

Reporting Summary

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Statistics

For all statistical analyses, confirm that the following items are present in the figure legend, table legend, main text, or Methods section.

n/a Confirmed

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|-------------------------------------|-------------------------------------|--|
| ☐ | ☒ | The exact sample size (n) for each experimental group/condition, given as a discrete number and unit of measurement |
| ☐ | ☒ | A statement on whether measurements were taken from distinct samples or whether the same sample was measured repeatedly |
| ☐ | ☒ | The statistical test(s) used AND whether they are one- or two-sided
<i>Only common tests should be described solely by name; describe more complex techniques in the Methods section.</i> |
| ☐ | ☒ | A description of all covariates tested |
| ☐ | ☒ | A description of any assumptions or corrections, such as tests of normality and adjustment for multiple comparisons |
| ☐ | ☒ | A full description of the statistical parameters including central tendency (e.g. means) or other basic estimates (e.g. regression coefficient) AND variation (e.g. standard deviation) or associated estimates of uncertainty (e.g. confidence intervals) |
| ☐ | ☒ | For null hypothesis testing, the test statistic (e.g. F , t , r) with confidence intervals, effect sizes, degrees of freedom and P value noted
<i>Give P values as exact values whenever suitable.</i> |
| ☒ | ☐ | For Bayesian analysis, information on the choice of priors and Markov chain Monte Carlo settings |
| ☒ | ☐ | For hierarchical and complex designs, identification of the appropriate level for tests and full reporting of outcomes |
| ☒ | ☐ | Estimates of effect sizes (e.g. Cohen's d , Pearson's r), indicating how they were calculated |

Our web collection on [statistics for biologists](#) contains articles on many of the points above.

Software and code

Policy information about [availability of computer code](#)

Data collection

Data analysis

For manuscripts utilizing custom algorithms or software that are central to the research but not yet described in published literature, software must be made available to editors and reviewers. We strongly encourage code deposition in a community repository (e.g. GitHub). See the Nature Research [guidelines for submitting code & software](#) for further information.

Data

Policy information about [availability of data](#)

All manuscripts must include a [data availability statement](#). This statement should provide the following information, where applicable:

- Accession codes, unique identifiers, or web links for publicly available datasets
- A list of figures that have associated raw data
- A description of any restrictions on data availability

The data that support the findings of this study were used under license for the current study. Because of the privacy rules in Europe and the non-disclosure agreement with company, the data are not publicly available. Data are however available from the authors upon reasonable request and with permission of the company. In addition, to ensure that the results can be replicated, the code is available upon request.

Field-specific reporting

Please select the one below that is the best fit for your research. If you are not sure, read the appropriate sections before making your selection.

☐ Life sciences ☒ Behavioural & social sciences ☐ Ecological, evolutionary & environmental sciences

For a reference copy of the document with all sections, see [nature.com/documents/nr-reporting-summary-flat.pdf](https://www.nature.com/documents/nr-reporting-summary-flat.pdf)

Behavioural & social sciences study design

All studies must disclose on these points even when the disclosure is negative.

Study description	The study uses quantitative data generated by a field experiment (Randomized Control Trial): the dataset is a panel including monthly electricity consumption and details on the content of email communication sent to a sample of utility customers.
Research sample	Our sample of analysis is represented by 464,763 customers eligible for the the social information program and with non-missing electricity consumption over the entire period of analysis. We have access to this sample thanks to an existing agreement with a large Italian energy utility. Since eligibility requirements include availability of an email contact, we imagine that the sample is not fully representative of the entire customer base of the utility nor of the entire population of energy users in Italy. The administrative data we use is restricted to the RCT sample, and only contains information on customers' consumption and area of residence: they thus do not allow us to conduct formal tests of representativeness. However, the size of the sample guarantees that our results are generalizable to important, and growing, segments of the population.
Sampling strategy	The sample used in the study is the entire population of customers targeted by the utility's social information program at the time the program was launched. The size of the sample, eligibility criteria and randomization into treatments were all determined by the utility and the private consultants that designed and implemented the social information program. Where the research team had any input on the sampling, i.e., in the design of the normative prime experiment, we requested that treatment and control groups be of the same sizes, in order to maximise statistical power.
Data collection	The data used in the study are exclusively administrative data collected directly by the partner utility, and transferred to the research team through secure data sharing protocols.
Timing	Consumption data are available from July 2015 to August 2018. Data on the content of program communication are available for the duration of the program: July 2016 to August 2018.
Data exclusions	No data were excluded from the analysis.
Non-participation	Non-participation in the study occurs when users terminate their contract with the utility. Even though attrition is non-differential by treatment, we keep attriters in the sample in order to avoid any selection bias affecting the results.
Randomization	Randomization was implemented by the utility through an algorithm (minmax t-statistic), which conducts 1000 randomizations and selects the most balanced draw, along baseline consumption and geographic location (Bruhn and McKenzie 2009).

Reporting for specific materials, systems and methods

We require information from authors about some types of materials, experimental systems and methods used in many studies. Here, indicate whether each material, system or method listed is relevant to your study. If you are not sure if a list item applies to your research, read the appropriate section before selecting a response.

Materials & experimental systems

Methods

n/a	Involved in the study	n/a	Involved in the study
☒	☐ Antibodies	☒	☐ ChIP-seq
☒	☐ Eukaryotic cell lines	☒	☐ Flow cytometry
☒	☐ Palaeontology and archaeology	☒	☐ MRI-based neuroimaging
☒	☐ Animals and other organisms		
☐	☒ Human research participants		
☒	☐ Clinical data		
☒	☐ Dual use research of concern		

Human research participants

Policy information about [studies involving human research participants](#)

Population characteristics	We only have access to information on the location of utility customers, at the regional level, and on their consumption before the start of the program. The geographical distribution of users is as follows: 29 per cent from North-West Italy, 12.2
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per cent from the North East, 31.2 per cent from the Center, and the remaining from the South and Islands. Average baseline consumption is 6.3 kWh.

Recruitment

Inclusion in the sample is based exclusively on technical eligibility criteria set by the utility: households must have a valid name and email address as of June 2016, live in single-family homes, have at least one year of valid pre-experiment energy consumption data, have no negative electricity meter reads, at least one meter read in the previous three months, no significant gaps nor extreme peaks in usage history, and exactly one account per customer per location. While these criteria may result in the study sample not being perfectly representative of the full sample of utility customers, no self-selection in the study is present.

Ethics oversight

We obtained ethics approval for the study from Milan Polytechnic's Ethics Committee, with approval number 4/2017.

Note that full information on the approval of the study protocol must also be provided in the manuscript.