UNDERSTANDING COOKING MINDSETS AND ELECTRIC PRESSURE COOKER USAGE IN NAIROBI

A quantitative validation study with electric pressure cooker owners in Nairobi, Kenya

April 2026

Ministry of Foreign Affairs of the Netherlands

OSPREY FOUNDATION

CLEAN COOKING ALLIANCE

An initiative of the User Insights Lab

A reminder of the UIL's EPC research journey so far

Context to this study

1 In 2024, the User Insights Lab (UIL) conducted 21 in-home ethnographic visits across Nairobi to understand how households cook and where Electric Pressure Cookers (EPCs) fit into their routines. The findings are published in a companion report: "Lifting the Lid on Household Cooking in Kenya" (2024) and on the People Insights Portal.

2 That study gave the "why" behind cooking behavior: motivations, tensions, personas, and the role of the EPC in the cooking week.

3 This quantitative study (303 in-person surveys) was designed to validate those findings at scale, quantify EPC usage frequency, and rank the barriers holding people back from using it more.

303
in-person surveys

Aug–Sep 2025
data collection timeline

~90 mins
average survey length, conducted in Swahili

What the quant confirmed and added

Segment

Confirmed cooking mindsets and motivations across Nairobi EPC-owning households

Quantify

Measured the frequency and context of EPC use

Prioritize

Identified and ranked the key barriers that limit more frequent EPC usage

Three things learned in this quantitative research study

The EPC has a clear and settled role

1 It sits alongside LPG (liquefied petroleum gas, the dominant cooking fuel in urban Nairobi), not instead of it. 98% of EPC owners also cook on gas. The EPC is hired for long-boil, labor-intensive dishes (beans, githeri, meat) where it excels.

2 The barriers to deeper use are a mix of perception and reality. Safety fear and inability to check doneness were the strongest factors in the MaxDiff.*

3 Satisfaction and advocacy are high, with 89% having recommended their EPC to someone else. The opportunity is converting cautious users who have not yet crossed the threshold of confidence.

**MaxDiff is a research technique used in this study that forces respondents to choose the most and least important items from a set, producing a reliable ranking of relative importance. More details about MaxDiff can be found in the appendices.*

What this report contains

Parts 1–2

The EPCs people own and how they use them, ownership patterns, fuel stacking and what meals are cooked

Parts 3–4

Who these cooks are and what holds them back, personas at scale, the MaxDiff barrier ranking, and the early majority confidence gap

Part 5

What this means and recommendations

Who we spoke to: educated, urban, mostly female. This sample reflects where EPC adoption is happening today

81%
female

80%
married

75%
tertiary educated

66%
main cook in household

75%
based in Nairobi

~4
average household size

Surveys were collected in Nairobi, Kiambu, Machakos and Kajiado via snowball sampling (where existing participants help identify further respondents) and field agents from BURN and Sun King. Education levels skew higher than national average, consistent with EPC adoption patterns seen in other clean cooking studies.

Survey design: five modules, 303 respondents, conducted in Swahili

Aug-Sep 2025 | In-person using Kobo Collect | Nairobi, Kiambu, Machakos, and Kajiado

1 Screening

Confirmed that each participant owned an EPC, was the main cook in their household, and was aged 18 or over.

2 Profiling

Covered demographics, cooking fuel use, and EPC ownership patterns. Included Likert questions on attitudes to technology (see appendices).

3 Segmentation

18 Likert statements designed to validate the six cooking personas identified in the earlier ethnography at scale.

4 Usage barriers

MaxDiff analysis using 8 sets of 4 barrier statements. Respondents ranked the most and least important barrier from each set.

5 Wrap up

Net Promoter Score and open-ended questions on what participants liked, disliked and would most like to improve.

Sampling: Initial n=90 surveys via snowball sampling in Nairobi and Kiambu. Remaining n=213 collected with field agents from BURN and Sun King, expanding coverage to Machakos and Kajiado. All surveys in Swahili using Kobo Collect.

The EPCs people own

Ownership patterns, brands, and acquisition

Half the sample has owned their EPC for less than a year; the market is accelerating


A diversity of brands and models in the field

50% owned EPC less than 1 year: uptake is accelerating

6–8L most common size (50% at 6L, 34% at 8L)

52/48 cash vs pay-as-you-go split

94% of EPCs reported in good working condition

Top brands: BURN Ecoa (38%), PowerUp (10%), Sun King (8%). Note: These reflect the sampling strategy, which purposely included BURN and Sun King customers.

How EPCs are used

Usage frequency, fuel stacking, and what gets cooked

The EPC sits inside a multi-appliance household: it does not replace LPG

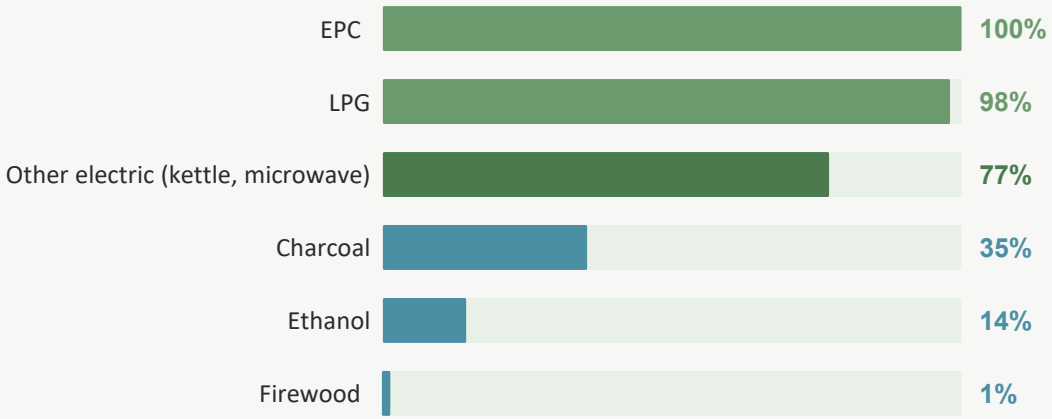
98%
of EPC owners also use LPG

4 days
per week average EPC use

7 days
LPG used every day

0.26
median EPC stacking index*

Prevalence of fuel and appliance ownership among the 303 respondents

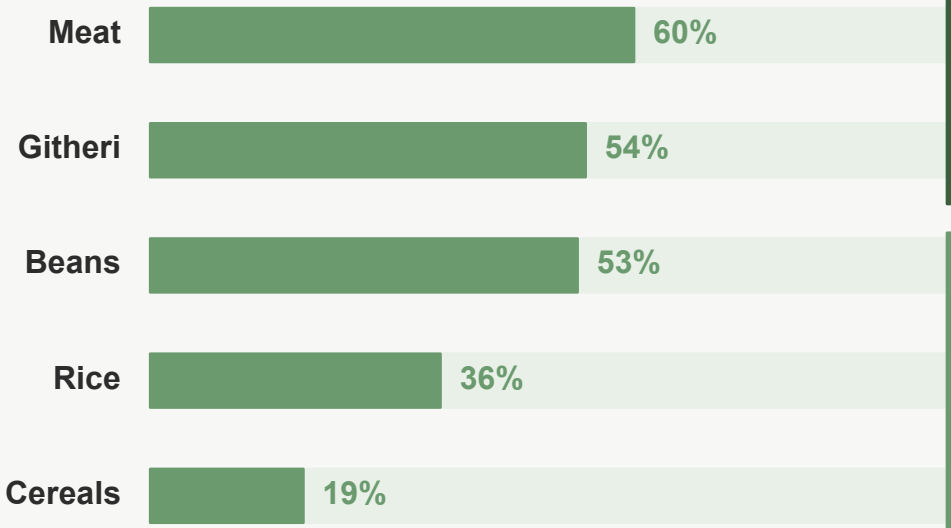


The most common combination was LPG + EPC + other electric devices (41%), followed by charcoal + LPG + EPC + other electric (23%).

** Fuel stacking refers to households using more than one cooking fuel or appliance. The stacking index measures what share of total weekly cooking events used the EPC specifically. A score of 0.26 means the EPC was used in roughly one quarter of all cooking occasions. The Clean Cooking Alliance (CCA) Comparative Stacking study found that single-burner devices typically reach a stacking index of around 0.50, so there is meaningful room to grow.*

The EPC is hired for long-boil, hard-work dishes, not for cooking a whole meal

Top dishes cooked in the EPC



The EPC is a specialist, not a generalist

The EPC excels at the tasks that are most time consuming and often expensive on gas: long-boiling legumes and cereals.

Non-pressurized mode

Most people (56%) only use the pressurized mode, but the remaining 44% of users also use their EPC in non-pressurized mode. This demonstrates an appreciation for the versatility of the appliance and a willingness to experiment beyond the appliance's primary function. 10% use the EPC in pressurized mode more than half the time.

What mindsets do the cooks have?

