



Finanziato
dall'Unione europea
NextGenerationEU



Ministero
dell'Università
e della Ricerca



Italiadomani
PIANO NAZIONALE
DI RIPRESA E RESILIENZA

Finanziato nell'ambito del Piano Nazionale di Ripresa e Resilienza PNRR. Missione 4, Componente 2, Investimento 1.3 Creazione di "Partenariati estesi alle università, ai centri di ricerca, alle aziende per il finanziamento di progetti di ricerca di base"



GRINS
FOUNDATION

3.1.1.

Unpacking Italian Perspectives and the Willingness to Act against Climate Change: An Experimental Survey

A survey experiment on second-hand consumption

| Document data | |
|-------------------|--|
| Title | Spoke 6 Work Package 3 D3.1.1. Unpacking Italian Perspectives and the Willingness to Act against Climate Change: An Experimental Survey A survey experiment on second-hand consumption |
| Owner | |
| Contributor/s | Riccardo Ghidoni (University of Bologna) Mariangela Zoli ((University of Rome - Tor Vergata) |
| Document version | |
| Last version date | 04/12/2023 |

Executive summary

This policy brief highlights two lines of research: one on climate change perceptions and one on behavioral incentives related to sustainable waste management.

The first research line focuses on climate change perceptions, beliefs, and support for policies, employing an online survey aimed at uncovering Italian attitudes to climate actions and exploring the role of social norms. Possible discrepancies between perceived norms and actual support for climate policies are identified. The output includes a comprehensive literature review and an online experimental survey to generate a dataset exploitable for future research. The project aligns with EU concerns about climate change and seeks to bring the academic perspective to evidence-based policymaking. Such an approach can guide policymakers in crafting effective climate strategies tailored to beliefs and behaviors.

The second research line investigates behavioral incentives for sustainable waste management. Concentrating on second-hand consumption, their online survey studies barriers and biases affecting Italians' choices and aims to contribute to policies promoting circular economy practices. The team's output comprises a literature review on individual waste behaviors and an online experimental survey dataset. This research aims to provide valuable recommendations for circular economy strategies for different product categories. The findings on second-hand consumption barriers offer insights for policymakers to promote circular economy practices, aligning with Italy's Circular Economy Strategy.

The WP3 Spoke-6 teams contribute significantly to understanding climate change perceptions, sustainable waste management, and circular economy practices, offering valuable insights for academia as well as for evidence-based policymaking in Italy.

TABLE OF CONTENTS

| | |
|---|----|
| Executive summary..... | 3 |
| 1. Presentation and description of the research activity undertaken..... | 5 |
| 1.1 Unpacking Italian Perspectives and the Willingness to Act against Climate Change: An Experimental Survey..... | 5 |
| 1.2 A survey experiment on second-hand consumption..... | 5 |
| 2. Relationship with the existing literature on the topic..... | 6 |
| 2.1 Unpacking Italian Perspectives and the Willingness to Act against Climate Change: An Experimental Survey..... | 7 |
| 2.2 A survey experiment on second-hand consumption..... | 8 |
| 3. Research output..... | 10 |
| 3.1 Unpacking Italian Perspectives and the Willingness to Act against Climate Change: An Experimental Survey..... | 10 |
| 3.2 A survey experiment on second-hand consumption..... | 11 |
| 4. Policy implications..... | 12 |
| 4.1 Unpacking Italian Perspectives and the Willingness to Act against Climate Change: An Experimental Survey..... | 12 |
| 4.2 A survey experiment on second-hand consumption..... | 12 |
| References..... | 14 |

1. Presentation and description of the research activity undertaken

1.1 Unpacking Italian Perspectives and the Willingness to Act against Climate Change: An Experimental Survey

The Spoke-6 team at the University of Bologna is conducting research focused on eliciting climate change perceptions, beliefs, and support for climate policies. For this purpose, the team plans to conduct a rigorously designed online experimental survey administered to a representative sample of the Italian population. This survey aims to yield new, detailed insights into the willingness of Italians to engage in climate action whilst also identifying potential discrepancies between individual actions and policy support. The experimental method used in the survey will enable the role of social norms and social image in shaping attitudes towards climate change to be explored, establishing causality rather than mere correlation. First, the research will elicit detailed information on what Italians believe a “green” social norm is. Next, it will inform other Italians about this social norm, investigating the impact of the disclosure of information concerning incentivized measures on the willingness of individuals to donate to a climate charity and/or support climate policy. While this contribution is positioned at the forefront of academic discourse, it also aspires to inform policy discussions, aiming to guide evidence-based policymaking in Italy to support climate policies.

