

# **Active citizenship and grassroots participation: barriers, main determinants and enabling factors**

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## **Abstract**

We examine scope and drivers of different actions of grassroots participation (such as willingness to pay for environmentally and socially responsible features of products, and purchase of certified green products) in a representative sample of Italian citizens. We discuss limiting and enabling factors and find that education and gender positively and significantly affect care for socially responsible products. We also show that generative and cooperative attitudes have a significant and positive effect on both social and environmental care and the purchase of green-certified products. Among policy suggestions stemming from our findings, innovation such as the digital product passport can provide enabling infrastructure to reduce informational asymmetries, increase participation and life satisfaction, life sense and expected return from cooperative and generative behaviors.

Keywords: Active citizenship, Sustainable consumption, Grassroots participation, Environmental stewardship.

JEL numbers: Q56

## **1. Introduction**

Civiness and citizen participation are fundamental components for the well-being of democracy and social and economic systems. This principle is now primarily recognized by international institutions and is embedded in the United Nations' Sustainable Development Goals (SDGs), specifically Goal 12, which focuses on responsible consumption and production.

As is well known, the importance of citizen action assumes an even greater role in the era of globalization, where the old framework in which the idea that social optimum can be achieved in the interplay between businesses and institutions loses its effectiveness in the presence of many well-known market failures. In a Friedman-like framework (Friedman, 2016), companies have the sole purpose of maximizing profits without needing to worry about any negative social and environmental externalities generated by their actions. They are only required to fulfill the mandate of the shareholders, without the necessity to consider the broader well-being of all stakeholders. It is the institutions, under the assumption of "benevolence" (aiming to achieve the common good), complete information, and full authority, that intervene with laws and regulations to correct "market failures" (i.e., the gap between the private and the social optimum). Pigouvian taxes are examples of how this model is assumed to operate.

The model, in reality, does not hold up to scrutiny for two reasons. First, the assumption of the "benevolence" of institutions has serious limitations as shown, among others, by the literature on the political business cycle (Nordhaus, 1975; Drazen, 2000) and regulatory capture (Laffont-Tirole, 1991), which analytically illustrate the conflicts of interest between the private objectives of institutional representatives and the common good. Second, in the era of globalization, national institutions do not have "full authority," and their efforts are subject to the threat of delocalization and race to the bottom (in terms of taxes, environmental regulations, and labor standards) among sovereign countries competing to attract businesses to their territories.

For all these reasons, active citizenship and willingness to pay for socially and environmentally responsible features of products play a fundamental role in achieving the goal of sustainable development and happiness today.

Our paper contributes to this literature by investigating the drivers of responsible consumption measured as care for socially and environmentally responsible features of products and the purchase of green-certified products. We wonder about responsible consumption limiting and enabling factors and identify six limits and two opportunities. We find that gender and education significantly increase care for socially responsible features of products, while cooperative and generative attitudes have a positive effect on all of the three variables. The causality of these relationships is successfully tested with instrumental variable estimates, and the limits and policy implications of our findings are discussed. In the final discussion section we discuss policy implications of our findings suggesting how digital product passports, cash mobs and hackathons can be tools to overcome barriers thereby increasing opportunities and returns of cooperative and generative civic behavior

## **2. Drivers of active citizenship: theory and research hypotheses**

Studies on the determinants of life satisfaction consistently highlight how civic behaviors contribute to increasing individuals' life satisfaction. The World Happiness Report has shown that 75% of the differences in self-reported life satisfaction among individuals worldwide depend on seven factors: income, health, education, absence of corruption, freedom of initiative, selflessness, and the quality of relationships. Selflessness is defined as the attitude to perform activities without asking for money in return and is recognized as a variable that reflects the "return" that civic behaviors can generate in terms of subjective well-being (Helliwell et al., 2021).

Experimental economics literature further shows that human beings are characterized by the desire to "have" as well as to "give." In a meta-analysis compiling results from hundreds of dictator game experiments performed around the world, Christoph Engel (2011) highlights that the majority of player choices (about two-thirds) significantly deviate from the monetary payoff maximizing behavior of the homo economicus, choosing to donate part of their endowment despite the total anonymity typical of behavioral economics lab experiments. Generosity is shown to grow when players are elder or are told that the recipient is in need and when social distance is reduced (Xiao and Houser, 2005). In their experiment comparing revealed choices with neural images and survey answers, Harbaugh et al. (2007) demonstrate that, when faced with a series of choices differing in realized income and donated amounts, participants reveal a strong preference for giving in addition to having.

If all this is true, then the question arises as to why civic behaviors, active citizenship, and altruism are not more widespread. A plausible answer lies primarily in the reflections of Tibor Scitovsky (1976) and his taxonomy of comfort and stimulus goods. Comfort goods provide immediate

satisfaction but can create addiction, weakening the willingness to invest in stimulus goods (such as civic participation, education, and sports skills), which require effort and investment to be enjoyed (Bianchi, 2003; Gilhead, 2013).

With this framework in mind, we analyze the diffusion and determinants of a set of civic behaviors (recycling, energy saving, willingness to pay for social and environmental product features), the obstacles hindering them, and their enabling factors.

More specifically, we identify six obstacles. The first is the awareness of the existence of responsible consumption and the knowledge of its impact potential, which cannot be given for granted considering the limits of education, the weight of functional illiteracy, and the lack of economic knowledge among the population. The second is the lack of specific information on the exact characteristics of the action being undertaken (e.g., in responsible consumption choices, the more or less accurate information on the sustainability characteristics of the product), which is also a problem because sustainability is not an *experience good* for which informational asymmetries typically disappear through practice or consumption, thereby creating temptation for green or social washing (Mateo-Márquez et al. 2022; Teichmann et al. 2023). The third is the problem of coordinating many small individual choices, which is crucial to achieving a significant impact, making civic choices such as those related to ecological transition true social dilemmas such as the Prisoner's Dilemma played by a large number of players (Becchetti et al., 2018 and 2023; DeCanio and Fremstad, 2013; Magli and Manfredi, 2022). The fourth is the frequently positive cost differential (in terms of monetary resources or even time spent) between the civic choice and the non-civic alternative. The fifth is the influence of marketing, which can work for or against the civic choice depending on the amount of resources invested. Generally, looking at responsible consumption, sustainable product chains are linked to start-ups and emerging projects and are necessarily characterized by lower margins given the higher share of the product's value destined for social and environmental sustainability. For this reason, in many cases, the imbalance of resources invested in marketing between traditional and sustainable supply chains is significant. The sixth is habits and the psychological cost (switching costs) of changing them, which can hinder change even when all other five factors favor socially and environmentally responsible choices.

In the face of these six obstacles, two factors can facilitate socially and environmentally responsible choices. The first is the presence of an 'infrastructure' that facilitates the choice itself (such as the presence of different containers for the collection of organic, paper, plastic, and unsorted waste in the case of waste separation). The second is the existence of a social norm that, by definition, creates consensus and appreciation of citizens and the community around a particular choice and dissent and disapproval in the opposite case.

Based on these considerations, we formulate the following research hypothesis:

*H01: Participation in a particular civic behavior is negatively influenced by six factors (lack of awareness of the value of the act, incomplete information, coordination failure, cost differences, influence of communication, psychological costs of changing habits) and positively influenced by two factors (enabling infrastructure and social norms).*

A second research hypothesis is that certain behavioral variables play a decisive role in responsible choices. In this case, our attention focuses on two types of individuals that we would define as 'generative' and 'cooperative.'

By generativity, we mean the expected impact of one's action in terms of social and environmental value produced. The concept of generativity was first introduced by Erikson (1968, 1993 and 1998) in the field of social psychology, later explored by Magatti in sociology (Magatti et al. 2019) and discussed by Aubin (1992, 1998) in economics. More recently, its impact on life satisfaction has been examined by Shahen et al. (2019) and Jia et al. (2015, 2016) since generativity implies care not just for people in the present but also for the current and future generations in the days to come. The relationship between generativity and environmental sustainability, specifically its effect on future generations, is further investigated by Matsuba et al. (2012) and Alisat et al. (2014). In the economic literature, generative individuals exhibit significantly different characteristics compared to traditionally altruistic individuals and those described as warm glowers (Becchetti-Conzo, 2021). This is because we define a generative individual as someone whose satisfaction increases with the social and environmental impact of their personally conducted actions. This contrasts with traditional altruists, who derive happiness from the improvement of others' well-being regardless of their involvement, and warm glowers (Andreoni, 1989, 1990), who derive joy from the act of giving itself, irrespective of the action's actual outcomes, even if those outcomes are negative or counterproductive.