Validating the six dynamic personas identified in the ethnographic study

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Six household cook personas identified in the earlier ethnography held up at scale; most people identify with multiple personas

70%

Nurturing Cook

"Cooking is an act of love and care"

61%

Experimental Cook

"I want to try something new"

35%

Tradition-Respecting Cook

"I want to preserve family traditions"

27%

Time-Conscious Cook

"I need dinner in 20 minutes"

27%

Budget-Minded Cook

"I need to save money while cooking efficiently"

25%

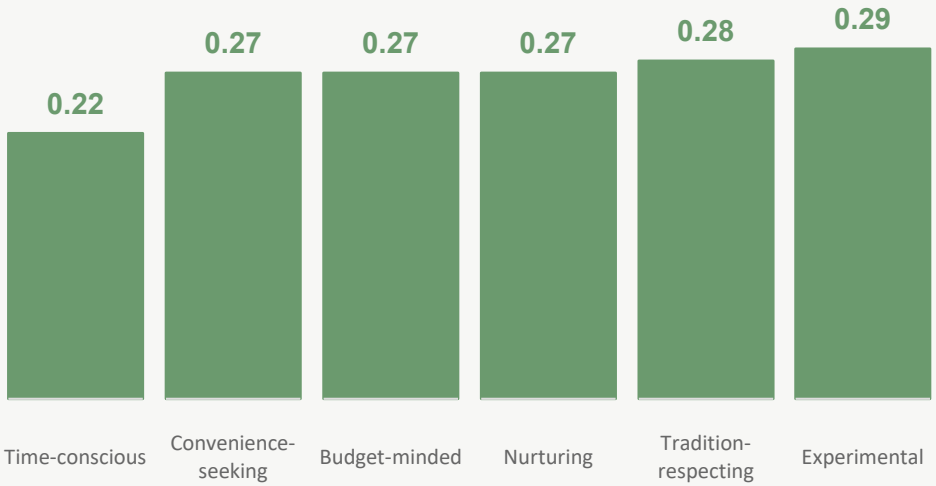
Convenience-Seeking Cook

"I want an easy solution"

Most respondents identified with multiple personas: on average 2.4. Cooking motivation is dynamic throughout the week, not fixed. Nurturing and Experimental personas were most commonly paired in the same person. The most typical adopter profile combines care for family with a willingness to try new things. Experimental cooks also tended to score lower on time-consciousness and convenience-seeking.

Stacking behavior does not vary by persona: it is governed by dish, time, and day of the week

EPC stacking index by persona: remarkably flat across all six



How to interpret the scores

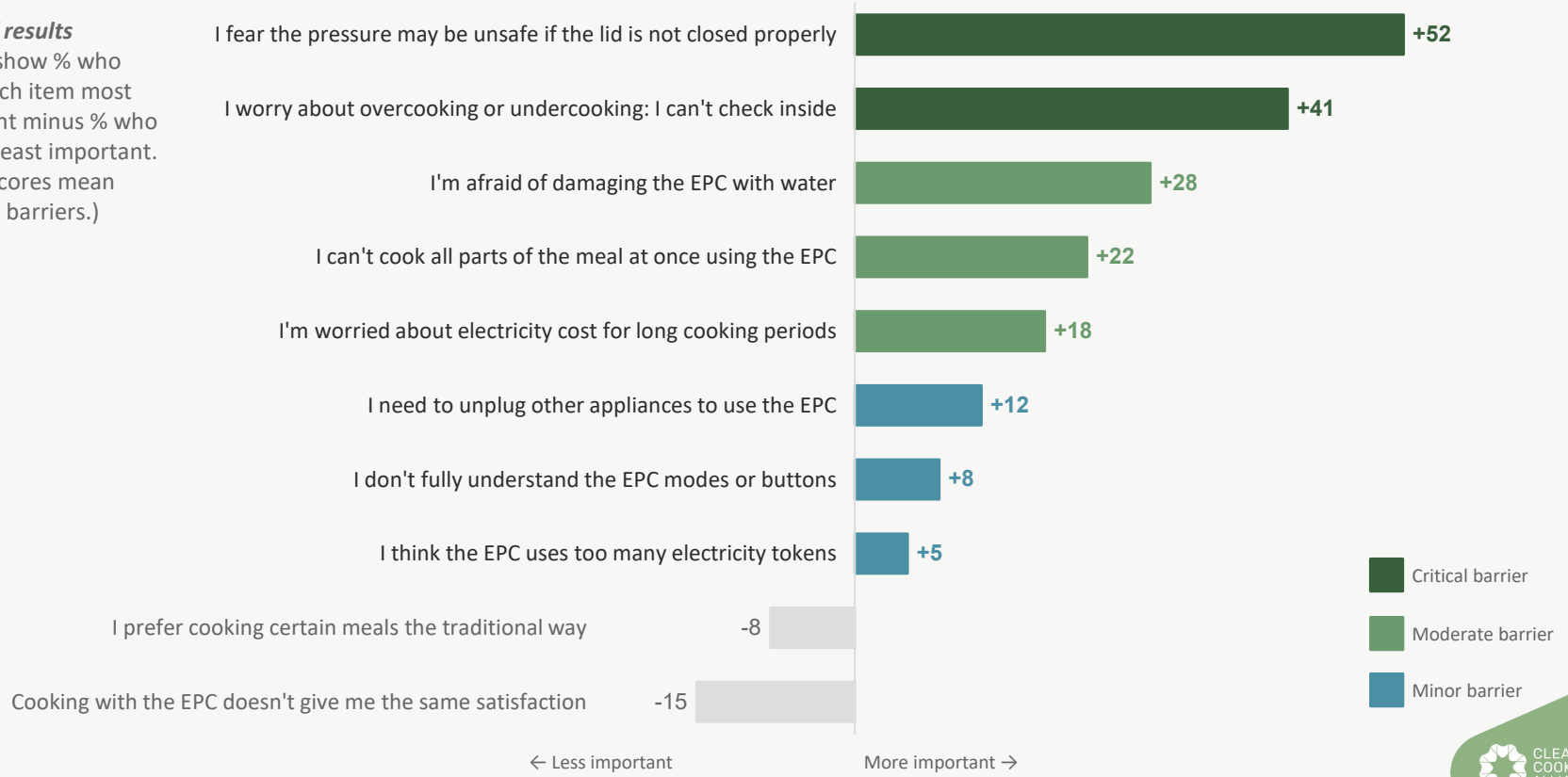
1. All six personas use the EPC at roughly the same rate.
2. Behaviour is situational, driven by what is being cooked, time pressure, and weekly rhythm.
3. Personas predict perception, not behavior.

What holds back greater EPC usage?

Barriers to greater EPC usage

MaxDiff results: safety and the feeling of loss of control are the two barriers that matter most

MaxDiff results
(Scores show % who rated each item most important minus % who rated it least important. Higher scores mean stronger barriers.)



The top two barriers are a mix of perception and reality

BARRIER #1: SAFETY

"I fear the pressure may be unsafe if the lid is not closed properly"

Why this matters:

Fear of manual pressure cookers, which can and do explode, is being transferred onto the EPC. This is a perception problem, not a product problem.

> *"A lot of people in the community think all pressure cookers are dangerous because we've all seen pictures of manual cooker explosions, and that puts them off."*
>
> **Survey participant**

BARRIER #2: VISIBILITY

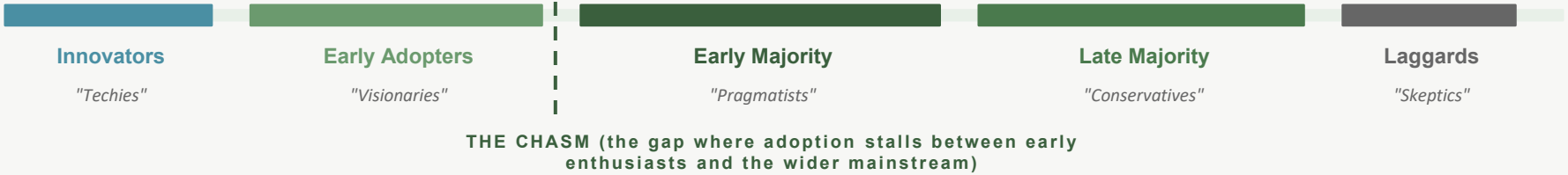
"I worry about overcooking or undercooking: I can't check as it cooks"

Why this matters:

The closed-lid cooking process removes the visual and sensory cues that experienced cooks rely on. This creates anxiety, particularly for Nurturing and Experimental personas who are invested in the outcome of their meals.