1.2 A survey experiment on second-hand consumption

The Spoke 6 team at the Tor Vergata University of Rome is involved in the research line investigating behavioral incentives, nudging, and information policies for sustainable waste management practices aligned with the transition to a circular economy. Creating a sustainable production system for goods and services is one of the leading economic and environmental challenges today. The circular economy promotes a

sustainable production system by leveraging three core practices: waste reduction, the repair and reuse of products, and waste recycling. The first part of the work in this research line focuses specifically on reuse.

The consumption of second-hand products instead of new ones reduces the negative impacts of producing new items in terms of resource extraction, waste disposal, and related emissions. However, Italian consumers are still reluctant to purchase used products. To identify the main barriers to adopting second-hand goods in the Italian population, the team has designed a comprehensive online survey experiment to be administered to a representative sample of the Italian population. The survey aims to elicit both traditional “economic” rationales (price, warranty, condition) and the main decisional biases underlying the barriers to second-hand consumption, cognitive (loss aversion, risk misperception, etc.) and motivational (social pressure, shame avoidance, etc.). It also enables the nature and impact of biases to be evaluated, distinguishing between different types of products (apparel, appliances, furniture, electronic products).

The first part of the survey uses conjoint designs and vignette experiments, where respondents are required to make hypothetical decisions in situations in which attributes and factors vary experimentally. The second part consists of a questionnaire eliciting general attitudes toward second-hand consumption. The third part comprises an “informational quiz” in which respondents are asked about CO₂ emissions and the use of water and energy in the creation of new clothing; the correct answer is revealed, informing the respondent in the process. Finally, a “voucher” task is included: respondents are asked to choose between a voucher for second-hand clothing and one for traditional clothing; the decision provides a measure of the intention to purchase second-hand clothing.

This analysis aims to shed light on purchasing habits with enormous potential to reduce environmental impacts. A clearer picture of biases in second-hand purchasing decisions regarding their nature and impact may assist policymakers and sustainable companies to design interventions to counteract barriers and ultimately foster second-hand consumption.

2. Relationship with the existing literature on the topic

2.1 Unpacking Italian Perspectives and the Willingness to Act against Climate Change: An Experimental Survey

Public perceptions and citizens beliefs are pivotal for the effective implementation of climate policies (Blanchard et al., 2022). The University of Bologna team's research investigates the formation of these beliefs. Recent literature has shown that perceptions of public support for climate action can inspire individual participation. Yet, there is often a disconnect between perceived and actual support, a phenomenon known as pluralistic ignorance. This disconnect has been observed in relation to perceptions of the existence of climate change, its human causes (Leviston et al., 2013; Mildemberger & Tingley, 2019), the public backing of climate policies (Sparkman et al., 2022), and the number of fellow citizens who take active measures to combat climate change (Andre et al., 2021; Falk et al., 2023). This project contributes to the academic conversation as outlined below.

Firstly, the project aims to clarify what actions Italians consider necessary to meet the normative expectation of taking action to fight climate change. Acting against climate change encompasses a range of behaviors in different contexts. While EU reports indicate that Italians express significant concern about climate change and claim to be actively combating it (Special Eurobarometer 538 Climate Change – Report, EU energy in figures Statistical pocketbook 2023), the literature rarely precisely defines what individuals mean by 'acting' against climate change. Adopting a survey technique commonly used in political science (see, for example, American National Election Studies [ANES], 2021), the project seeks to provide new insights into the behaviors Italians view as most effective in combating climate change. Notably, this will be achieved without priming respondents on what constitutes appropriate action.

