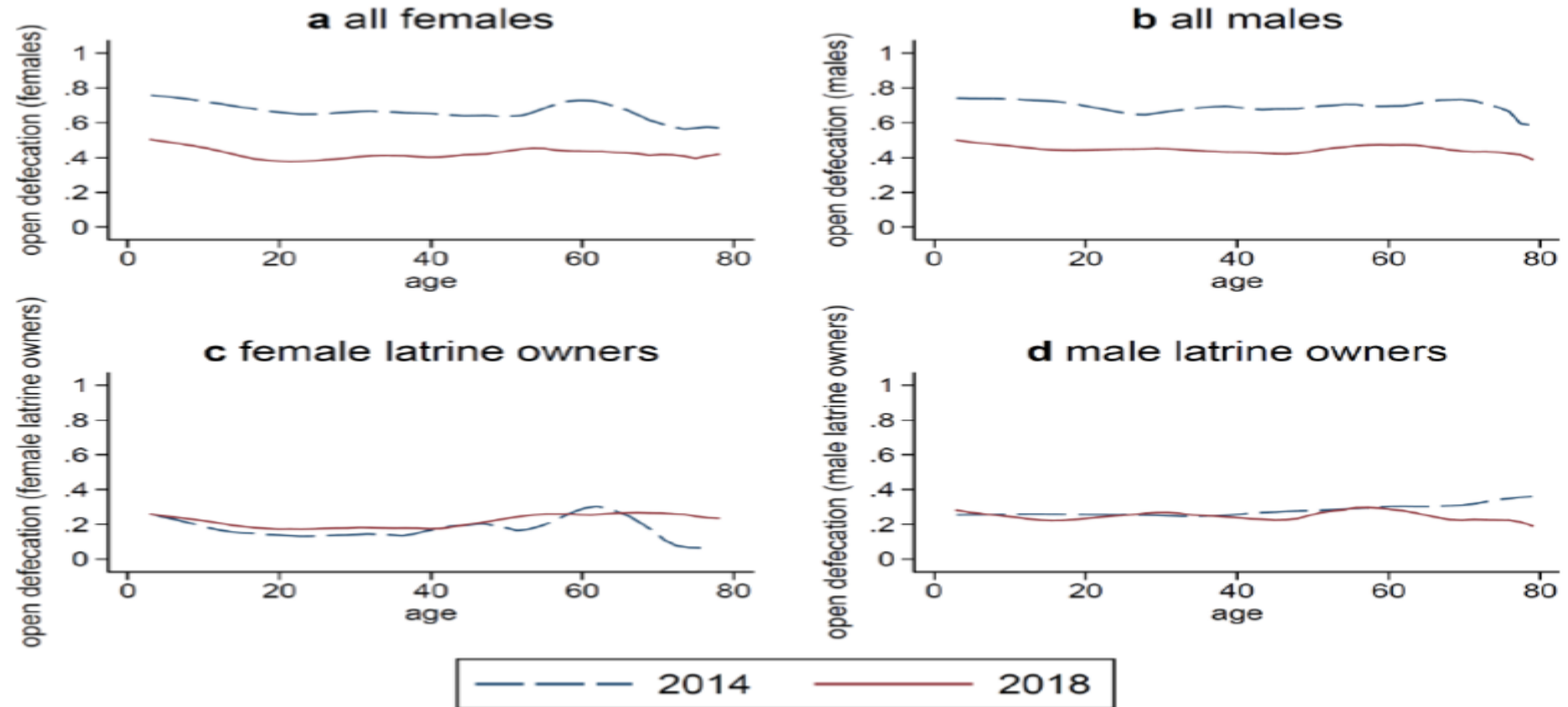
Note: F = Females. M = Males.

Table 4: Change in open defecation, 2014-2018

	focus states	Bihar	Uttar Pradesh	Madhya Pradesh	Rajasthan
census-weighted means					
open defecation, 2018	44%	60%	39%	25%	53%
open defecation, 2014	70%	75%	65%	68%	76%
open defecation, change	26pp	15pp	26pp	43pp	26pp
latrine ownership, 2018	71%	50%	73%	90%	78%
latrine ownership, 2014	37%	29%	42%	43%	31%
latrine ownership, change	33pp	21pp	31pp	47pp	47pp
Kitawaga decomposition					
Δ OD due to behavior	1pp	1pp	3pp	7pp	-7pp ^v
Δ OD due to ownership	25pp	15pp	23pp	37pp	30pp
<i>% of change due to ownership</i>	96%	97%	89%	84%	130%

Note: “pp” stands for “percentage points.”