> *"It makes me use guesswork when cooking, approximating the time and setting on the device."*
>
> **Survey participant**

Crossing the chasm: early majority users are more cautious and need more hand-holding than early adopters`



Early Adopters (>30 months ownership)

52 respondents

Stacking index: 0.36, heavier EPC users

More Nurturing and Experimental in orientation

Key barrier: concern about overcooking or undercooking, and needing to unplug other devices, reflecting greater experimentation with competing appliances

Early Majority (<30 months ownership)

112 respondents

Stacking index: 0.29, lighter users

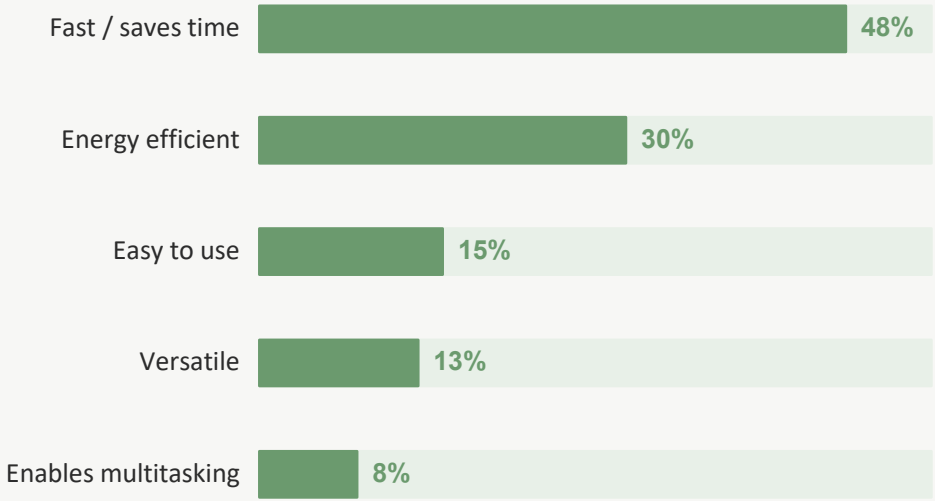
More Time-Conscious in orientation

Key barrier: concern about not being able to cook a complete meal in the EPC in one go, suggesting they have not yet learned the full range of what the appliance can do

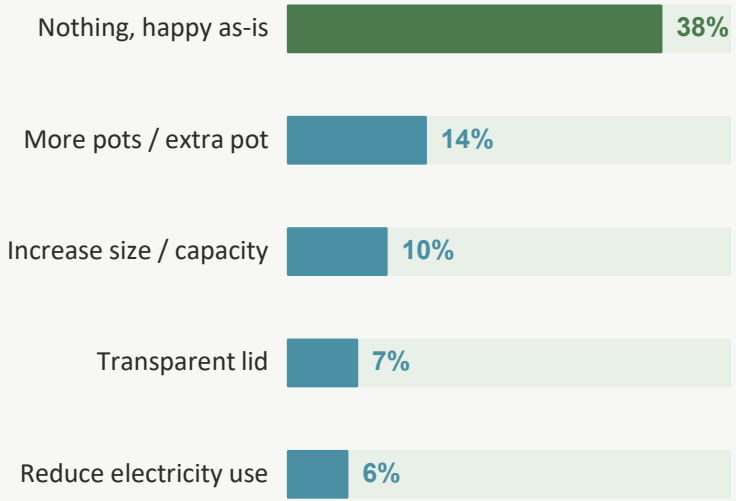
What this tells us: The EPC was not adopted first by people short of time, even though speed is its strongest functional job. It was adopted by people for whom cooking is an identity matter: Nurturing and Experimental cooks. The mainstream Time-Conscious cook, who arguably has the most to gain, has not yet crossed. Reaching them requires a different message, not a better product.

EPCs are seen as fast (48%) and energy efficient (30%), with opportunities for an extra pot (14%) and greater capacity (10%)

Top things cooks love



Top things cooks would change



89% have already recommended their EPC; speed and time-saving lead the reasons

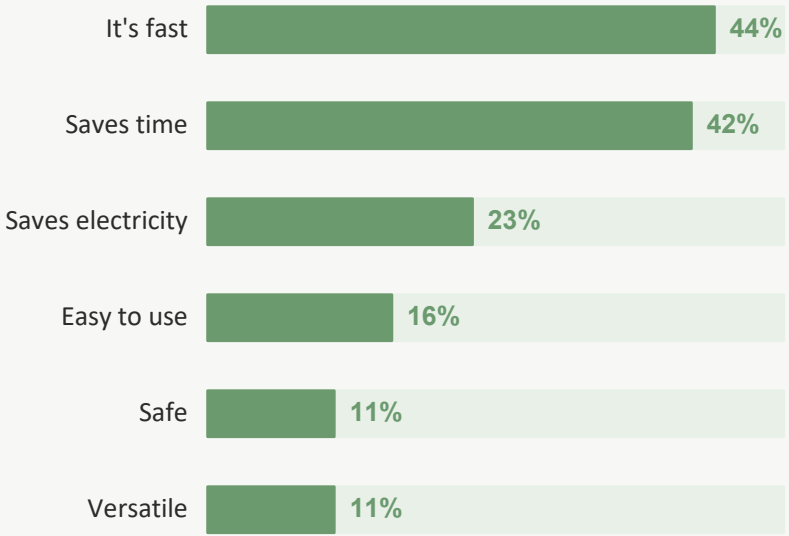
89%

recommended to friends or family

11%

have not recommended yet

Top reasons for recommending



"It is much safer than the traditional pressure cooker, also if you touch it's not hot, that can burn children or adults."

Survey participant

"It's easy to use, the food gets ready faster, it doesn't consume a lot of electricity, it's fun and enjoyable because you don't need to supervise."

Survey participant

Power users as ambassadors: Referral programs rewarding heavy users who successfully introduce the EPC to a new customer could accelerate adoption at low cost.

What this means

Overall learnings and implications

CLEAN COOKING ALLIANCE

Qualitative and quantitative research tell a very similar story; together, they are more powerful

Confirmed by quantitative (quant): the EPC is a partner to LPG, not a replacement

98% of EPC owners also use LPG. The ethnography showed this was universal behaviour; the survey proves it holds across 303 households. Any product or campaign framing that positions the EPC as an LPG replacement is working against the grain of how people actually cook.

Confirmed by quant: cooking behaviour is driven by the meal, not the person

Stacking indices of 0.22–0.29 emerged across all six personas: a remarkably flat line. The ethnography told us personas are dynamic, not fixed. The survey proves they don't predict how often someone uses their EPC: dish type, time pressure, and weekly rhythm do.

Discovered by quant: identity shapes perception, not behaviour, and that's where trust breaks down

Nurturing (70%) and Experimental (61%) cooks show the strongest safety and control concerns in the MaxDiff. These are the two archetypes most invested in cooking as an expression of identity: of care for their family, of mastery and creativity. For these archetypes, an appliance they cannot see into and fully control feels like a threat to something deeper than a meal. This is why the barriers are harder to shift for these groups than for others.

A note on Jobs to Be Done (JTBD): The functional jobs identified in the ethnography research—speed, efficiency, nourishment, and tradition—are all confirmed in the quant data. The emotional and social dimensions that shape how people feel about the EPC are explored in depth on the People Insights Portal as part of the ethnographic synthesis.

The opportunity: Address safety perceptions, onboard for the early majority, and reward referral behavior

1 COMMUNICATIONS

Address the safety perception: it is the single biggest barrier

The MaxDiff identified safety concerns as the #1 barrier by a significant margin. This appears to be a misperception rooted in confusion with manual pressure cookers, which are significantly more dangerous. Communications that address this distinction directly are tackling the single highest-leverage barrier in the data.

→ Page 15: MaxDiff results

Ethnography: The ethnography found the same fear. Participants explicitly referenced manual pressure cooker explosions.

2 ONBOARDING

Onboard for the early majority, not the early adopter

Early majority users (stacking index 0.29 vs 0.36 for early adopters) are more Time-Conscious and more concerned about cooking a complete meal. They are also the better predictor of mainstream demand. Onboarding that starts with specific dishes, clear first steps, and honest expectations about EPC use alongside LPG will convert this group more reliably than messaging designed for enthusiasts.

→ Page 17: Early majority vs early adopters

3 POSITIONING

Sell the EPC as the ideal partner to LPG

98% of EPC owners also cook on LPG. The stacking index of 0.26 shows the EPC handles a specific share of the weekly cooking load (long-boil, labour-intensive dishes) while LPG handles the rest.

→ Page 9: Fuel stacking and co-use data

4 ADVOCACY

Reward the referral behaviour that is already happening

89% of respondents have already recommended their EPC to friends or family, unprompted and unstructured. Speed and time-saving are the reasons they give. A formal referral program could help amplify something the data shows is already working.

→ Page 19: Advocacy and recommendation data

What the findings suggest should be tested: persona-informed hypotheses for increasing EPC usage

NURTURING + EXPERIMENTAL · 70% + 61% · Most commonly paired

Speak to the identity, not just the appliance

The job

Functional job: ensure nutritious, well-made meals for the family. Emotional job: feel connected and caring or feel inspired and accomplished.

