

# Measuring attitudes and norms related to women's use of phones



## What are attitudes and social norms?

- **Attitudes** are learned individual beliefs or evaluations about an idea, behaviour, or role, and can extend to how one behaves towards a person or idea.
- **Social norms** are the informal, mostly unwritten, rules that define acceptable and appropriate actions within a given group or community, thus guiding human behavior.
  - Social norms encompass what we do, what we think others do, and what we think others believe that we should do.

	Definition	Example
Attitude	A person's own beliefs, feelings, or evaluations about a behavior or issue	"I believe that..."
Injunctive norm	Perceptions of what behaviors are approved or disapproved by others	"Most people think that..."
Descriptive norm	Perceptions of what most people actually do, regardless of approval.	"Most people around here have smartphones."

## Overview of attitudes and norms measured in Bihar

From December 2024 to March 2025, a digital access and use survey was administered to a sample of 13,500 men and women 18-60 years of age across 10 districts of Bihar. The survey measured attitudes pertaining to phone ownership versus sharing, as well as injunctive and descriptive norms on (a) smartphone ownership; (b) internet use; and (c) use of phones for financial transactions.



## Questions asked to measure attitudes and norms

Four population sub-samples of both men and women were asked four sub-sets of questions on attitudes and norms related to women's phone use. A sub-sample approach was necessary because the entire set of attitude and norm questions was too long to ask any one respondent.

Attitudes were assessed by questions such as:

- Should married women should own smartphones?
- Should unmarried women should use the internet?
- Should women ask their family members for permission before using their phones?

Norms were assessed by questions such as:

- Do most married women around here own a smartphone? [Descriptive norm]
- Would your mother in law approve of you using the internet? [Injunctive norm]
- Would you approve of your husband using a phone for financial transactions? [Injunctive norm]

## How did we analyze responses to the attitudes and norms questions?

We developed a scoring system to identify gender bias in responses, as shown below, on ownership and permission to use a smartphone.

Question	Scoring
Do you think married women around here should have their own smartphone?	Yes for Women & No for Men = -2 Yes for Women & Sometimes for Men = -1 Sometimes for Women & No For Men = -1 Same response for both = 0 Sometimes for Women & Yes for Men = +1 No for Women & Sometimes for Men = +1 No for Women & Yes for Men = +2
Do you think married men around here should have their own smartphone?	

The sign denotes the attitude lean: negative score indicates bias towards women and positive score indicates bias towards men. The score for each measurement is an additive score across all corresponding questions. **The score sign is an arbitrary criteria to express direction of bias and does not convey desirability of bias.**

(Continued)

## How did we analyze responses to the attitudes and norms questions? (continued)

We developed a scoring system to identify gender bias in responses, as shown below, on ownership and permission to use a smartphone.

Question	Scoring
Do you think unmarried women around here should have their own smartphone?	Yes for Women & No for Men = -2 Yes for Women & Sometimes for Men = -1 Sometimes for Women & No For Men = -1 Same response for both = 0 Sometimes for Women & Yes for Men = +1 No for Women & Sometimes for Men = +1 No for Women & Yes for Men = +2
Do you think unmarried men around here should have their own smartphone?	
Think about women around here who own their own phones. Should they ask their family members for permission before using their phones? Should they ask always, sometimes or do they never need to ask?	Always Ask for Women & Never Ask for Men = -2 Always Ask for Women & Sometimes Ask for Men = -1 Sometimes Ask for Women & Never Ask For Men = -1 Same response for both = 0 Sometimes Ask for Women & Always Ask for Men = +1 Never Ask for Women & Sometimes Ask for Men = +1 Never Ask for Women & Always Ask for Men = +2
Think about men around here who own their own phones. Should they ask their family members for permission before using their phones? Should they ask always, sometimes or do they never need to ask?	