The second contribution of this project involves disclosing information on the previously elicited "green norm" to a specific group of Italians. These individuals will assess their environmental conduct against the perceived collective understanding of green behavior, a process that may either validate their self-perception or highlight

discrepancies with the societal green norm. The study will then examine how exposure to this kind of information may influence their readiness to engage in additional, incentivized climate actions, such as donating to a climate fund or supporting climate policy. Comparisons will be made with a control group that does not receive the information, taking into account individuals' current adherence to the norm. The research intersects with the expanding field of information experiments investigating the effects of information disclosure on behavior (Bursztyn and Yang, 2022 for an overall review). In the climate change context, Dechezleprêtre et al. (2022) have analyzed how individuals respond to information on climate policies, particularly concerning their effectiveness and fairness. Closer to the aims of this project, Andre et al. (2021) examined the impact of informing Americans about the prevalence of their compatriots' willingness to combat climate change. This study shows that participants initially underestimated their countrymen's engagement in climate action. Given accurate figures, participants increased their contributions to climate-related charities, especially Republicans. Conversely, evidence from Imai et al. (2022) suggests that rectifying misconceptions through information may not consistently translate into behavioral change. Their online experiment indicated that while information was able to modify perceptions of the impact of consumer choices on the climate, it did not affect consumption behavior. This project, therefore, contributes to a discussion where the evidence is as yet unclear. Furthermore, some individuals will be contacted twice to evaluate the persistence of the effects, if any.

Thirdly, the project investigates the dynamics and potential tensions between individual and community efforts to combat climate change. The link between promoting pro-environmental behaviors and endorsing climate policies is intricate and sometimes counter-intuitive. Research by Ling and Xu (2021), Hagmann et al. (2019), Werfel (2017), and Truelove et al. (2016) has noted negative spillover, commonly termed "crowd-out effect." This suggests that individual environmental actions might paradoxically decrease the support for broader climate policies in some cases. Such an outcome has significant weight for policy initiatives, such as the carbon tax, which rely on public backing. Nudges and other strategies aimed at encouraging personal environmental actions may unintentionally weaken support for wide-ranging policy initiatives. The project aims to verify this possibility.

2.2 A survey experiment on second-hand consumption

Purchasing and using second-hand or repaired instead of new products is an effective way to reduce the negative impact of consumption choices on the environment. However, knowledge about user attitudes and perceptions and the willingness to adopt alternative consumption models is still limited, with very few academic papers analyzing the determinants and barriers. One of the main contributions of the literature is that barriers and drivers of second-hand consumption are specific to different types of products. Specifically, the existing contributions focus on textiles/clothes and electrical/electronic goods.

Understanding the factors influencing decisions to purchase second-hand clothing requires an examination of the unique nature of the clothing consumption experience. Unlike other product categories, the reasons consumers choose to buy or use second-hand clothing vary from country to country. The reasons are closely related to consumer ideologies and identities that may play a different role in different cultural contexts. Generally, the main barriers to wearing second-hand clothes are related to embarrassment and the fear of being stigmatized due to the association with individuals of lower socioeconomic status, as well as concerns about the image conveyed to peers (Laitala and Klepp, 2018b; Lo et al., 2019; Silva et al., 2021). Safety and hygiene concerns are also significant deterrents to purchasing second-hand clothing (Edbring et al., 2016). Conversely, altruistic values, including environmental and ethical considerations, encourage consumers to embrace second-hand purchasing behaviors. Other driving factors include the characteristics of the second-hand store, including its organization and visual appeal, as well as considerations of prices and branding. Some consumers for example assign value to the opportunity to purchase well-known brands at affordable prices.

Colasante and D'Adamo (2021) carried out a study examining the attitudes and behaviors of Italian consumers to second-hand clothing. They point out that the second-hand clothing market in Italy is still underdeveloped. Through an online survey administered to 402 Italian consumers, the authors found that the quality-to-price ratio primarily drives decisions to purchase second-hand clothing, while environmental concerns did not appear to be a significant factor. Second-hand clothes are perceived as lower quality, and concerns about cleanliness and hygiene are significant barriers.

To change individual behaviors regarding the use of second-hand clothes, some recent studies have investigated behavioral incentives. A few highlight the need to depart from conventional awareness-adopting approaches in favor of innovative interventions (McEachern et al., 2020). In a small-scale field experiment carried out during Berlin Fashion Week, Stein et al. (2020) evaluated the impact of face-to-face communication in the form of an event featuring second-hand fashion: they

demonstrate that face-to-face communication can lead to an increase in second-hand sales, even in an environment where new fashion products are present.