What the quant shows

These two personas show the strongest safety and control concerns in the MaxDiff (+52, +41). They are also the early adopters. The barrier is not ignorance of the EPC: it is that a closed-lid appliance feels like a threat to something that matters deeply.

Hypothesis

If communications address the safety misperception in the language of care and mastery, addressing what matters most to these personas, one would expect greater confidence and deeper usage among the largest adopter group.

See slides 12, 15, 16

TIME-CONSCIOUS · 27% · The mainstream who has not yet crossed

Prove the time job with specific dishes, not general claims

The job

Functional job: prepare meals quickly to free up time for other priorities. Emotional job: feel in control and productive.

What the quant shows

Time-Conscious cooks index strongly in the early majority (stacking index 0.29 vs 0.36 for early adopters). Their specific MaxDiff concern is not being able to cook a complete meal in one go, suggesting they have not yet discovered the full range of what the EPC can do.

Hypothesis

If onboarding starts with a short, specific list of dishes (githeri, beans, meat the EPC prepares faster than any alternative) and frames the first week as a practical trial rather than a commitment, one would expect Time-Conscious cooks to cross more readily.

See slides 13, 17

BUDGET-MINDED · 27% · Low users with a cost perception gap

Close the educational gap on running costs

The job

Functional job: cook affordably and manage fuel costs. Emotional job: feel resourceful and in control of household finances.

What the quant shows

Low EPC users (stacking index < 0.12) show significantly higher concern about electricity costs than high users. Yet the EPC is cheaper per meal than LPG for long-boil dishes. The gap is not reality: it is perception, and it is specific to this persona.

Hypothesis

If positioning directly addresses the cost comparison, showing in concrete terms what a pot of beans costs on EPC vs LPG, Budget-Minded cooks who currently under-use the appliance would have a rational basis to increase usage.

See slides 15, appendix: low vs high users

The quant established who uses the EPC and what holds them back. The JTBD framework from the ethnography suggests why those barriers exist at the level of identity. Together they point to interventions worth designing and testing.

Functional and emotional jobs observed in the ethnography, echoed in the quantitative data

	Nurturing + Experimental 70% + 61% · most commonly paired	Time-Conscious 27% · early majority core	Budget-Minded 27% · over-represented in low users
Functional job	Ensure meals are nutritious and well-made for the family (Nurturing). Access versatile tools to try new recipes and techniques (Experimental).	Prepare meals quickly to free up time for other priorities.	Use cost-effective methods to cook meals affordably and manage fuel costs.
In their words *(researcher synthesized)*	*"When I cook for my family, I want appliances that ensure nutritious meals so I can promote their health and well-being." / "When I cook, I want versatile appliances so I can explore new recipes with ease."*	*"When I need to prepare meals, I want a fast and efficient appliance so I can save time for other priorities."*	*"When I cook for my family, I want affordable and efficient appliances so I can manage fuel costs while preparing meals."*
Emotional job	Feel connected and caring, expressing love through food (Nurturing). Feel inspired, creative and accomplished (Experimental).	Feel in control and productive, managing a busy schedule with confidence.	Feel resourceful and in control of household finances.
In their words *(researcher synthesized)*	*"When I prepare meals for loved ones, I want to feel connected and caring so I can express love through food." / "When I try new recipes, I want to feel inspired and creative so I can improve my culinary skills."*	*"When I prepare food quickly, I want to feel in control and productive so I can manage my busy schedule with confidence."*	*"When I save money on cooking, I want to feel resourceful and in control so I can manage my household effectively."*
Social job	Be appreciated for love and effort in family meals. Be admired for culinary creativity and expertise.	Be seen as efficient and capable by peers and family.	Be recognised as a responsible household manager.
Quant evidence	*Strongest safety and control concerns in MaxDiff. Early adopters. Identity-level barriers.*	*Early majority. Stacking index 0.29. Barrier: cannot cook whole meal at once.*	*Low users show high electricity cost concern.*

Rows shaded in light green show the "in their words" phrasing from ethnography participants. Social job row included for completeness: not directly measured in the quant.

Source: qualitative ethnography "Lifting the Lid on Household Cooking in Kenya" (2024). Functional job confirmation (speed, cost, nourishment) is supported by the quant satisfaction and barrier data. Emotional and social jobs are ethnographic observations. Full JTBD grid available on the People Insights Portal.

Appendices

Supporting data

Appendix 1: EPC ownership profile

50% owned their EPC for less than a year; uptake is accelerating

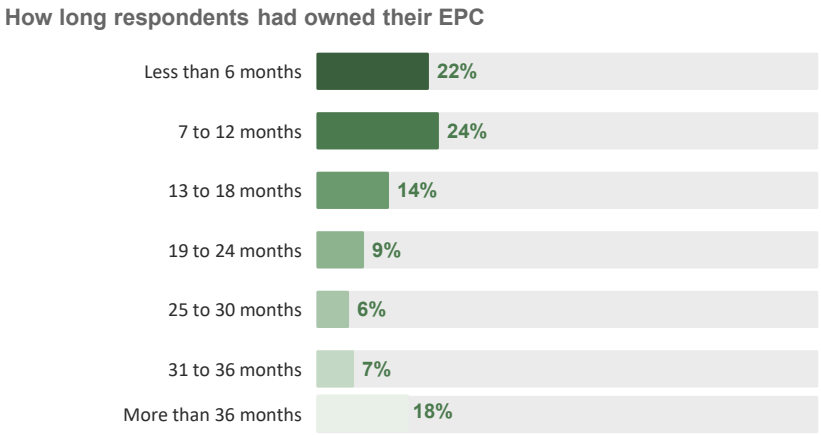
84% chose a 6L or 8L model, the dominant sizes across all brands

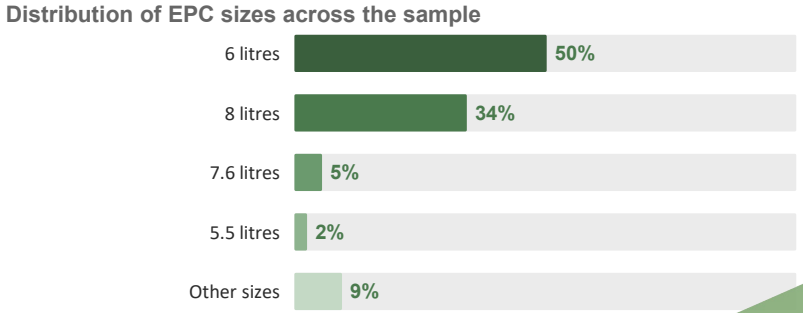
52/48 split between cash purchase and pay-as-you-go acquisition

94% reported their EPC as in good working condition

44% also cook in non-pressurised mode, though only 1% use it more than half the time. The feature is either poorly signposted or not yet widely understood.

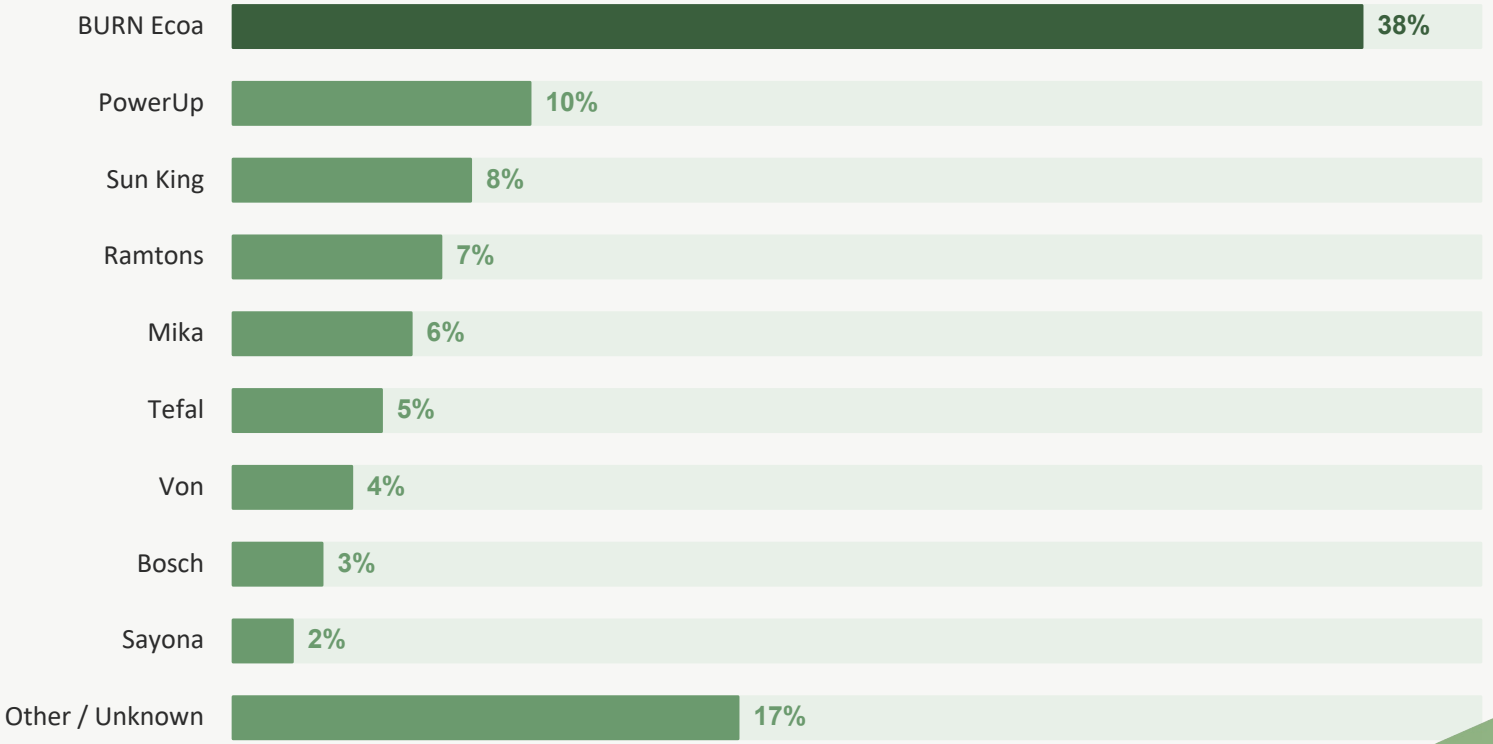
Note: Size data from 303 respondents. Other sizes include 4L, 5L, 5.7L, 6.5L, 7L and 10L.