On the other hand, we define in our paper as “cooperative” an individual endowed with “relational intelligence”, meaning an individual who is aware that trust, cooperation, and gift exchange (Akerlof, 1982) can create superadditivity, that is, generate higher value than the sum of the stand-alone contributions. Game theory and behavioral economics literature highlight how cooperation is made difficult by the fact that trust is a social risk as it implies putting oneself in another's hands without legal protection (Hong and Bohnet, 2007). The key factor that stimulates trust and allows for the creation of social capital is the reputation for trustworthiness that is built through gift exchange (Akerlof, 1982). The gift (an action that goes beyond what is expected) can stimulate gratitude and reciprocity, creating an exchange that fosters trust and social capital. More specifically, trustworthiness reputation can be achieved by giving the signal to commit to a cooperative strategy and bearing the cost for it in the presence of non-cooperative choices by other players. As shown by evolutionary game theory, the role of pivotal players choosing this strategy helps converge toward the cooperative equilibrium (Hilbe et al. 2014; Stewart and Plotkin, 2013).

Based on these definitions, we hypothesize that generative and cooperative individuals have a greater preference for civic choices. For the generative, this is because civic choices generate social impact and thus greater satisfaction for the generative individual whose utility grows in generativity. For the cooperative, given its awareness of the value of (and taste for) the cooperative civic strategy and her/his willingness to commit to it even in the presence of incurred costs.

*Ho2: 'Generative' and 'cooperative' individuals are characterized by a greater propensity for civic choices.*

In the following section, we analyze descriptively and econometrically the extent of the diffusion of civic behaviors and the validity of the two formulated hypotheses.

### **3. Limiting and enabling factors on responsible consumption**

The active citizenship behaviors examined in our study are: i) recycling, ii) energy-saving consumption choices, iii) willingness to pay for the social sustainability of products, iv) willingness to pay for the environmental sustainability of products, v) purchase of green certified products.

Looking at them from the perspective of the six limiting and the two enabling factors, in the case of recycling, the six obstacles do not appear to be particularly relevant, and the two favorable factors

(social norms and enabling infrastructure) play a positive role. It is reasonable to assume that citizens are now aware of the role of recycling and its effects in terms of efficient waste management and contribution to environmental sustainability. Similarly, the information on the role and value of recycling is known, although doubts may remain about whether the waste is sorted at the destination. Enabling infrastructure makes the choice easier and social norms create costs for those not doing it. There is no cost difference between the civic behavior and the alternative, although separating waste requires some effort and commitment from citizens. Recycling has been in place for a long time, and the psychological cost of changing habits is, for the most, something of the past. Finally, there are no communication and advertising campaigns against recycling that could discourage this civic behavior.

It should be noted, however, that this civic choice necessarily depends on two complementary and irreplaceable factors: the willingness of citizens to perform it and the provision by the local administration of the recycling infrastructure (through door-to-door collection systems, recycling centers, or alternatively, differentiated containers freely accessible on the streets). Therefore, the mere willingness of citizens to recycle is not a sufficient condition.

All the previous considerations apply the second civic behavior (energy saving choices), with the addition that energy savings, instead of generating additional costs, provide an economic benefit in terms of reduced bills. However, the change in habits can negatively impact on it when energy-saving behaviors are adopted for the first time.

In cases iii) and iv) where the six obstacles are significant. Many citizens are still unaware of the importance of their consumption and savings choices and the potential these choices have to influence the behaviors of economic actors and producers. If all citizens (or at least a significant portion of them) would “vote with their wallets” for products with high labor dignity and environmental sustainability, companies would be stimulated to create products with these characteristics. The second obstacle is also important because doubts about the social and environmental sustainability of products, increasingly advertised by companies, remain significant and scandals on specific products produce the negative externality of entaming the reputation of responsible products in general.

The third obstacle is particularly relevant here because “voting with one's wallet” for the responsible choice has the characteristics of a typical prisoner's dilemma with many players, where coordination failure leads to the socially less efficient equilibrium, where the dominant strategy is choosing not to vote with her/his wallet. This contrasts with the socially more efficient and advantageous scenario where everyone votes with her/his wallet, the system changes and every player is better off (Becchetti et al., 2018; Becchetti and Salustri, 2019; DeCanio and Fremstad, 2013; Magli and Manfredi, 2022). The fourth obstacle is also significant because choosing products with higher social and environmental sustainability often implies paying a price differential (less so for food, but much more for responsible products from other sectors like textiles). The fifth obstacle, communication, is also very relevant. More sustainable product supply chains exist but often have minimal profit margins and therefore limited resources to spend on marketing and communication, unlike companies selling conventional products. Finally, the psychological costs of changing habits also impact when the habits are not yet consolidated.

Regarding the factors that could positively influence, social norms and enabling infrastructure do not seem to be particularly relevant in this case, especially when considering the second factor. However, we can say that attention to environmentally sustainable products is beginning to get close to a social norm as far as awareness of the urgency and severity of the environmental situation grows.

Compared to cases iii) and iv), the purchase of green-certified products should present the primary difference of attenuating the second obstacle, incomplete information, since certifications exist precisely to eliminate information asymmetries between producer and consumer. However, the choice of green-certified products can also be subject to a scarcity problem (or we might say less enabling infrastructure) because explicitly certified products are not available on the shelves for all kinds of desired products.

Based on our considerations, we expect significantly higher percentages for civic choices related to energy savings and recycling, and much lower percentages for willingness to pay for the social and environmental characteristics of products.

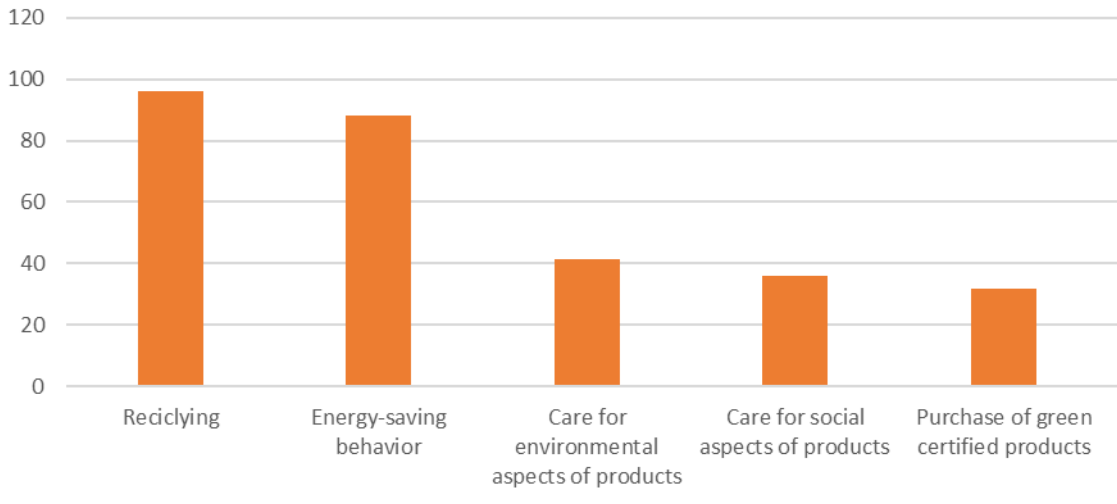
#### **4. Descriptive findings**

Descriptive findings broadly confirm our expectations. The analysis was conducted on a representative sample of around 2,000 respondents interviewed by telephone. The respondents ranged from 18 to 84 years old, and the sample is representative of gender, age group, employment status, and municipality size at country level. The legend for the variables used in both the descriptive and subsequent econometric analysis is presented in Table 1, while the descriptive statistics are shown in Table 2. The sample is balanced by gender (49% of respondents are male), with an average age of approximately 51 years. Of the respondents, 39% are workers, 27% are retirees, and 15% are students. Additionally, 65% of respondents reported being in good or very good health, and 86% voted in the last political elections. Ten percent of the respondents hold a university degree, and 56% have a high school diploma as their highest educational qualification.

The percentage of our representative sample of citizens practicing recycling is very high (96%), and those engaging in energy-saving behaviors are also high (88%) (Figure 1). The level of adherence to civic behavior drops significantly when we consider consumption choices that account for environmental impact (41.6%) and social impact (36%), when we include in the group those who report they always or often consider these factors. The share decreases further when considering the purchase of environmentally certified products (32%).

In the section that follows we will focus on the less followed civic actions/attitudes and wonder which factors can contribute to raising the share of citizens caring for socially and environmentally responsible features of products and choosing green-certified products.