For electronic goods, the existing literature generally agreed on the main drivers of consumer intentions to purchase refurbished mobile phones. These include the lower price relative to new products (van Weelden et al., 2016; Ongondo and Williams, 2011), product warranties, quality, the reputation of the seller (Sharifi and Shokouhyar, 2021), perceived environmental advantages and the awareness of the availability of refurbished items. Via an online survey, Mugge et al. (2017) find an additional social dimension to the purchase of refurbished smartphones: some consumers choose them to enhance their self-image and to display their environmental consciousness to peers. Conversely, significant barriers to adopting second-hand or refurbished products include the higher perceived risk and lower perceived quality (Van Weelden et al., 2016; Michaud and Llerena, 2011).

Other research suggests that the intention to use refurbished electronic products does not often translate into reality (Ylä-Mella et al., 2015; Echegaray and Hansstein, 2017). However, there are no scientific papers specifically aimed at investigating the main biases behind second-hand consumption behaviors and testing the impact of behavioral interventions. Only a few policy reports have attempted to assess the effectiveness of these instruments in promoting the reuse of electric and electronic goods (European Commission, 2018; Stefansdotter et al., 2016).

3. Research output

3.1 Unpacking Italian Perspectives and the Willingness to Act against Climate Change: An Experimental Survey

The research line on climate change perceptions, beliefs, and policy support seeks to generate crucial research outputs that may significantly inform both academic discourse and policy formulation. The research output is related to three primary dimensions. The first is a comprehensive and meticulously organized review of the literature, providing a structured overview of current knowledge and identifying potential gaps in the research landscape on public attitudes to climate policies.

Second, the deployment of a methodologically rigorous online experimental survey with a representative sample aims not only to provide detailed insights into the Italian population's climate change perceptions and policy support but also to establish a potential causal relationship between social image and climate attitudes. Via systematic data analysis, the research also seeks to elucidate the complexities and potential divergences in individual willingness to carry out climate action versus policy endorsement.

Third, the resulting dataset will become a valuable resource for researchers and policy-makers. This dataset, accessible by the research community, comprises a powerful tool for further empirical studies, enabling researchers to build on the findings of this project.

Critically, this research line also keeps a keen eye on policy implications, aiming to bridge the gap between academic exploration and practical policy applications. By delineating the intricacies of public attitudes towards climate change and the related policies, the insights derived can guide policy-makers in designing strategies that resonate with the population, amplifying the effectiveness and public reception of new or adjusted climate policies. The detailed integrated academic exploration and policy-relevant output will provide a data-driven foundation for developing impactful climate strategies and public communications in Italy.

3.2 A survey experiment on second-hand consumption

The output of the research - carried out by the team at Tor Vergata University in Rome - into behavioral incentives, nudging and information policies for sustainable waste management practices comprises two stages. The first is a critical review of the scientific literature on individual waste behaviors, focusing specifically on behaviors related to waste avoidance through reuse and second-hand consumption. This provides a comprehensive picture of the state-of-the-art relating to the main motivations and biases affecting second-hand consumption choices and identifies the main knowledge gap in the current literature. It will provide a significant contribution to policy-makers engaged in promoting the circular economy, as well as to academics and researchers involved in related projects.

The second stage of the work involves the design and administration of an online survey experiment to a representative sample of the Italian population based on the literature review carried out in the first stage. The experimental survey aims to investigate the attitudes and actual behaviors of Italian consumers to and in relation to second-hand products, distinguishing between product types. To the best of our knowledge, no contribution in the literature has explicitly tested whether the barriers change according to items in the same subject pool and/or whether the barriers are linked to decisional biases. The survey attempts to fill this gap, by i) eliciting multiple biases in the sample and ii) distinguishing between different types of product (furniture, apparel, electronic devices, and appliances). The dataset resulting from the survey will be available on the Amelia platform and will provide researchers and policy-makers with valuable information about individual motivations driving behavior relevant to the transition to the circular economy.

4. Policy implications

4.1 Unpacking Italian Perspectives and the Willingness to Act against Climate Change: An Experimental Survey

The research line on seeking climate attitudes adopts a novel approach to encouraging pro-environmental behaviors and reinforcing the support for climate policies. It relies on a profound understanding of social norms rather than investigating how many people follow a generic green behavior. This approach will be particularly valuable for situations where misperceptions about climate change action do not exist or have already been corrected but where further enhancement of pro-environmental actions and climate policy support are desirable. A thorough understanding of Italian beliefs about which behaviors constitute a green norm is crucial to assessing if the focus is on the correct set of behaviors able to contribute to the reduction of emissions.