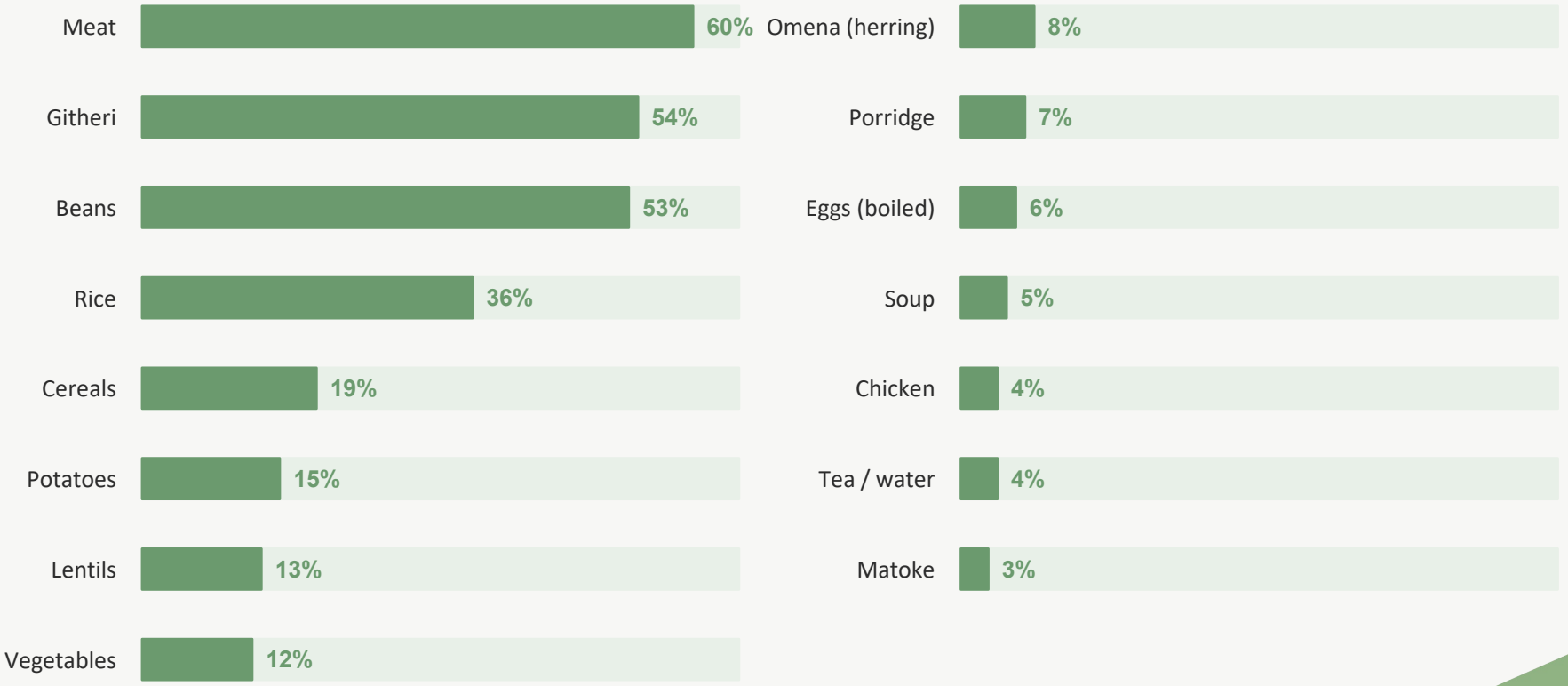


Appendix 2: EPC brand incidence

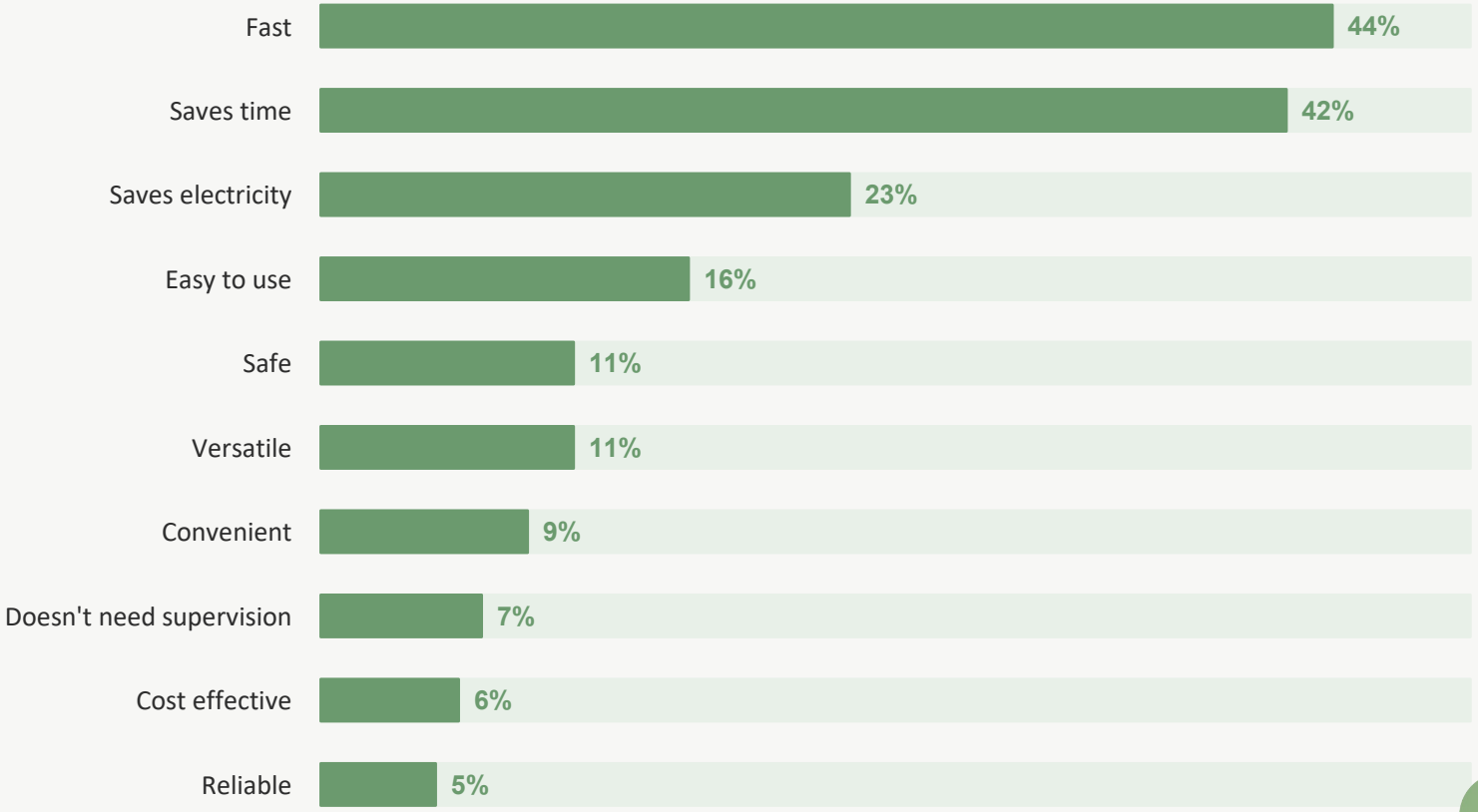
Note: Brand distribution reflects sampling strategy, which purposively included BURN and Sun King customers.