As noted on the previous page, the sign denotes the attitude lean: negative score indicates bias towards women and positive score indicates bias towards men. The score for each measurement is an additive score across all corresponding questions. **The score sign is an arbitrary criteria to express direction of bias and does not convey desirability of bias.**

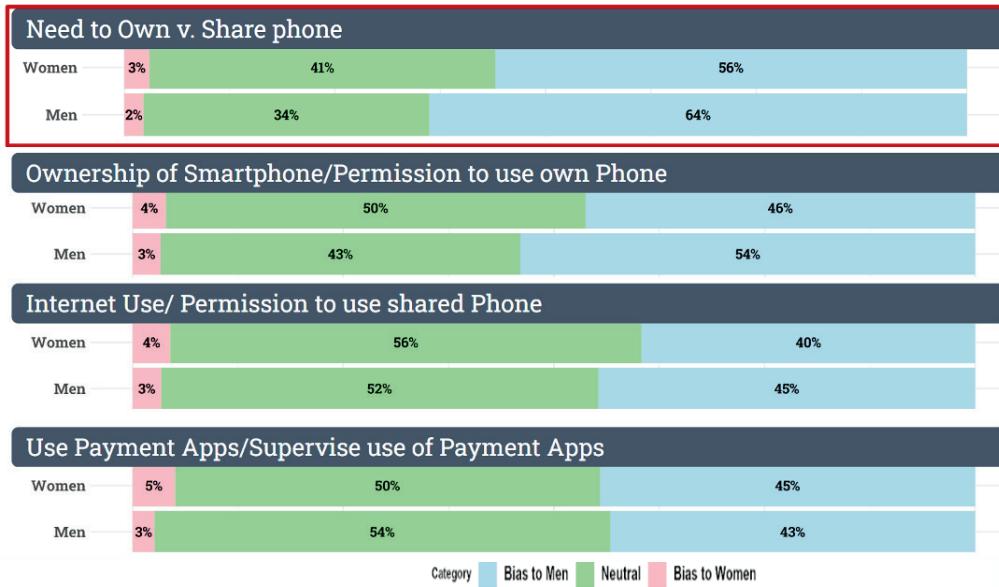
# Key findings on gender attitudes and norms related to phone use

## Key finding

1

A pro-male bias in attitudes, with men seen as needing to own a phone, while it's seen as more acceptable for women to share

- Men have pro-male attitudes towards phone ownership, smartphone ownership and use of phones.
- Among women, attitudes towards phone ownership, smartphone ownership, use of phones and payment apps are more gender neutral.



## Key finding

2

Women who are gender neutral in their attitudes towards phone ownership and use, tend to be more educated, literate, and under 40 years of age

		Women's Attitude			Men's Attitude		
		Bias-Men	Bias-Women	Neutral	Bias-Men	Bias-Women	Neutral
Age Group	18-24	21%	22%	29%	22%	14%	22%
	25-39	39%	45%	39%	36%	33%	36%
	40-60	41%	33%	32%	42%	53%	42%
Cohabitation Status	Not Married	12%	13%	18%	23%	15%	25%
	Married-w/Spouse	63%	63%	56%	76%	83%	74%
	Married-Alone	25%	24%	25%	1%	1%	1%
Can read a full sentence (literate)		29%	33%	44%	62%	62%	69%
Education	None	47%	44%	34%	17%	23%	14%
	Primary	12%	10%	12%	13%	13%	10%
	Secondary	36%	40%	43%	57%	46%	56%
	Graduate+	5%	6%	12%	12%	18%	20%