Figure 1: Open defecation, by age and sex



Note: Computations in Figure 1 are weighted by the 2011 Census.

Table 5: Latrine ownership, type, and provision by state, 2018

	focus states	Bihar	Madhya Pradesh	Rajasthan	Uttar Pradesh
Panel A: All households					
owns latrine	71%	49%	90%	78%	74%
any government support	39%	19%	53%	46%	43%
government money	21%	9%	24%	42%	20%
government built	14%	9%	25%	2%	16%
Panel B: Households that did not own a latrine in 2014					
owns latrine	57%	37%	83%	65%	61%
any government support	42%	18%	66%	37%	55%
government money	20%	5%	29%	33%	23%
government built	17%	11%	33%	2%	22%
Panel C: Pit type, among households that own a latrine					
twin pit	25%	16%	22%	7%	35%
single pit	40%	49%	50%	69%	22%
containment chamber	31%	30%	26%	17%	38%
other	5%	5%	2%	8%	5%
Panel D: Pit type, among households that own a latrine and received government support					
twin pit	42%	33%	32%	11%	61%
single pit	34%	40%	51%	64%	13%
containment chamber	21%	26%	16%	22%	21%
other	3%	1%	1%	4%	5%

Notes: Weighted by 2011 Census.

Table 6: Survey reports of threats, fines, and coercion

coercive state action		focus states	Bihar	Madhya Pradesh	Rajasthan	Uttar Pradesh
stopped from OD	own household	9%	11%	11%	11%	6%
stopped from OD	aware of in village	47%	40%	67%	54%	42%
benefits threatened	own household	5%	3%	9%	13%	3%
benefits threatened	aware of in village	25%	9%	47%	42%	20%
fine threatened	own household	2%	1%	6%	1%	2%
fine threatened	aware of in village	26%	14%	47%	25%	28%
any of these three	own household	12%	12%	17%	19%	9%
any of these three	aware of in village	56%	47%	78%	68%	50%

Notes: Weighted by 2011 Census.

Figure 2. Dalits and Adivasis were more likely than other groups to report that their own household experienced SBM coercion