**Figure 1. Prevalence of civic attitudes/behavior**



Variable legend: see Table 1

## 5. Econometric findings

To verify the impact of each relevant determinant on civic choices/attitudes, net of the impact of other concurring observed factors, we estimate the following model:

$$\begin{aligned}
 Civicness_i = & \alpha_0 + \alpha_1 Generative_i + \alpha_2 Cooperative_i + \sum_b \beta_b D\_Macro\_Area_{b,i} + \\
 & \sum_c \gamma_c D\_Municipality\_Size_{b,i} + \alpha_3 Female_i + \sum_f \delta_f D\_Age\_Class_f + \sum_g \theta_g D\_Income\_Decile_{g,i} + \\
 & \sum_h \lambda_h D\_EducationLevel_{h,i} + \sum_l \xi_l D\_Marital\_Status_{l,i} + \sum_m \varphi_m D\_Employment\_Status_{m,i} + \\
 & \alpha_4 D\_Children_i + \sum_r \chi_r D\_Health\_Status_{r,i} + \alpha_5 D\_Relig_i + u_i
 \end{aligned}$$

(1)

where the dependent variable *Civicness* alternately measures one of the civic engagement behaviors/attitudes considered in the descriptive analysis (caring for the social or environmental quality of products or purchasing green-certified products). Two key variables in our analysis are those measuring the respondent's degree of generativity and cooperation. Following Becchetti and Conzo (2021) the generativity index is measured as the arithmetic mean between individual creativity and the desire to help others (see variable legend in Table 1). The cooperation index is based on the response to a question measuring the belief in the importance of cooperation for problem-solving (see variable legend in Table 1). The right-hand side regressors include dummy variables identifying macro-regions and municipality sizes, dummies for the female gender, age classes, income deciles, education level, marital status, employment status, the number of children, self-reported health status and religious practice. Given the discrete and qualitative nature of the dependent variable, the model is estimated using an ordered logit approach. However, the literature has repeatedly shown that assuming the continuous nature of the variable and using ordinary least squares (OLS) does not change the substance of the results (see among others Clark et al. 2008 and 2013). This is also the

case in our study, and therefore, OLS estimates providing very similar findings are omitted for brevity.

A preliminary descriptive analysis reveals that the generativity and cooperation indices are significantly correlated with civic choices. Figures 2-6 show increasing proportions of citizens considering the social and environmental quality of products and purchasing green-certified products as the generativity and cooperation indices increase.

Econometric findings on the determinants of attention to the social responsibility of products are presented in Table 3. Key factors influencing social responsibility in consumption (voting with one's wallet) are education degree and income. The estimates indicate that university graduates are 23% more likely to pay frequent attention to the social aspects of products than the omitted benchmark of respondents without any education degree. Generative and cooperative attitudes also have a positive and significant impact, increasing by 6.3% and 11%, respectively, the likelihood of paying frequent attention to the social aspects of products.

The same specification estimated for environmental responsibility (willingness to consider the environmental sustainability of products) reveals a more limited set of significant variables, especially when it comes to socio-demographic factors (Table 4). In this case, there are no significant differences by income and education level, possibly because the urgency of environmental sustainability, due to the climate emergency, is perceived similarly across different population groups. However, the significance of generativity and cooperation variables remains. Specifically, a generative attitude increases attention to environmental sustainability by 4.4%, and a cooperative attitude by 11%.

The significance of generativity and cooperation behaviors remains positive and confirmed when the dependent variable is the choice of green certified products (Table 5). Specifically, a generative trait increases the likelihood of purchasing often environmentally certified products by 12.7%, while a cooperative trait by 6%. Among sociodemographic factors we find here a significant gender effect with females likely to buy often green certified products 4.5% more than males.

#### **4.1 Causality test and instrumental variable estimates**

Correlation is not causation and, as is well known, significant econometric findings can hide three flows of effects across the presumed dependent and independent variable. The first one is direct causality (generative and cooperative attitudes do cause civic attitude/behavior). The second one is indirect causality (it is civic attitude/behavior that makes people generative and cooperative). The third is spurious correlation (there is a third omitted variable causing both the presumed dependent and independent variables thereby creating the observed correlation between the two).

To address the problem we use instrumental variable estimates. We therefore search for a relevant and valid instrument that is, a variable that is significantly correlated with generative and cooperative attitudes (relevance), while not directly correlated with civic attitude/behavior (validity). Our selected instrument is the average region-and-education-class-specific level of generative and cooperative attitudes. For simplicity and without lack of generality we create an average of the two attitudes that allows us to use a single instrument for them. The selected instrument is assumed to be correlated with individual observed generative and cooperative attitudes but not directly correlated with the civic attitude/behavior. The dependent variables are also simplified and take the value one when the answer (concerning care for socially, care for environmentally responsible features of products, purchase of green certified products) is “always” and “often”, and zero otherwise.

Coefficients of the relevant variables in IV estimates are reported in Tables 6.1-6.3, while full estimate details are in the Appendix. We also report the variance of the reduced-form equation for the endogenous regressor and the correlation between the errors in the probit equation and the reduced-form equation for the endogenous regressor ( $\rho$ ). More specifically to this point, we find that a clear problem of endogeneity (rejection of null hypothesis  $\rho=0$ ) requiring an IV estimate arises for the first two dependent variables, while less so for the third. Our IV estimates show that the instrument is relevant since in the first stage it significantly affects the instrumented variable (Tables 6.1-6.3, column 2). The second stage results on the relationship between (instrumented) generative and cooperative attitudes (on the one side) and the dependent variable (on the other side) are positive and significant confirming results of the corresponding non-IV estimates (Tables 6.1-6.3, columns 1 and 4). When comparing coefficients of IV and non-IV estimates we find that the two are closer in magnitude in the purchase of green-certified products estimate (around 75% higher probability in the IV estimate). To check for instrument validity we perform a falsification test (Tables 6.1-6.3, column 5). We estimate the non-IV model where the instrumented variable is replaced by the instrument in a subsample of individuals with markedly low cooperative and generative attitudes (index below 3 implying “*Not similar to me*” or “*Not at all similar to me*” answers to the generative and cooperative questions). We find that the instrument (the average region-and-education-class-specific generative and cooperative attitude) does not affect significantly our dependent variables. This implies that the effect of the instrument on the instrumented variables operates only through the instrumented variable (and is not significant when values of the instrumented variables are nil or almost nil as in our selected subsample).

## 5. Discussion and policy implications

The empirical results described above do not reject our two research hypotheses and confirm that the degree of conformity to civic behaviors is quite heterogeneous. This heterogeneity aligns with the hypothesized differential impact of the six obstacles and the two enabling factors on various civic choices. Generativity and cooperation behaviors/characteristics have a significant impact on civic choices in both social and environmental domains. Additionally, in the social domain, female gender and education level also play a relevant role. Causality tests show the plausibility of direct causation from generative/cooperative attitudes to responsible consumption.

One of the known limitations of our analysis is the correspondence between stated preferences and actual behaviors. However, the previously cited literature and the results of both laboratory and field experiments indicate that the outcomes obtained through questionnaires on willingness to pay are not substantially different from those observed through revealed preferences in experimental choices (Carlsson & Martinsson, 2001). Along this line, Becchetti et al. (2019) conducted a field experiment in several retail outlets in Italy, demonstrating that providing information about the social and environmental sustainability of products from major food brands positively and significantly stimulates consumer voting with their wallets. Their findings corroborate evidence from other studies, such as Hainmueller et al. (2015) and Hiscox et al. (2011), which show that eBay buyers are willing to pay a 23 percent premium for Fair Trade-labeled coffee.

These results underscore the importance of both information availability and individual traits like generativity and cooperation in influencing responsible consumption behaviors.

Under the assumption of causality (tested with the IV estimates concerning generative and cooperative attitudes) the observed findings prompt a reflection on policies that can foster and

increase civic engagement in our country. General recommendations include initiatives aiming to reduce or eliminate the six obstacles, the enhancement of the two enabling factors, the value of education, and the training in cooperation and generativity, under the assumption that these are not innate and unchangeable character traits but modifiable and "trainable" dispositions.