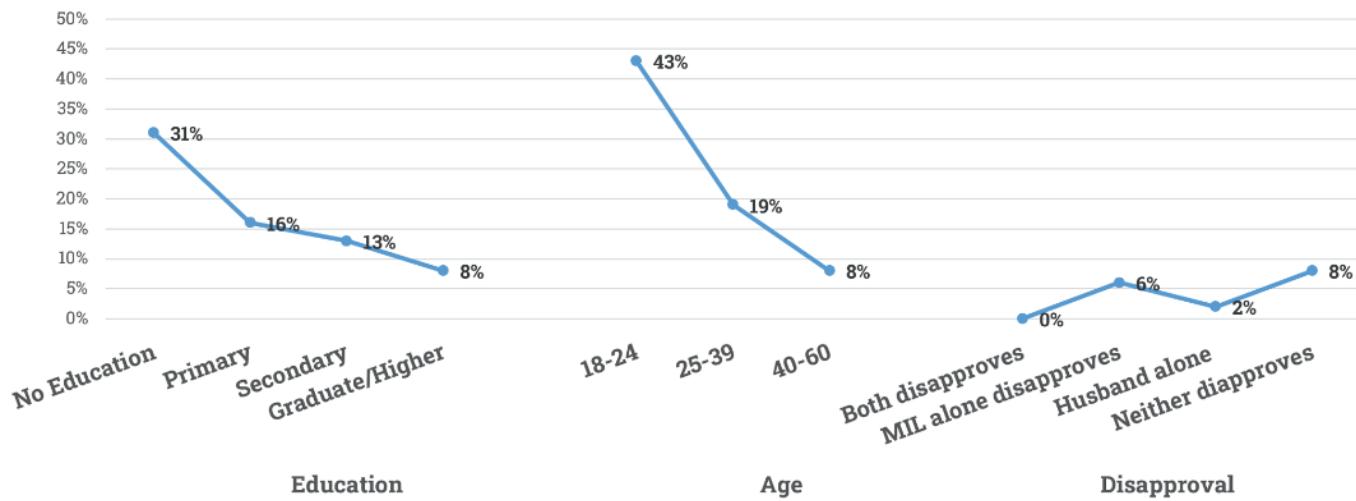
## Key finding

3

Approval from mother in law or spouse increases the probability of women's phone ownership

Using logistic regression to estimate the predicted probability of smartphone ownership allows researchers to identify a range of factors influencing adoption – including the role of injunctive norms – in shaping the likelihood of ownership. In the figure below, we see that women who have approval from both husband and mother-in-law have an 8% probability of owning a smartphone versus 6% amongst those whose mother in law disapproves but husband approves, and 2% probability amongst women whose husband disapproves but the mother in law approves.

## Predicted probability of owning a smartphone from Logistic regression



### Key finding

4

79% of women who report having ever used the internet had the approval of both the husband and mother in law

Disapproval for women's smartphone ownership	Not smartphone owner	Smartphone owner
Neither disapproves	74%	93%
Spouse only disapproves	15%	3%
Mother/Mother-in-law only disapproves	4%	4%
Both disapprove	7%	0.36%

### Key finding

5

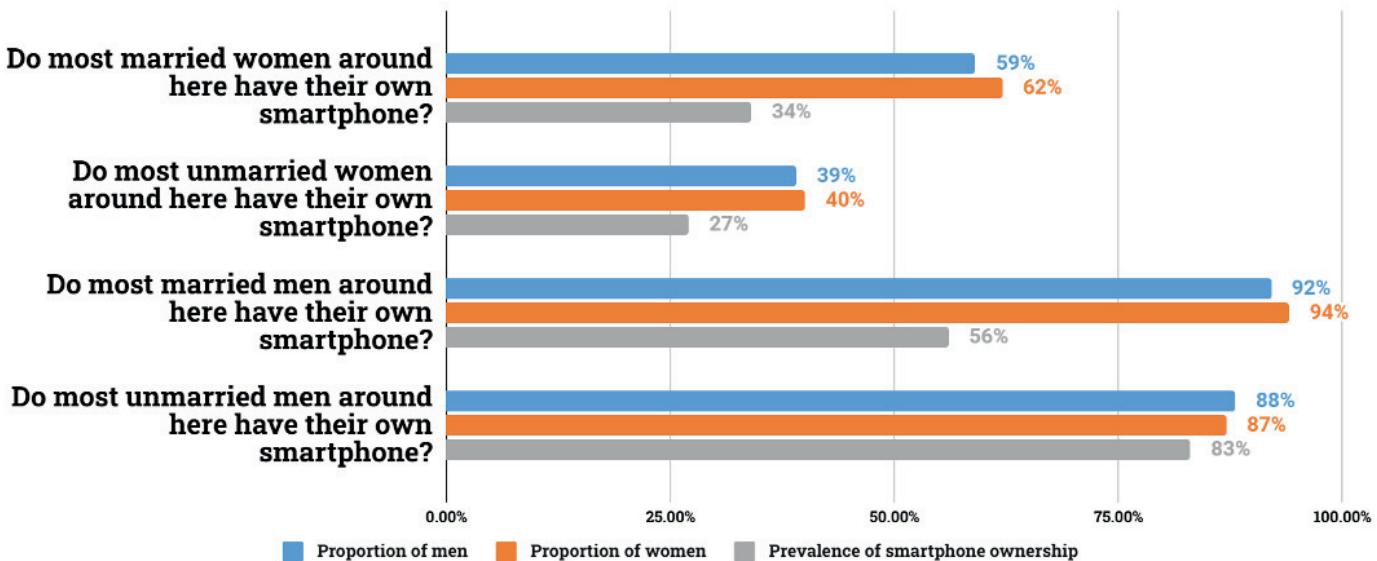
Only 6% of women have ever used a phone for financial transactions. However, among these 88% had the approval of both the husband and mother in law