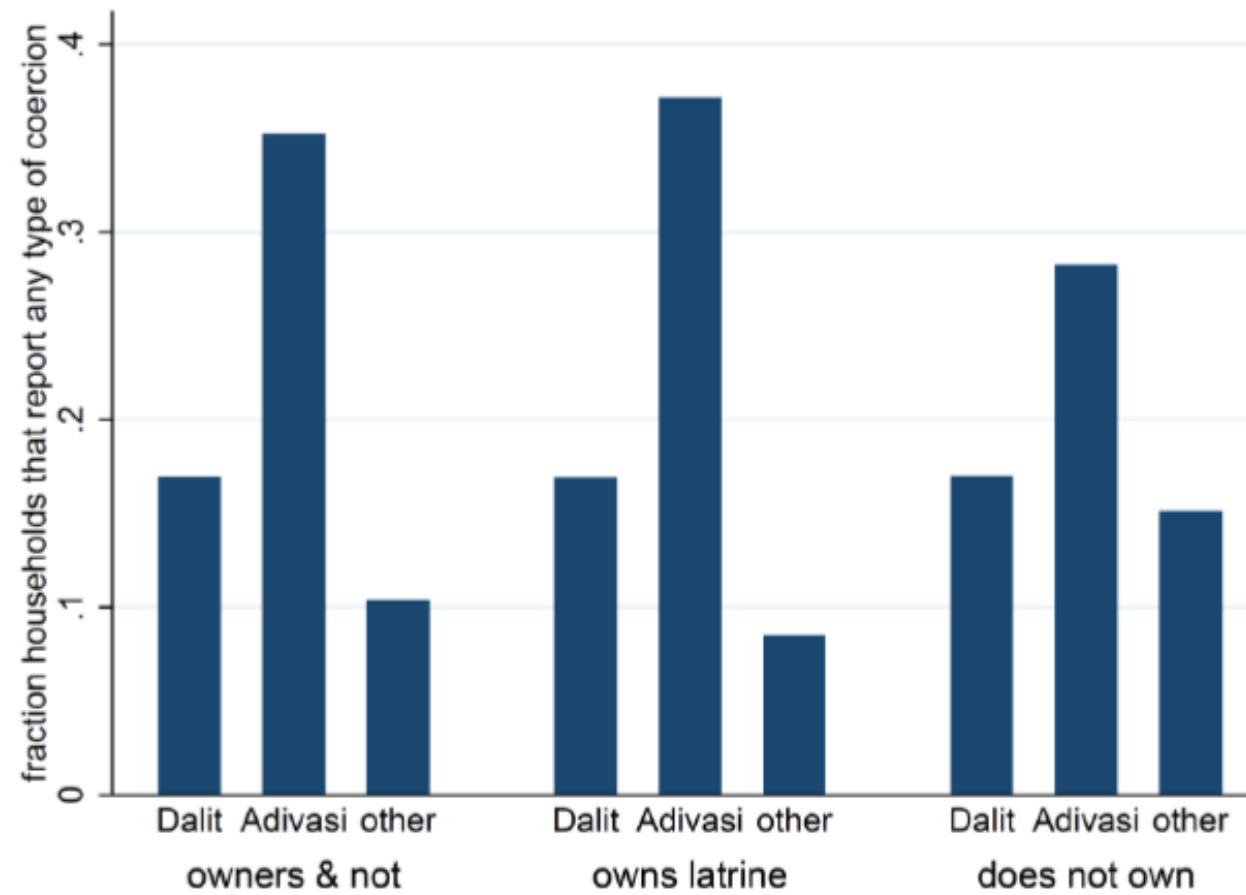
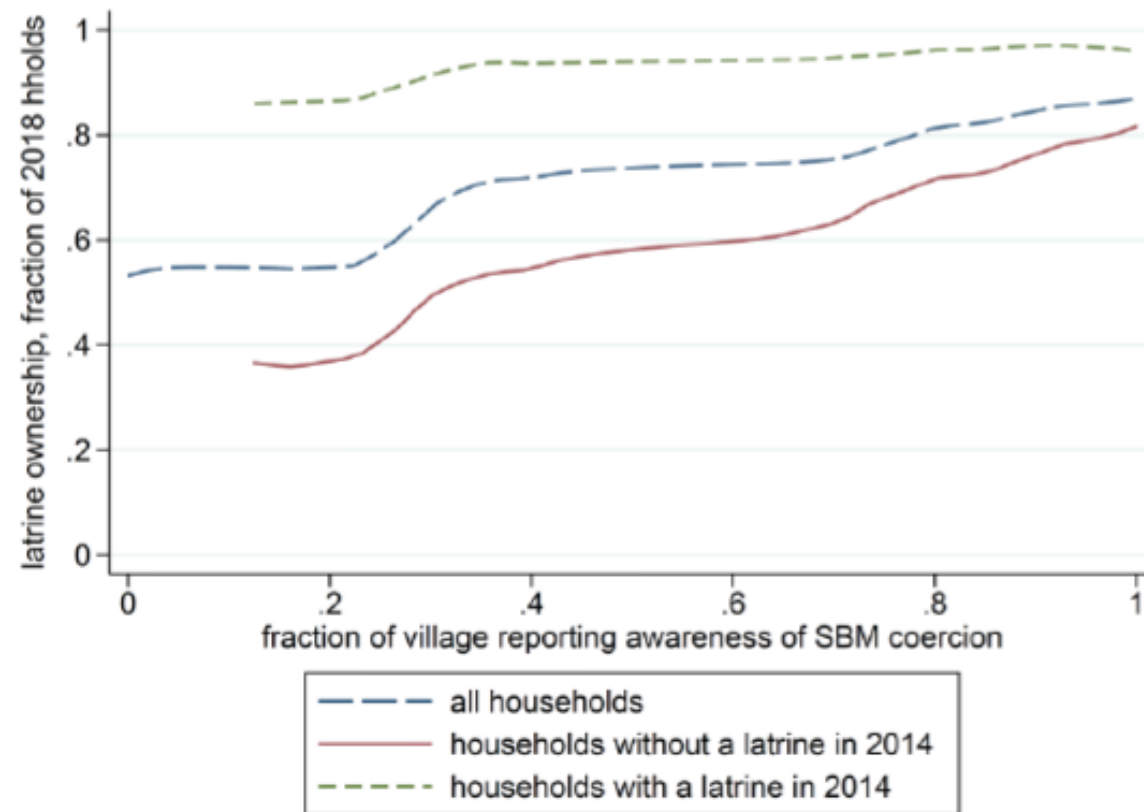