Regarding the first part of our considerations (the six obstacles), it is evident that increasing the awareness of the power of citizens' choices is of paramount importance and can be pursued through communication campaigns and educational initiatives. Concerning the quality and reliability of information about the social and environmental characteristics of products, we are dealing with an area of informational asymmetry (these characteristics are not "experience goods," meaning the asymmetry is not eliminated through the purchase and consumption of the product). The presence of informational asymmetries creates markets where various intermediaries offer services to eliminate the problem (rating agencies, certifiers, labels). The literature indicates here that the temptation of "washing" (e.g., greenwashing or social washing) is also present among these intermediaries, whose business volume increases with the number of entities they evaluate and handle (Mateo-Márquez et al. 2022; Teichmann et al. 2023). Reputational mechanisms should act as a deterrent because the "expected punishment" in case of discovering incorrect evaluations is greater than the temptation of washing. It is also known that a reputational scandal affects not only the implicated company but also creates a negative externality that results in a loss of trust in the social and environmental responsibility of companies as a whole. Therefore, the quality of evaluation systems is fundamental for the entire system. New opportunities in this respect come from digital innovation. Just some years ago it was widely believed that it was impossible to convey enough readable information on product packages. In the era of QR codes made popular this problem disappeared and the proposal of a digital product passport (Jenen et al. 2023) can significantly reduce the asymmetric information problem, thereby increasing opportunities and expected return of generative and cooperative behavior in terms of life satisfaction.

Policies to reduce the impact of the third obstacle, the coordination problem, should be analyzed in the theoretical context of social dilemmas with many players. Becchetti et al. (2023) illustrate how, in this context, the impact of a single choice is negligible. Therefore, the key to triggering the propensity to make civic choices is the intrinsic motivation of the act. This points towards the importance of training and strengthening cooperative and generative attitudes. One way to overcome the third obstacle is through the promotion of mobs, specifically cash mobs, which are public mobilization events aimed at gathering the largest number of citizens to make a responsible consumption choice. It is a well-established fact in the literature that the vast majority of individuals behave as conditional cooperators (they cooperate if they believe others will cooperate), while only a minority have such strong moral norms and awareness of the value of generativity that they will make cooperative choices regardless of others' behavior (Thöni and Valk, 2018). Becchetti et al. (2021) demonstrate in a laboratory experiment that in a standard context, where most individuals behave as conditional cooperators, cash mobs can help solve coordination failure by activating cooperative behaviors based on the expectation of increased participation. A historical example of this is the cash mobs organized in Italy to purchase products in bars without slot machines as a protest against gambling. The essential raw material for these events is the aggregation of the sensitized, facilitated by symbolic events (such as Labor Day or Fridays for Future rallies).

From a pedagogical perspective, it is well-known that engaging students beyond the traditional lecture, where they play a predominantly passive role in absorbing information, is crucial. Learning is truly meaningful when it is felt as true for oneself, a result achievable only through direct experience. Experience also allows students to verify the value and "advantages" of cooperation, both personally (satisfaction and a richer sense of life derived from generative or cooperative acts) and socially (enhanced quality of relationships resulting from generative or cooperative acts). A

traditionally adopted educational tool in schools and universities is the social innovation hackathon, a competition where young people are called to form groups and create projects that generate economic value, while also having positive social and environmental impacts. In this case, the hackathon becomes a tool for experiencing and experimenting (even in a simulated form) the generative value of social and environmental innovation (Padua, 2020).

## 6. Conclusions

Our research examines the attitudes and behaviors of citizens regarding civic choices and social and environmental responsibility using data from a representative sample of Italian citizens interviewed in March 2024.

The literature review section considers how civic choices can potentially be hindered by six factors (lack of awareness, information asymmetries, coordination failures, price differentials, insufficient investment in communication, psychological costs of change of habits) and facilitated by two factors (availability of enabling infrastructure, social norms).

The initial descriptive findings indicate that certain civic choices, such as recycling and energy saving, have become widely adopted because the aforementioned factors positively influence behaviors. However, our empirical findings highlight that attention to the social and environmental quality of products and the purchase of green-certified products show a much lower prevalence than the first two choices (about one-third of respondents). In the analysis and discussion of results, we explain how in this second case, the considered factors still represent obstacles to the growth of responsible consumption and voting with one's wallet.

In the subsequent econometric analysis, we explore the factors that positively influence civic behavior for the above-mentioned lower prevalence civic choices, noting that female gender and higher education (university degree) significantly increase attention to social aspects of products. However, our findings show that two variables (generative and cooperative attitudes) consistently have a positive and significant impact on all our dependent variables. Instrumental variable estimates do not reject the hypothesis that observed correlations hide causality links, thereby opening the way to relevant policy implications.

The discussion of our findings that follows includes considerations of possible policy strategies for promoting civic engagement, particularly social and environmental voting with one's wallet. In this regard, the importance of education and its specific modalities on these topics, as well as the importance of rating systems that minimize skepticism towards corporate social and environmental responsibility and the reputational loss of evaluated organizations, is emphasized. More specifically on this point it is acknowledged how digital innovation can help to achieve the goal with instruments such as the digital product passport. Among the recommendations provided are to strengthen experiential components of active citizenship in youth education and to create events that "aggregate the sensitive" and highlight the potential of voting with one's wallet, thereby promoting the aggregation of civic behaviors.

The civic choice of voting with one's wallet, responsible consumption, and savings, among the objectives of the United Nations Sustainable Development Goal 12, has enormous potential but is still only partially realized. Policies that promote awareness, reduce information asymmetries, encourage the aggregation of choices by addressing coordination failures, and minimize price differences between sustainable and conventional products are fundamental to increasing the concrete

realization of these potentials. The hope is that these initiatives collectively will enable responsible consumption choices to reach the critical mass needed to become a consolidated and widely adopted behavior, thereby fully realizing its potential to contribute to sustainable development.

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**Tab 1 Variable legend**

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Care for social impact	<i>When considering your purchasing, saving, and investment decisions, how often do you take into account their social impact (such as the protection of workers' dignity, community development, etc.)? (Never=1, rarely=2, sometimes=3, often=4, always=5)</i>
Care for environmental impact	<i>When considering your purchasing, saving, and investment choices, how often do you take into account their environmental impact (emission levels, biodiversity conservation, etc.)? (Never=1, rarely=2, sometimes=3, often=4, always=5)</i>
Purchase Green	<i>In your daily life, how often do you perform the following actions to reduce your environmental impact? Purchase of products certified for their environmental sustainability (Never=1, rarely=2, sometimes=3, often=4, always=5)</i>
Creative	<i>Below you are provided with a brief description of a person. Please read carefully and indicate how much you identify with the person described: it is important for them to think of new ideas and be creative. They love doing things in a personal and original way. (6=Very similar to me; 5=Similar to me; 4=Somewhat similar to me; 3=Slightly similar to me; 2=Not similar to me; 1=Not at all similar to me)</i>
Altruist	<i>Below you are provided with a brief description of a person. Please read carefully and indicate how much you identify with the person described: it is very important for them to help the people around them. They enjoy working towards others' well-being. (6=Very similar to me; 5=Similar to me; 4=Somewhat similar to me; 3=Slightly similar to me; 2=Not similar to me; 1=Not at all similar to me)</i>
Generative	Average of creative and altruist
Cooperative	<i>Below you are provided with a brief description of a person. Please read carefully and indicate how much you identify with the person described: They strongly believe that people should have a cooperative approach to problem-solving. According to them, cooperation is the key to addressing social and economic issues. (6=Very similar to me; 5=Similar to me; 4=Somewhat similar to me; 3=Slightly similar to me; 2=Not similar to me; 1=Not at all similar to me)</i>
North West	Piemonte, Val d'Aosta, Liguria, Lombardia
North East	Trentino-Alto Adige, Veneto, Friuli-Venezia Giulia, Emilia-Romagna
Center	Toscana, Umbria, Marche, Lazio