4.2 A survey experiment on second-hand consumption

Concerning the research line on behavioral incentives, nudging, and information policies for sustainable waste management practices, carried out by the team at Tor Vergata University in Rome, policy implications are strictly related to the research aim.

The transition to a circular economy requires radical changes in consumption patterns. As is well known, besides polluting groundwater and soil, waste is also responsible for the emission of CO₂ and methane into the atmosphere, contributing to climate change. To reduce the increasing amount of waste generated in the EU, the European Commission considers reuse a priority (along with waste prevention) in the order of preference for managing and disposing of waste according to the waste hierarchy established by the Waste Framework Directive. In Italy, the Circular Economy Strategy outlines a series of legislative measures and fiscal incentives to foster the repair and reutilization of products.

Therefore, this research aims to shed light on consumption habits with enormous potential to reduce environmental problems. As the literature review suggests, investigating the drivers of (or obstacles to) second-hand consumption is still in its infancy. At the same time, the limited availability of empirical studies on the use of

behavioral interventions to encourage reuse prevents us from drawing general conclusions about their effectiveness. This gap in the literature indicates the need to investigate the biases behind second-hand choices and potential policy interventions to correct them. Filling the gap is crucial as reducing overall material consumption and promoting reuse are pivotal aspects in transitioning to a circular economy. The findings on the kind of biases and their potential impact on second-hand consumption may support policy-makers who aim to complement traditional monetary incentives or coercive measures (e.g., bans and mandates) with innovative policy instruments based on behavioral insights (e.g. nudges).

The nature and impact of biases when distinguishing between different types of products will be tested. Some of these product categories are included in the strategic sectors and value chains identified in the Circular Economy Strategy of the Italian government (i.e., electronics and ICT, textiles). hence a deeper investigation of specific individual motivations and the attitudes related to these product types is required.

The Strategy puts forward a series of horizontal initiatives, measures and actions to be implemented by 2035, including increased efforts to prevent waste generation via higher reuse and repair, including greater recourse to municipal reuse centers. According to the Strategy, the efforts should be backed up by legislative measures and fiscal incentives and through environmental education, information campaigns, and public awareness initiatives on the topic of the circular economy. Providing a clearer picture of the various barriers to individual consumption behaviors, this investigation will yield useful insights for policy-makers, supporting them in the design of interventions that are better tailored to the heterogeneous characteristics of the target population. The findings of this research may also contribute to the objectives of the Communication and Environmental Awareness Plan and support its implementation.

References

Andre, P., Boneva, T., Chopra, F., & Falk, A. (2021). Fighting climate change: The role of norms, preferences, and moral values.

Blanchard, O., Gollier, C., & Tirole, J. (2023). The portfolio of economic policies needed to fight climate change. *Annual Review of Economics*, 15(1), 689–722.

Bursztyjn, L., & Yang, D. Y. (2022). Misperceptions about others. *Annual Review of Economics*, 14, 425–452.

Colasante, A., & D'Adamo, I. (2021). The circular economy and bioeconomy in the fashion sector: Emergence of a “sustainability bias”. *Journal of Cleaner Production*, 329, 129774.