Figure 3: Village-level reported SBM coerciveness strongly predicts sanitation outcomes

panel a. Latrine ownership



panel b. Open defecation

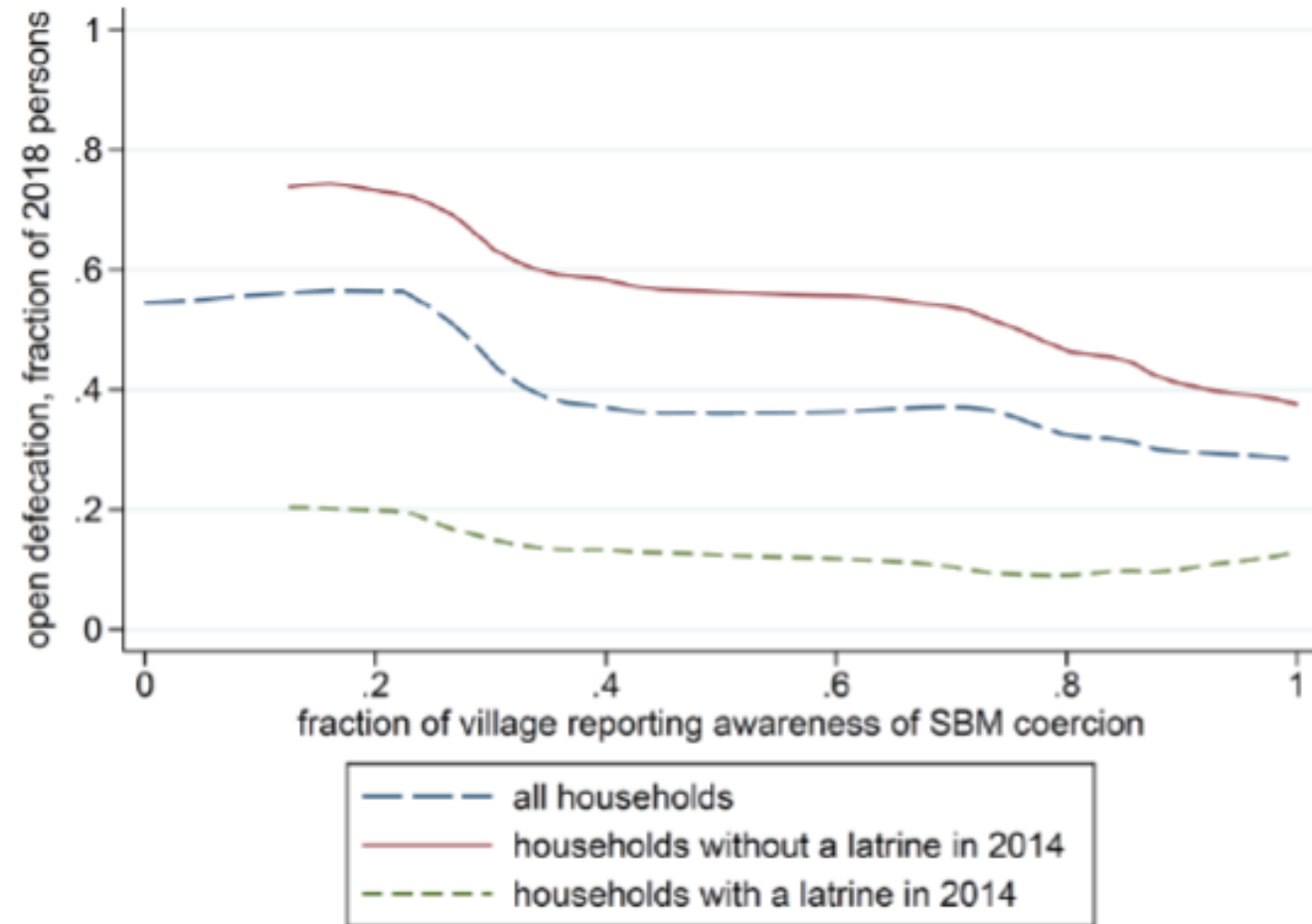


Figure 4: Open defecation among latrine owners, by pit size and religion, 2018