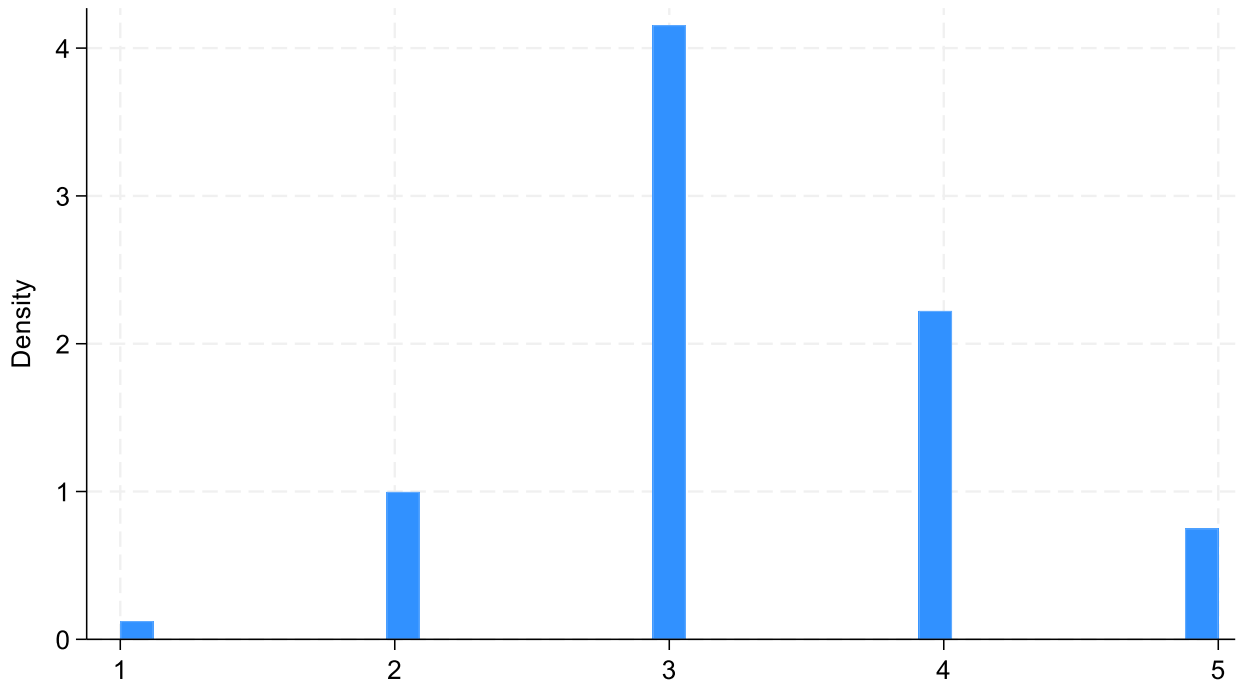
South	Abruzzo, Molise, Puglia, Campania, Basilicata, Calabria, Sicilia, Sardegna
Regional capital	0/1 dummy if the respondent residence is in a regional capital
Provincial capital	0/1 dummy if the respondent residence is in a province capital
Medium municipality	0/1 dummy if the respondent residence is in a municipality above 5000 inhabitants (neither province, nor regional capital)
Small municipality	0/1 dummy if the respondent residence is in a municipality below 5000 inhabitants
Religious	0/1 dummy for answer to the question <i>Do you currently attend religious services at least once a week (excluding special occasions such as weddings, baptisms, funerals, and similar celebrations)?</i>
Male	(0/1) dummy taking value one if the respondent is male
Age	Respondent's age
Education level	Highest respondent education level among the following (None, Primary school, Secondary school, University degree)
Self-Assessed-Health	Self-Assessed-Health level among the following (very good, good, discrete, bad, very bad)
Marital status	Marital status of the respondent among the following (never married, separated, divorced, widowed, civil union)
Work status	Work status of the respondent among the following (student, houseworker, retired, employed, unemployed)

**Tab 2. Descriptive Statistics**

Variable	Obs	Mean	Std. dev.	Min	Max
Care for social impact	2,001	3.300	0.851	1	5
Care for environmental impact	2,001	3.346	0.687	1	5
Purchase Green	2,001	3.268	0.767	1	5
Cooperative	2,001	3.544	0.903	1	5
Generativity	2,001	3.952	0.655	1.5	6
Creative	2,001	2.956	0.909	1	6
Care for others	2,001	3.139	0.698	1	6
Male	2,001	0.490	0.500	0	1
Age	2,001	50.775	17.543	18	84
Head of region	2,001	0.160	0.367	0	1
Head of province	2,001	0.304	0.460	0	1
Medium municipality	2,001	0.366	0.482	0	1
Small municipality	2,001	0.170	0.376	0	1

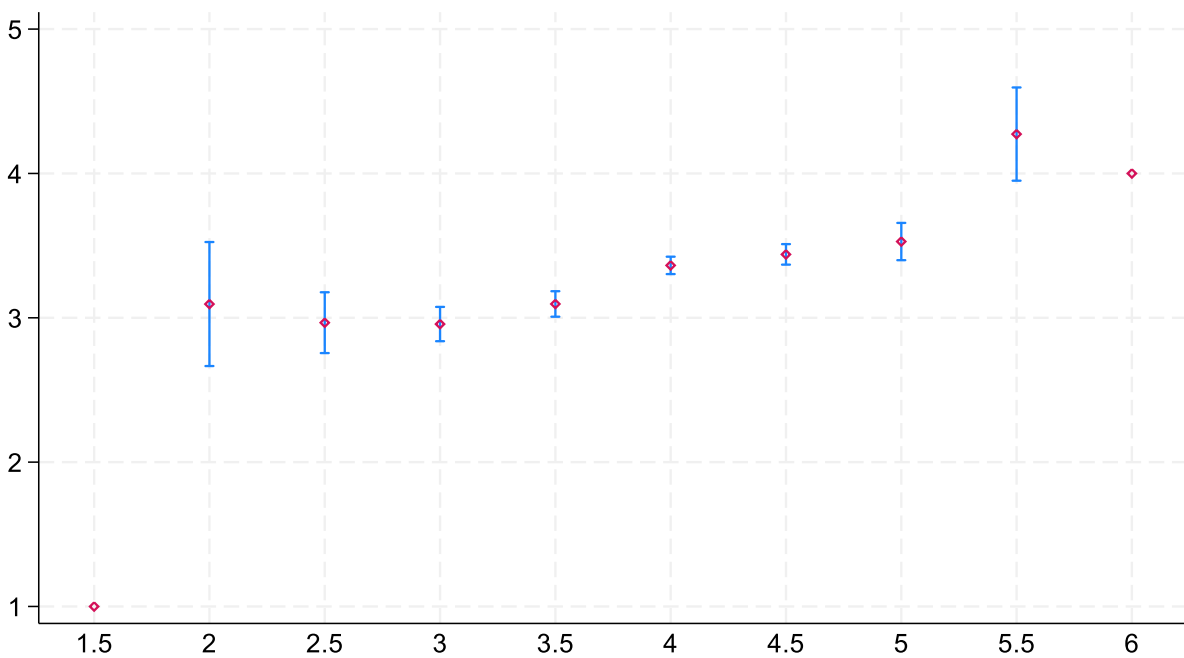
North West	2,001	0.200	0.400	0	1
North East	2,001	0.200	0.400	0	1
Center	2,001	0.200	0.400	0	1
South	2,001	0.400	0.490	0	1
<u>Income classes</u>					
Up to a 11.700 €	2,001	0.124	0.330	0	1
Between 11.701 € e 16.000 €	2,001	0.199	0.399	0	1
Between 16.001 € e 20.100 €	2,001	0.090	0.287	0	1
Between 20.101 € e 23.900 €	2,001	0.062	0.241	0	1
Between 23.901 € e 28.000 €	2,001	0.050	0.219	0	1
Between 28.001 € e 34.000 €	2,001	0.019	0.137	0	1
Between 34.001 € e 41.300 €	2,001	0.005	0.071	0	1
Beyond 70.400	2,001	0.001	0.032	0	1
Does not know/does not answer	2,001	0.449	0.497	0	1
<u>Marital status</u>					
Never married	2,001	0.239	0.427	0	1
Married/civil union	2,001	0.672	0.469	0	1
Separated	2,001	0.030	0.171	0	1
Divorced	2,001	0.022	0.147	0	1
Widowed	2,001	0.036	0.188	0	1
<u>Work status</u>					
Student	2,001	0.151	0.358	0	1
Houseworker	2,001	0.118	0.323	0	1
Retired	2,001	0.268	0.443	0	1
Employed	2,001	0.387	0.487	0	1
Unemployed	2,001	0.076	0.265	0	1
<u>Self-Assessed Health</u>					
Very good	2,001	0.104	0.306	0	1
Good	2,001	0.522	0.500	0	1
Discrete	2,001	0.291	0.455	0	1
Bad	2,001	0.060	0.238	0	1
Very bad	2,001	0.022	0.147	0	1
<u>Highest education degree</u>					
None	2,001	0.105	0.102	0	1
Primary school	2,001	0.365	0.482	0	1
Secondary school	2,001	0.516	0.500	0	1
University degree	2,001	0.108	0.3111	0	1
Participation	2,001	0.199	0.216	0	1