- Dechezleprêtre, A., Fabre, A., Kruse, T., Planterose, B., Chico, A. S., & Stantcheva, S. (2022). Fighting climate change: International attitudes toward climate policies (No. w30265). National Bureau of Economic Research.
- Echegaray, F., & Hansstein, F. V. (2017). Assessing the intention-behavior gap in electronic waste recycling: the case of Brazil. *Journal of Cleaner Production*, 142, 180-190.
- Edbring, E. G., Lehner, M., & Mont, O. (2016). Exploring consumer attitudes to alternative models of consumption: motivations and barriers. *Journal of Cleaner Production*, 123, 5-15.
- European Commission, Consumers, Health, Agriculture and Food Executive Agency, Duke, C., Thorun, C., Dekeulenaer, F., et al., 2018, Behavioural study on consumers' engagement in the circular economy: final report, {CEU}, <https://data.europa.eu/doi/10.2818/956512>
- Falk, A., Fallak, M., & Stötzer, L. (2023). The Role of Social Norms in the Fight Against Climate Change (No. 036). University of Bonn and University of Cologne, Germany.
- Hagmann, D., Ho, E. H., & Loewenstein, G. (2019). Nudging out support for a carbon tax. *Nature Climate Change*, 9(6), 484-489.
- Imai, T., Pace, D. D., Schwardmann, P., & van der Weele, J. J. (2022). Correcting Consumer Misperceptions About CO 2 Emissions.
- Laitala, K., & Klepp, I. G. (2018b). Motivations for and against second-hand clothing acquisition. *Clothing Cultures*, 5(2), 247-262.
- Leviston, Z., Walker, I., & Morwinski, S. (2013). Your opinion on climate change might not be as common as you think. *Nature Climate Change*, 3(4), 334-337.
- Ling, M., & Xu, L. (2021). Incentivizing household recycling crowds out public support for other waste management policies: A long-term quasi-experimental study. *Journal of Environmental Management*, 299, 113675.
- Lo, C. J., Tsarenko, Y., & Tojib, D. (2019). To tell or not to tell? The roles of perceived norms and self-consciousness in understanding consumers' willingness to recommend online secondhand apparel shopping. *Psychology & Marketing*, 36(4), 287-304.
- McEachern, M. G., Middleton, D., & Cassidy, T. (2020). Encouraging sustainable behaviour change via a social practice approach: A focus on apparel consumption practices. *Journal of Consumer Policy*, 43(2), 397-418.
- Michaud, C., & Llerena, D. (2011). Green consumer behaviour: an experimental analysis of willingness to pay for remanufactured products. *Business Strategy and the Environment*, 20(6), 408-420.

- Mildenberger, M., & Tingley, D. (2019). Beliefs about climate beliefs: the importance of second-order opinions for climate politics. *British Journal of Political Science*, 49(4), 1279–1307.
- Mugge, R., Jockin, B., & Bocken, N. (2017). How to sell refurbished smartphones? An investigation of different customer groups and appropriate incentives. *Journal of Cleaner Production*, 147, 284–296.
- Ongondo, F. O., & Williams, I. D. (2011). Mobile phone collection, reuse and recycling in the UK. *Waste Management*, 31(6), 1307–1315.
- Sharifi, Z., & Shokouhyar, S. (2021). Promoting consumer's attitude toward refurbished mobile phones: A social media analytics approach. *Resources, Conservation and Recycling*, 167, 105398.
- Silva, S. C., Santos, A., Duarte, P., & Vlačić, B. (2021). The role of social embarrassment, sustainability, familiarity and perception of hygiene in second-hand clothing purchase experience. *International Journal of Retail & Distribution Management*, 49(6), 717–734.
- Sparkman, G., Geiger, N., & Weber, E. U. (2022). Americans experience a false social reality by underestimating popular climate policy support by nearly half. *Nature communications*, 13(1), 4779.
- Stein, N., Spinler, S., & Vanthournout, H. (2020). Face-to-face communication as a tool to support second-hand fashion sales: a field experiment at Fashion Week in Berlin. *Sustainability*, 12(5), 1758.
- Stefansdotter, A., Steen-Knudsen, J., Flack, M., & Hansen, P. G. (2016). Nudging for sustainable consumption of electronics: Summary report.
- Truelove, H. B., Yeung, K. L., Carrico, A. R., Gillis, A. J., & Raimi, K. T. (2016). From plastic bottle recycling to policy support: An experimental test of pro-environmental spillover. *Journal of Environmental Psychology*, 46, 55–66.
- Van Weelden, E., Mugge, R., & Bakker, C. (2016). Paving the way toward circular consumption: exploring consumer acceptance of refurbished mobile phones in the Dutch market. *Journal of Cleaner Production*, 113, 743–754.
- Ylä-Mella, J., Keiski, R. L., & Pongrácz, E. (2015). Electronic waste recovery in Finland: Consumers' perceptions toward recycling and re-use of mobile phones. *Waste Management*, 45, 374–384.
- Werfel, S. H. (2017). Household behaviour crowds out support for climate change policy when sufficient progress is perceived. *Nature Climate Change*, 7(7), 512–515.