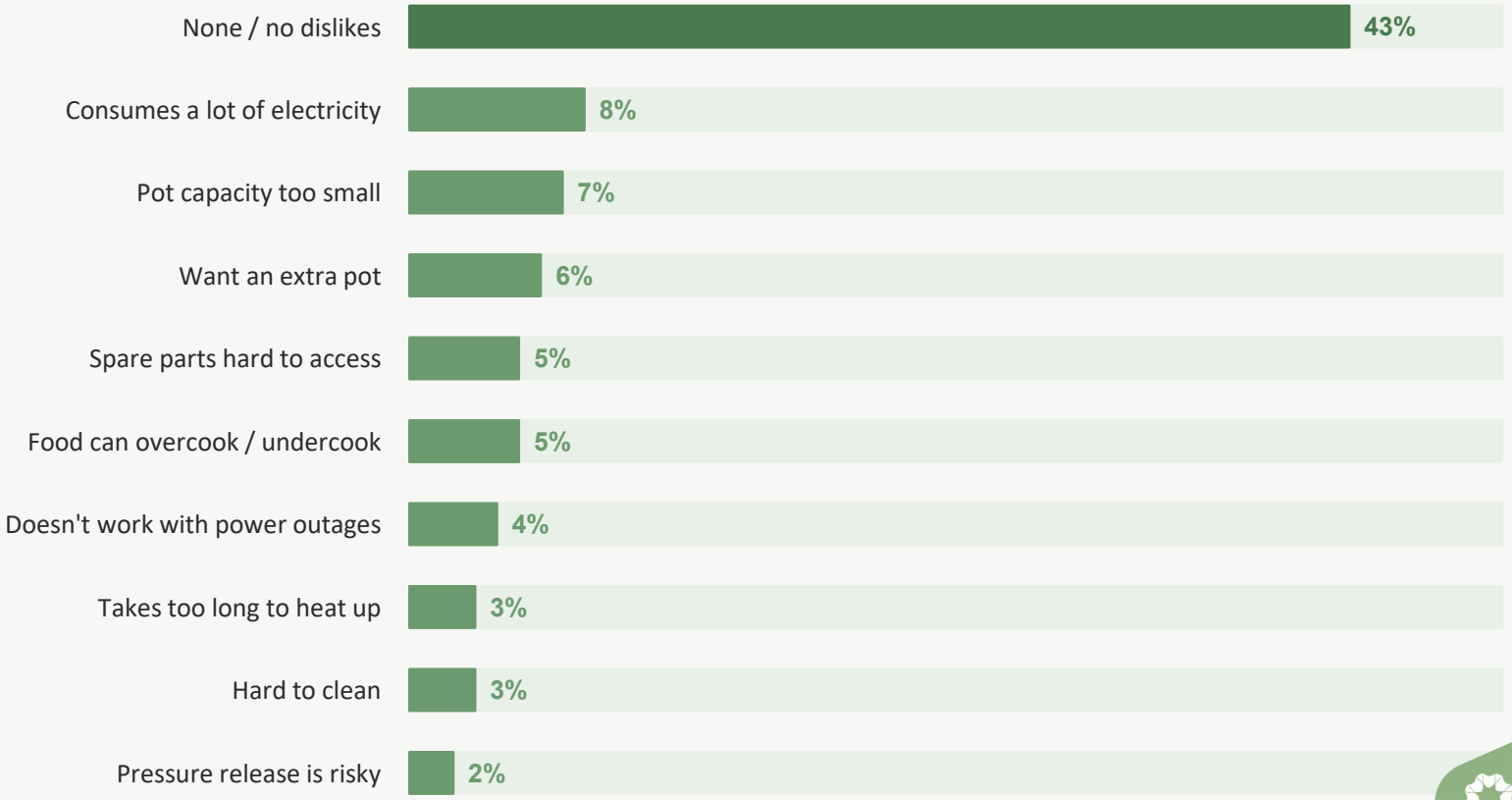
Appendix 3: Meals prepared on the EPC



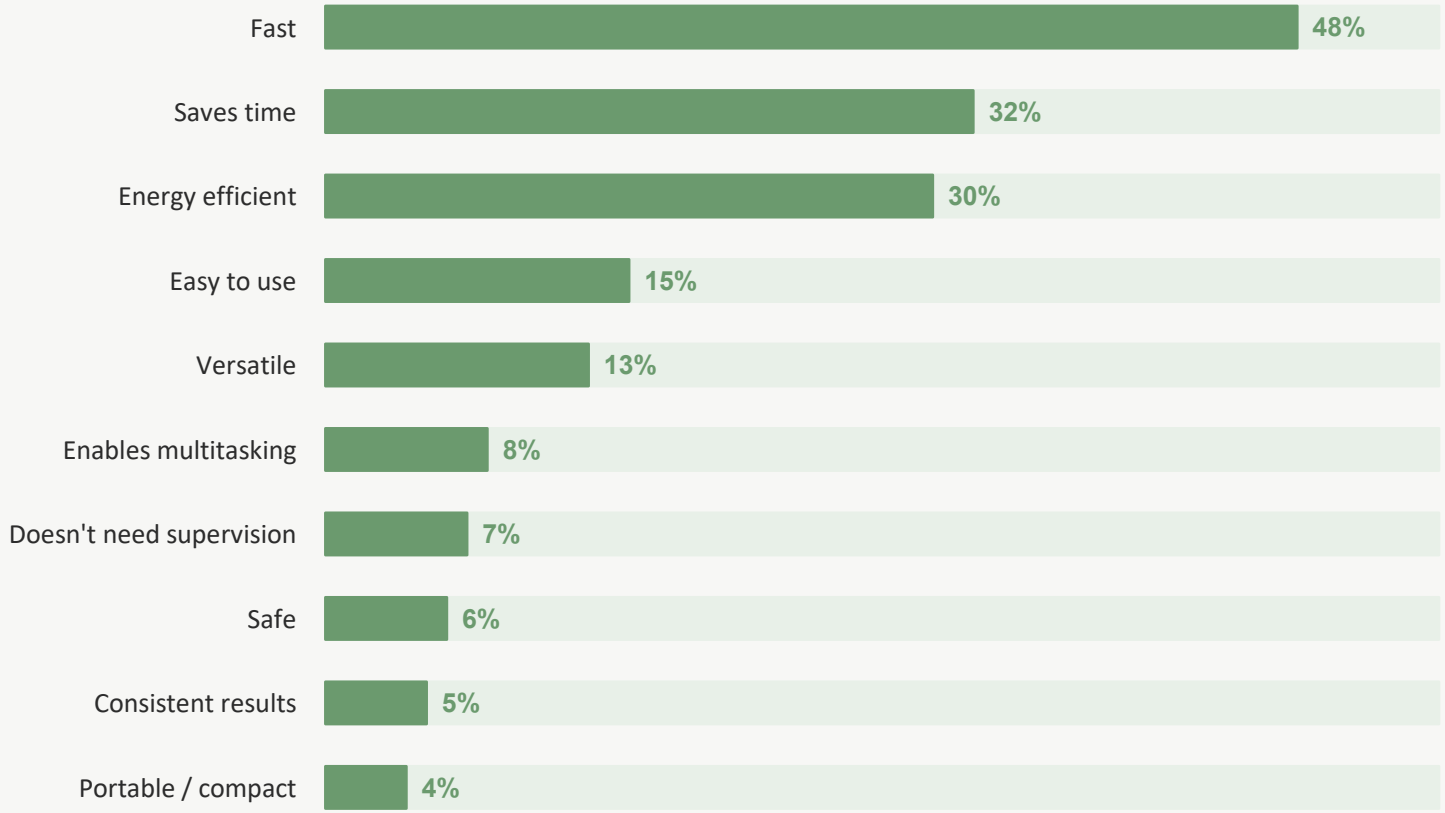
Appendix 4: Reasons for recommending the EPC