**Figure 1.1 Care for social impact in economic choices**



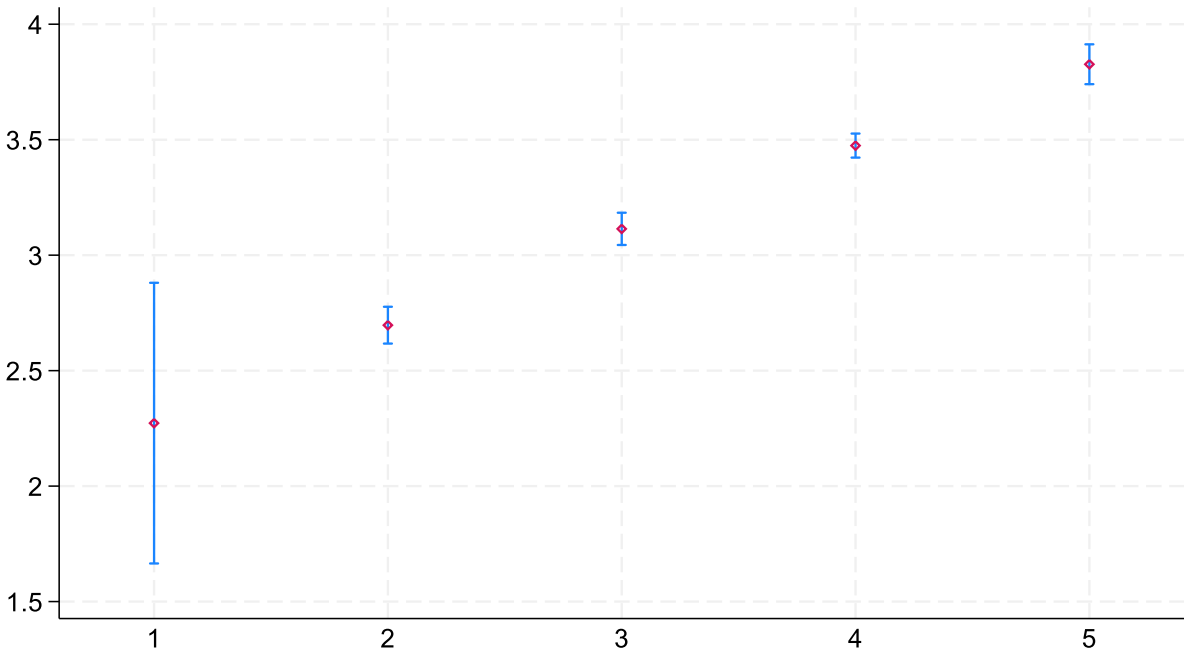
*When considering your purchasing, saving, and investment decisions, how often do you take into account their social impact (such as the protection of workers' dignity, community development, etc.)? (Never=1, rarely=2, sometimes=3, often=4, always=5).*

**Figure 1.2 Generativity and care for social impact in economic choices**



Horizontal axis: generative type

**Figure 1.3 Cooperation and care for social impact in economic choices**



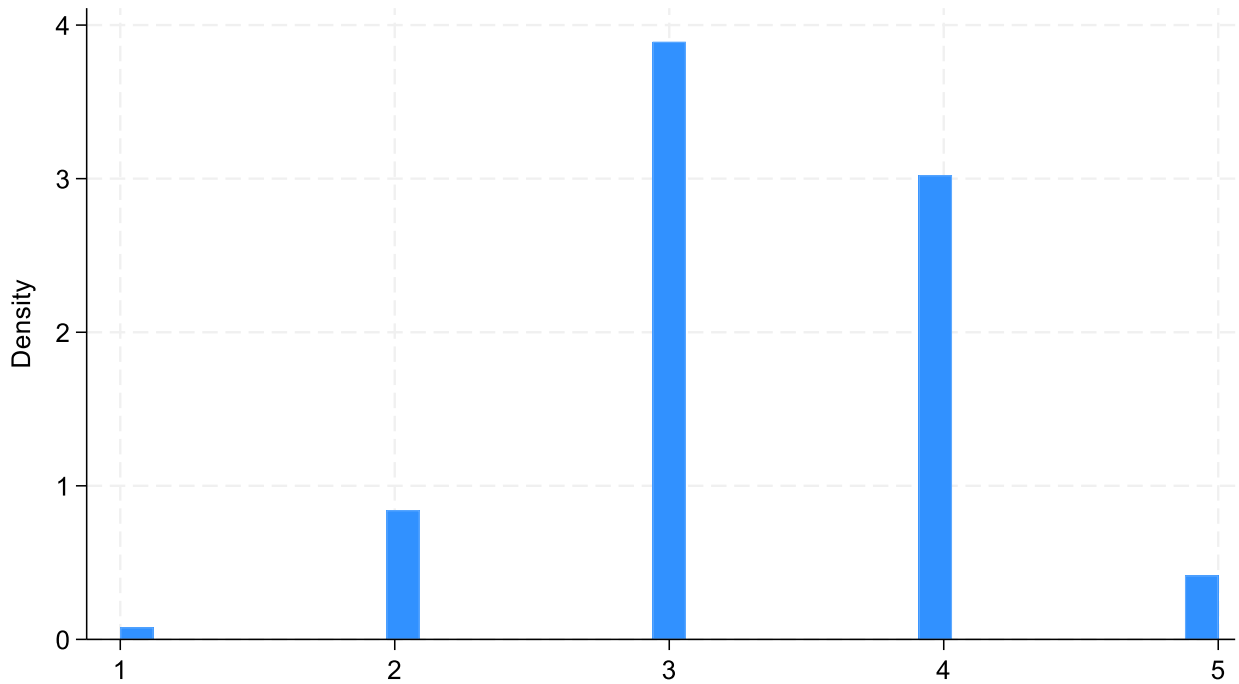
Horizontal axis: cooperative type

**Table 3 The drivers of care for social impact in economic choices**

	(1)	(2)	(3)	(4)
Female	0.0512 (0.0977)	0.0811 (0.0994)	0.0696 (0.0992)	0.0191 (0.100)
Primary education	0.525 (0.505)	0.320 (0.503)	0.200 (0.493)	0.390 (0.445)
Secondary education	1.939*** (0.527)	1.370*** (0.525)	1.236** (0.514)	1.349*** (0.470)
Tertiary education	2.469*** (0.548)	1.840*** (0.550)	1.570*** (0.540)	1.527*** (0.496)
Generative			0.788*** (0.0863)	0.371*** (0.0999)
Cooperative				0.654*** (0.0617)
/cut1	-3.889*** (0.633)	-4.395*** (0.643)	-2.006*** (0.680)	-1.377** (0.635)
/cut2	-1.351** (0.609)	-1.795*** (0.618)	0.705 (0.663)	1.414** (0.620)
/cut3	1.643*** (0.606)	1.330** (0.614)	3.940*** (0.668)	4.803*** (0.628)
/cut4	3.725*** (0.612)	3.475*** (0.622)	6.135*** (0.677)	7.062*** (0.639)
Observations	2,001	2,001	2,001	2,001

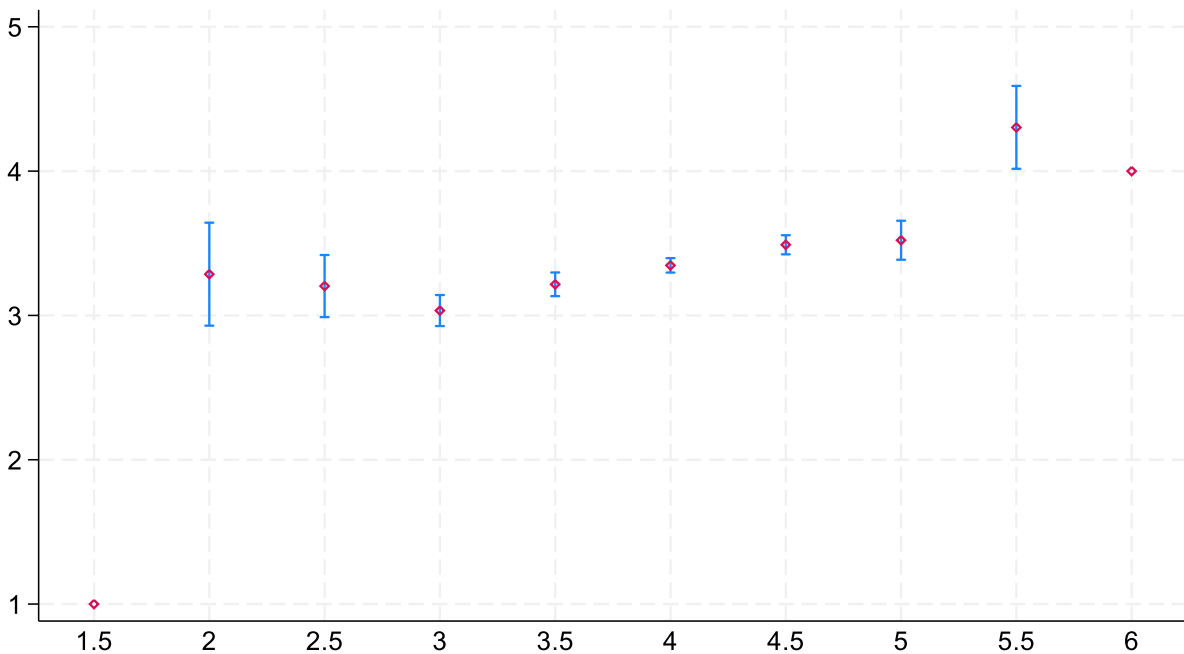
Dependent variable: *When considering your purchasing, saving, and investment decisions, how often do you take into account their social impact (such as the protection of workers' dignity, community development, etc.)? (Never=1, rarely=2, sometimes=3, often=4, always=5).* Robust standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Omitted benchmarks: male, no education, student, aged 18-24, income up to 11.700 euros, never married, living in head of region, very good health. For full estimate details see Appendix.