	Ever used Gpay	Never used Gpay
Neither disapproves	88%	62%
Spouse only disapproves	5%	21%
Mother/Mother-in-law only disapproves	5%	6%
Both disapprove	1%	12%

## Key finding

# 6

Comparing norms with actual prevalence of smartphone ownership shows respondents think smartphone ownership is more common than it actually is – especially for women.



- Respondents consistently overestimate how many women own smartphones.
- For married women, most people believe that the majority have their own phone, but in reality only about one-third do.
- This perception gap is also present—though slightly smaller—for unmarried women.
- In contrast, men's smartphone ownership is both perceived to be high and actually high.
- People believe women already widely own phones – which can make the need for women's phone access interventions less visible, even where gaps remain large.

## Key finding

# 7

Education and household gatekeeping are the strongest determinants of women's smartphone ownership, with disapproval from husbands or mothers-in-law sharply reducing the likelihood of owning a phone.

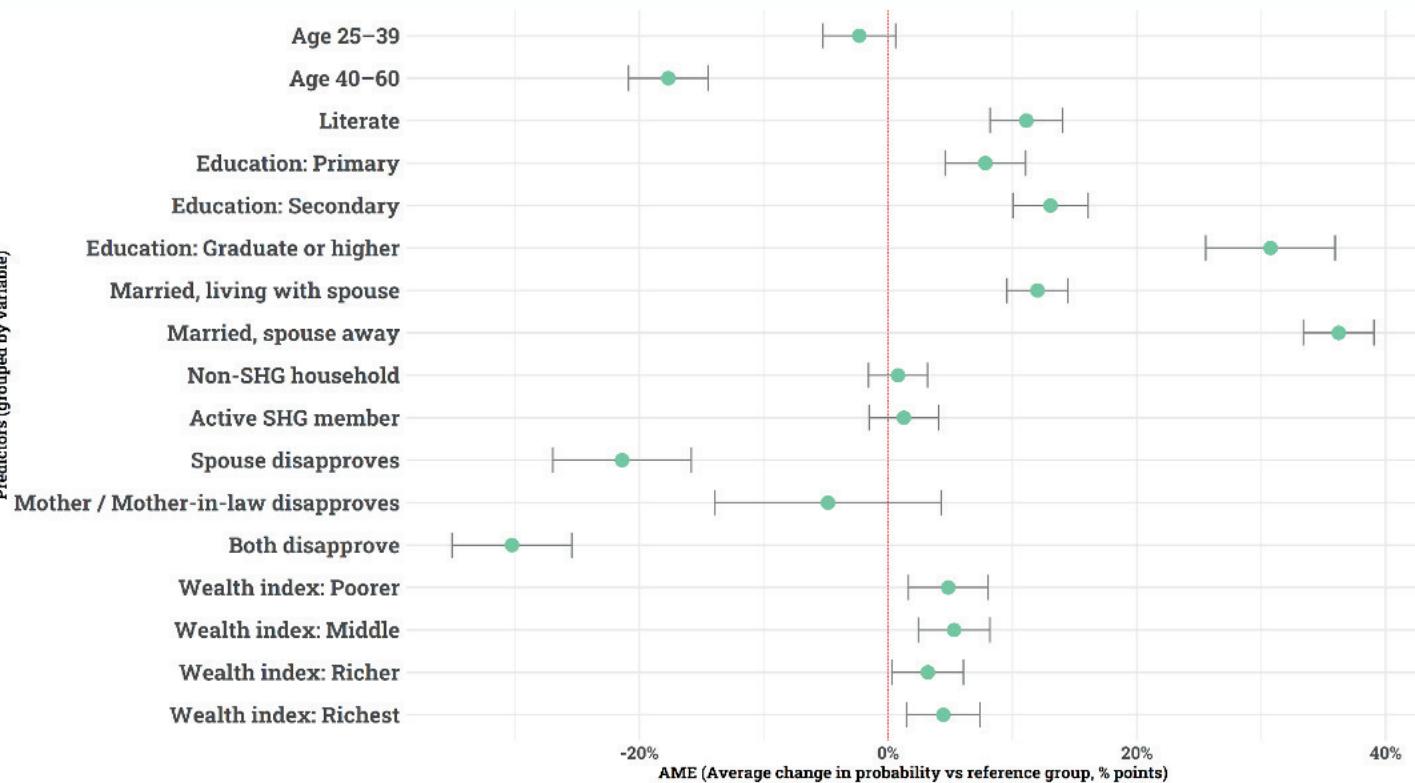
- We used logistic regression to predict the likelihood of smartphone ownership and to see which factors make it more or less likely. To make these results easier to understand, we calculated average marginal effects. These show the average difference in the probability of owning a smartphone when we compare one group to a reference group.
- For example, compared to young women aged 18–24 (the reference group), women aged 40–60 are about 20% less likely to own a smartphone. On the other hand, a woman with a graduate degree or higher is about 35% more likely to own one compared to a woman with no education. This way, we can directly see how age, education, and other factors – including social norms like family disapproval – shape the chances of smartphone ownership. (See next page.)