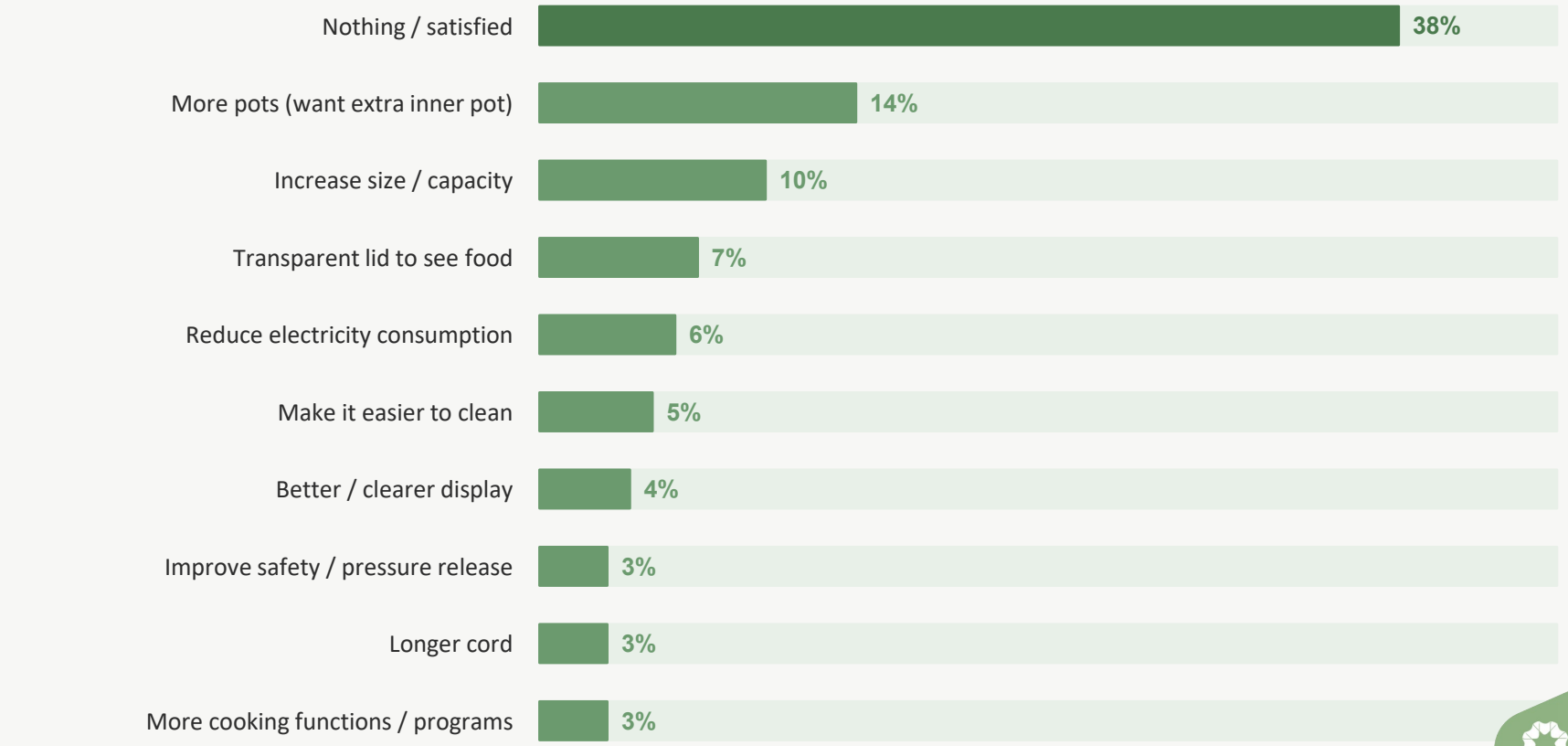
Appendix 5: Dislikes about the EPC



Appendix 6: Favorite aspects of the EPC



Appendix 7: "If you could change one thing about your EPC, what would it be?"



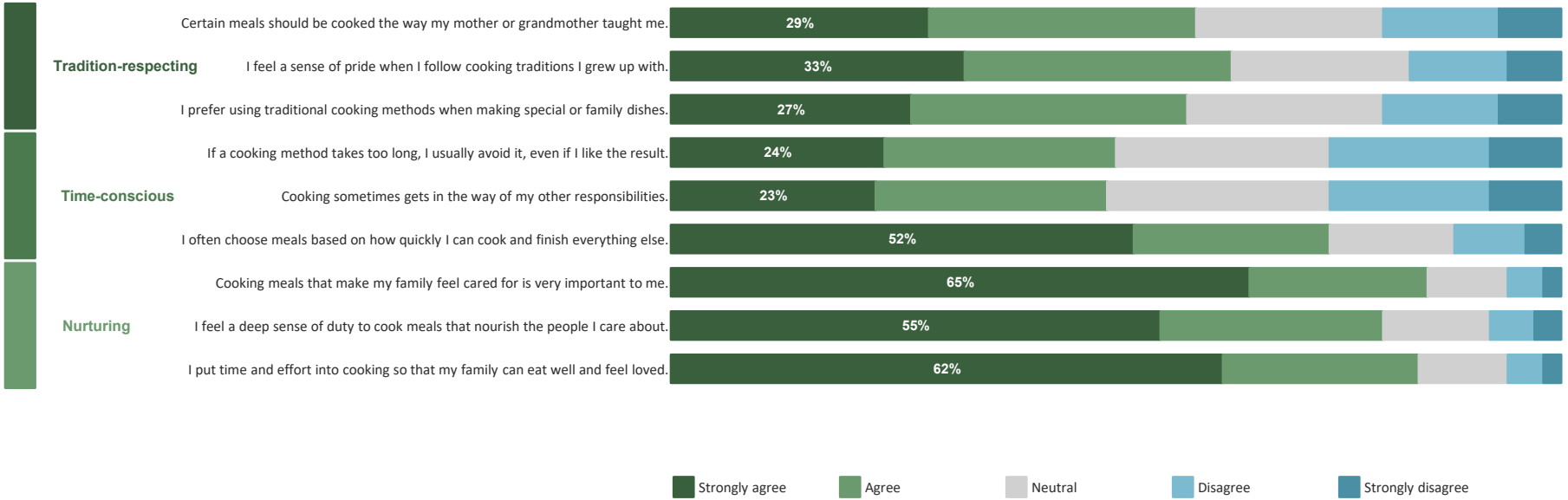
Appendix 8: Stacking index by segment

EPC stacking index = proportion of all weekly cooking events that used the EPC. Range across segments: 0.22–0.29.

CCA benchmark for single-burner devices ~0.50

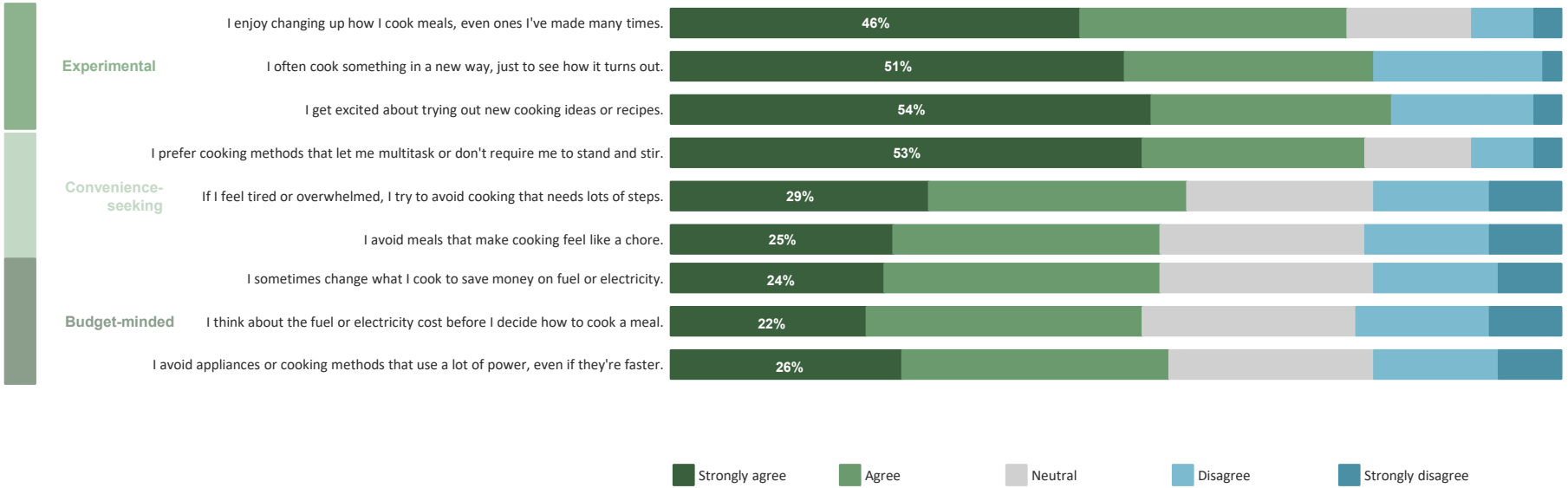
Appendix 9: Segmentation: the 18 Likert statements used to validate each persona at scale (page 1 of 2)

Participants agreed or strongly agreed with all three statements in a segment to be classified within it. Most fell into 2–3 segments.



Appendix 10: Segmentation: the 18 Likert statements used to validate each persona at scale (page 2 of 2)

Participants agreed or strongly agreed with all three statements in a segment to be classified within it. Most fell into 2–3 segments.