**Figure 2.1 Care for environmental impact in economic choices**



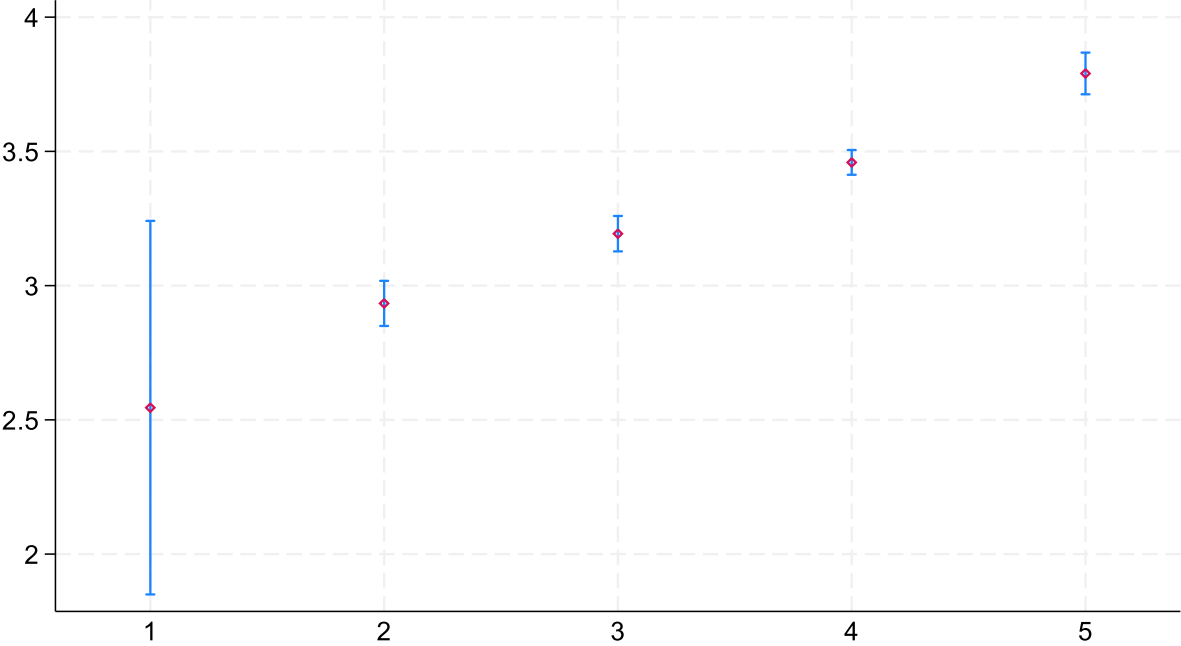
When considering your purchasing, saving, and investment choices, how often do you take into account their environmental impact (emission levels, biodiversity conservation, etc.)? (Never=1, rarely=2, sometimes=3, often=4, always=5)

**Figure 2.2 Generativity and care for environmental impact in economic choices**



Horizontal axis: generative type

**Figure 2.3 Cooperation and care for enviromental impact in economic choices**



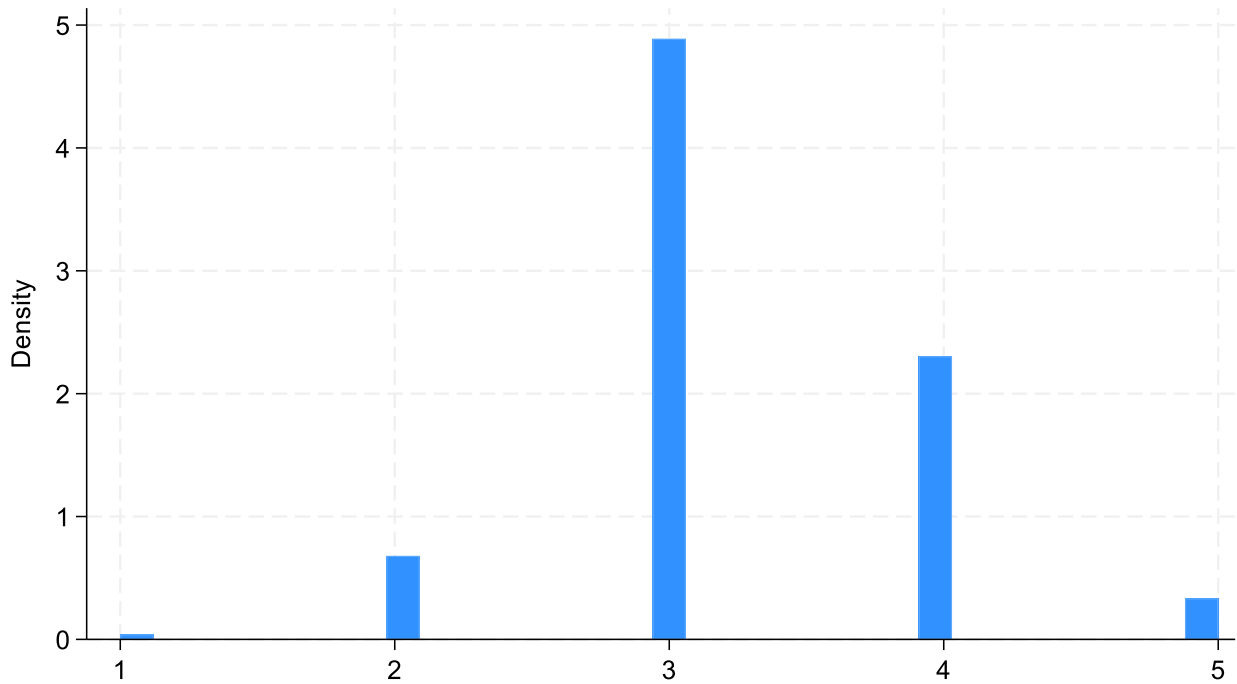
Horizontal axis: cooperative type

**Table 4 The drivers of care for environmental impact in economic choices**

	(1)	(2)	(3)	(4)
Female	0.0857 (0.0983)	0.119 (0.0988)	0.0993 (0.0990)	0.0571 (0.100)
Primary education	1.173 (0.816)	1.205 (0.849)	1.057 (0.712)	1.162* (0.697)
Secondary education	1.393* (0.831)	1.233 (0.866)	1.041 (0.732)	1.098 (0.717)
Tertiary education	1.594* (0.844)	1.389 (0.879)	1.023 (0.749)	0.988 (0.733)
Generative			0.560*** (0.0896)	0.212** (0.103)
Cooperative				0.523*** (0.0607)
/cut1	-4.763*** (0.773)	-5.407*** (0.754)	-3.673*** (0.785)	-3.188*** (0.753)
/cut2	-2.058*** (0.720)	-2.618*** (0.695)	-0.815 (0.731)	-0.287 (0.701)
/cut3	0.752 (0.714)	0.326 (0.687)	2.169*** (0.730)	2.776*** (0.701)
/cut4	3.660*** (0.720)	3.288*** (0.696)	5.173*** (0.738)	5.844*** (0.709)
Observations	2,001	2,001	2,001	2,001