## Key finding

# 7

- (Continued from previous page.) The figure shows which factors are most strongly associated with women's likelihood of owning a smartphone.
- Education stands out as the strongest predictor: women with secondary or higher schooling are significantly more likely to own a phone compared to women with no formal education.
- Age also matters, with younger women (ages 25–39) more likely to own a smartphone than older women.

Predictors (grouped by variable)



- Living arrangements influence ownership as well. Women who are married and currently living with their spouse have a higher probability of owning a phone, compared to those whose spouse is away.
- By contrast, norms and household gatekeeping have a clear negative effect. If a husband disapproves of a woman owning or using a phone, her likelihood of ownership drops sharply. The same is true if a mother or mother-in-law disapproves. When both disapprove, ownership probability falls the most.
- Wealth is associated with higher ownership, but the size of this effect is more modest relative to education and household approval.
- Overall, the results suggest that while affordability matters, education and the support or opposition of key household decision-makers play a much stronger role in determining whether women are able to own their own phones.

For more information or permission to adapt this resource, please contact:

**Dr. Amnesty Lefevre**

Director, Evidence for Digital Transformation (EDiT) Consortium

 aelefevre@gmail.com

 [www.evidence-digital.org](http://www.evidence-digital.org)

## References

Scott, K., Ummer, O. & LeFevre, A.E. (2021). The devil is in the detail: Reflections on the value and application of cognitive interviewing to strengthen quantitative surveys in global health. *Health Policy and Planning* 36(6): 982-995. <https://doi.org/10.1093/heapol/czab048>

Scott K, Gharai D, Sharma M, Choudhury N, Mishra B, Chamberlain S, LeFevre AE (2020). Yes, no, maybe so: the importance of cognitive interviewing to enhance structured surveys on respectful maternity care in northern India. *Health Policy and Planning* 35(1): 67-77 <https://doi.org/10.1093/heapol/czz141>

## About this resource

This handout was prepared by EDiT consortium drawing on field experience from cognitive interviewing studies in India, Kenya and Nigeria settings. The content reflects lessons from evaluations of digital health programmes, and digital skills assessments.

This work was supported by Gates Foundation.

## Consortium partners



School of Public Health  
Departement Openbare Gezondheid  
Isikolo Sempilo Yoluntu  
UNIVERSITY OF CAPE TOWN



[www.evidence-digital.org](http://www.evidence-digital.org)