Appendix 11: MaxDiff methodology to rank barriers

What is MaxDiff?

MaxDiff (Maximum Difference Scaling) is a research technique that forces respondents to choose the most and least important item from a small set. Because respondents must make a direct trade-off, the results are more discriminating and reliable than asking people to rate each item on a scale.

How it worked in this study

16 barrier statements about EPC use were identified from the earlier ethnography. These were organised into 8 sets of 4 statements, with each statement appearing twice across the sets. For each set, respondents selected the statement most important and least important to them.

How scores are calculated

MaxDiff score = % rated most important − % rated least important

Higher scores indicate stronger barriers. Negative scores indicate items perceived as unimportant relative to others in the set.

Example cards shown to respondents

CARD A	CARD E
1 I'm unsure how much water to use for certain dishes	1 I'm unsure how much water to use for certain dishes
2 I'm afraid of damaging the EPC with water	2 I'm not confident the food will come out right
3 I'm worried about the electricity cost when cooking for long periods	3 I fear the pressure might be unsafe if the lid isn't closed properly
4 I want to feel in full control while cooking — the EPC makes me feel like I'm guessing	4 I prefer to cook certain meals the traditional way

Most important ↑ *Least important ↓*

Respondents selected one item as most important and one as least important from each card.

MaxDiff forces a choice between items, producing more reliable rankings than simple rating scales.

Appendix 12: MaxDiff barrier results by segment

Top barrier concerns indexed by segment. Nurturing and Experimental cooks show the strongest safety and control concerns.

	Time-conscious	Convenience-seeking	Budget-minded	Nurturing	Tradition-respecting	Experimental
Safety / lid pressure fear	45	48	44	58	50	55
Overcooking / undercooking	36	39	37	46	40	44
Water damage fear	25	28	26	30	27	29
Can't cook whole meal at once	28	22	24	18	25	20
Electricity cost concern	22	16	26	14	20	15
Don't understand modes/buttons	12	15	14	8	11	7

Darker = stronger barrier concern

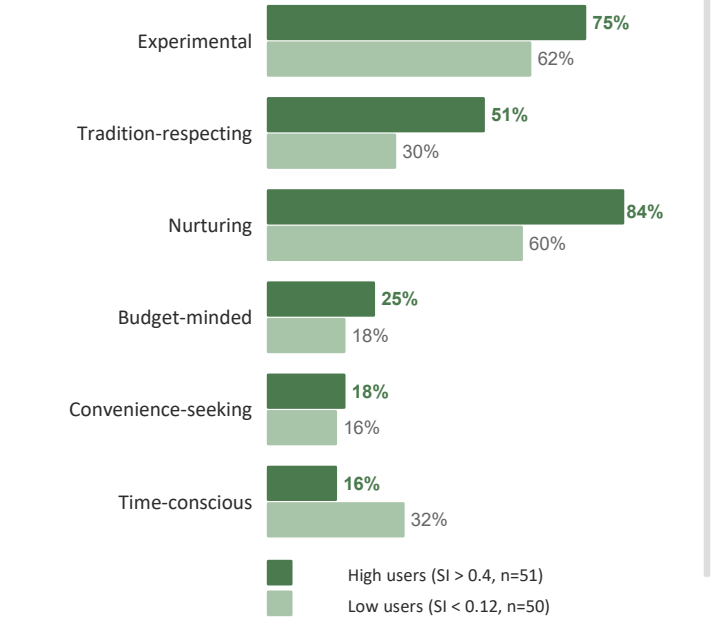
MaxDiff score = % most important minus % least important

Appendix 13: Low vs high EPC users: barriers and personas differ, suggesting two distinct intervention needs

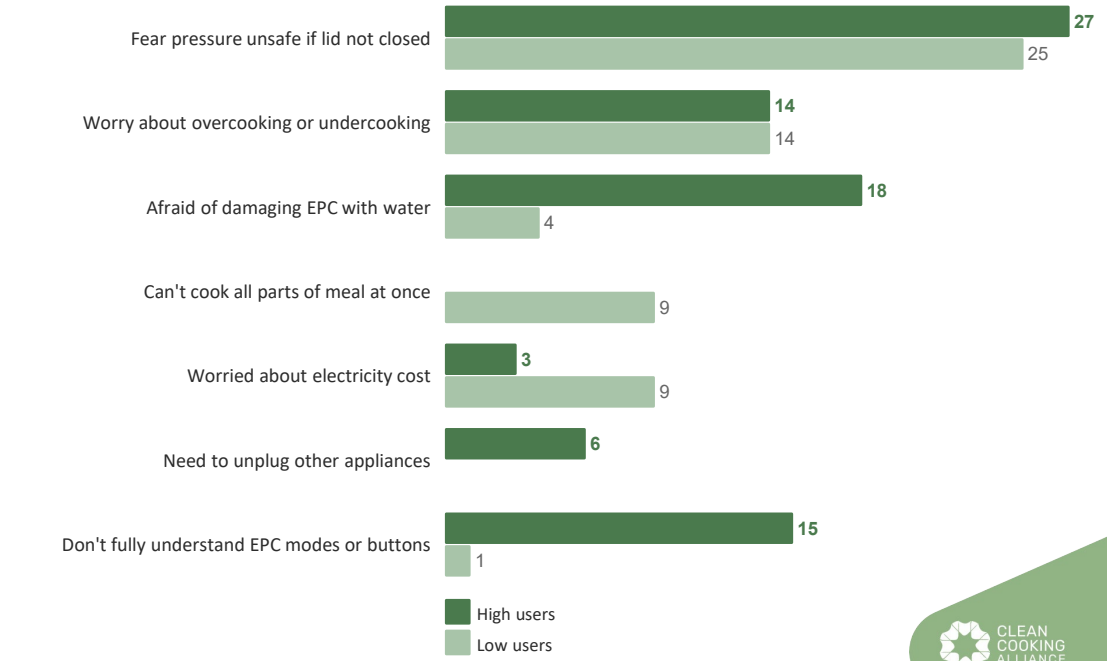
Low users: stacking index < 0.12 (n=50). High users: stacking index > 0.4 (n=51). Compared on MaxDiff barrier rankings and persona orientations.

What this tells us: High users want to do more with the EPC and feel held back by not fully understanding it. Low users have a cost perception problem and a meal-completeness problem. These are different barriers requiring different interventions, not a single message.

Persona orientation: high vs low users



Key barriers: high vs low users (MaxDiff scores)



Green bar = notable difference between groups

Appendix 14: In their own words, what owners love about their EPC

MULTITASKING

"Allows me to multitask without worrying that the food will get burned."

Survey participant

THE EPC AS LPG BACKUP

"I love that it acts as a backup when I run out of gas, and I also don't have charcoal, it comes through a lot."

Survey participant

EASE OF USE

"I like the preset programs. I just press 'rice' or 'chicken' and it comes out nicely every time."

Survey participant

CONVENIENCE

"Love the convenience it gives, cooks faster and less messy, my son also easily operates it."

Survey participant

Open-ended responses from the wrap-up module (favourite aspects question).

Appendix 15: In their own words, what owners dislike and would change

VISIBILITY (DISLIKE)

"It makes me use guess work when cooking, approximating time and setting it on the device."

Survey participant

SAFETY WITH CHILDREN (DISLIKE)

"The pressure when it comes out is risky for kids. So, I have to cook when they are not around."

Survey participant

TRANSPARENT LID (IMPROVEMENT WISH)

"I would make it easy to see how food is cooking to avoid burning, by making the upper lid transparent."

Survey participant

AMBITION (IMPROVEMENT WISH)

"I would introduce voice assistant control like Alexa — just say start my beef, rice, beans. And automatic steam release that adjusts based on food type."

Survey participant

Open-ended responses from the wrap-up module (dislikes and suggested improvements).

Appendix 16: Attitudes to new technology and persona orientation by adoption group

% strongly agree (attitudes) or % of group qualifying for each persona.
Adoption groups: Early adopter = owned >30 months; Early majority = owned <30 months; Low user = stacking index <0.12; High user = stacking index >0.4.

	Early adopter n=52	Early majority n=118	Low user n=50	High user n=51
Attitudes to new technology (% strongly agree)				
I enjoy learning new things, even if they seem complicated	67%	69%	54%	78%
If complicated, I usually stick with what I already know	19%	23%	18%	14%
I feel proud when I learn to use something properly	81%	61%	56%	71%
Persona orientation (% of group qualifying)				
Time-conscious	17%	27%	32%	16%
Convenience-seeking	21%	19%	16%	18%
Budget-minded	23%	29%	18%	25%
Nurturing	92%	60%	60%	84%
Tradition-respecting	46%	31%	30%	51%
Experimental	85%	51%	62%	75%

Darker = higher %: < 30% | 30–49% | 50–69% | ≥ 70%