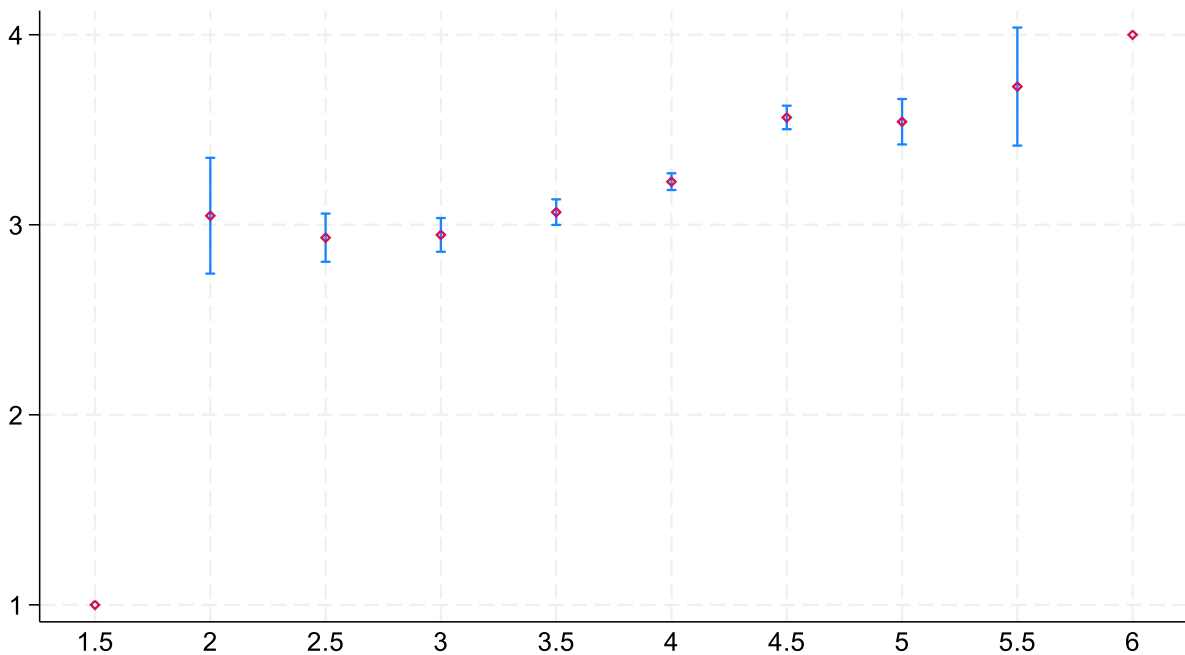
Dependent variable: *when considering your purchasing, saving, and investment choices, how often do you take into account their environmental impact (emission levels, biodiversity conservation, etc.)?* (Never=1, rarely=2, sometimes=3, often=4, always=5). Robust standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Omitted benchmarks: male, no education, student, aged 18-24, income up to 11.700 euros, never married, living in head of region, very good health. For full estimate details see Appendix.

### Figure 3.1 Purchase of green certified products

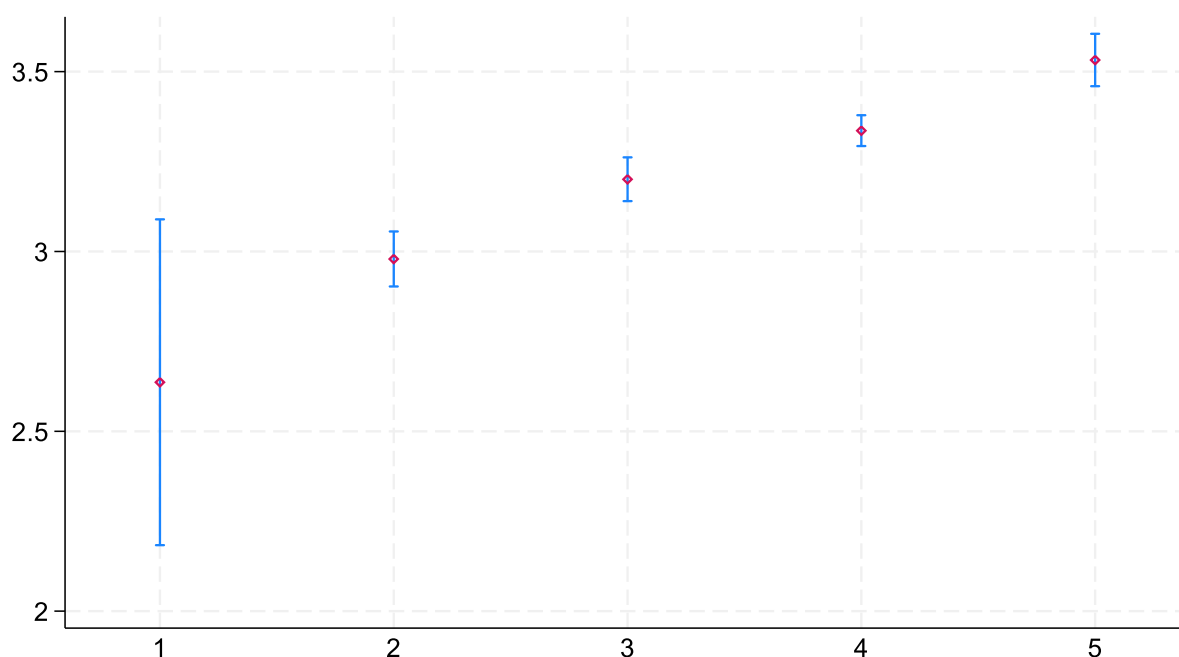


*In your daily life, how often do you perform the following actions to reduce your environmental impact? Purchase of products certified for their environmental sustainability (Never=1, rarely=2, sometimes=3, often=4, always=5).*

**Figure 3.3 Generativity and purchase of green certified products**



**Figure 3.3 Cooperation and purchase of green certified products**



**Table 5 Drivers of purchase of green certified products**

	(1)	(2)	(3)	(4)
Female	0.282*** (0.103)	0.288*** (0.104)	0.274*** (0.104)	0.249** (0.104)
Primary education	1.196 (0.820)	1.224 (0.855)	1.059 (0.722)	1.161* (0.706)
Secondary education	1.433* (0.837)	1.266 (0.874)	1.053 (0.743)	1.104 (0.727)
Tertiary education	1.613* (0.849)	1.401 (0.886)	1.019 (0.759)	0.978 (0.743)
Generative			0.928*** (0.0993)	0.709*** (0.109)
Cooperative				0.334*** (0.0601)
/cut1	-3.379*** (0.939)	-3.514*** (0.977)	-0.540 (0.906)	-0.177 (0.888)
/cut2	-0.347 (0.896)	-0.465 (0.934)	2.554*** (0.865)	2.937*** (0.851)
/cut3	3.127*** (0.901)	3.049*** (0.936)	6.228*** (0.880)	6.649*** (0.865)
/cut4	5.788*** (0.900)	5.718*** (0.934)	8.990*** (0.880)	9.436*** (0.868)
Observations	2,001	2,001	2,001	2,001

Dependent variable: *In your daily life, how often do you perform the following actions to reduce your environmental impact? Purchase of products certified for their environmental sustainability (Never=1, rarely=2, sometimes=3, often=4, always=5).* Robust standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

Omitted benchmarks: male, no education, student, aged 18-24, income up to 11.700 euros, never married, living in head of region, very good health. For full estimate details see Appendix.

**Table 6.1 Generativity/cooperation and care for social impact of products: IV estimates**

	(1)	(2)	(3)	(4)	(5)
VARIABLES	IV estimate			Non IV estimate	Falsification test
	Second stage	First stage			
Generative/cooperative	1.140*** (0.247)			0.655*** (0.0620)	
Instrument		0.869*** (0.0907)			-0.235 (0.689)
Atanh $\rho$			-0.301* (0.168)		
Ln( $\sigma^2$ )			-0.598*** (0.0158)		
Constant	-8.727 (306.2)	0.417 (0.316)		-6.909 (163.2)	-4.806 (240.0)
Observations	1,999	1,999	1,999	1,999	473

Instrument: average generativity/cooperativeness at regional, education class level. Wald test of exogeneity (corr = 0):  $\chi^2(1) = 3.01$  Prob >  $\chi^2 = 0.0830$ . Robust standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Omitted benchmarks: male, no education, student, aged 18-24, income up to 11.700 euros, never married, living in head of region, very good health. For full estimate details see Appendix.

**Table 6.2 Generativity/cooperation and care for environmental impact of products: IV estimates**

	(1)	(2)	(3)	(4)	(5)
VARIABLES	IV estimate			Non IV estimate	Falsification test
	Second stage	First stage			
Generative/cooperative	1.048*** (0.226)			0.486*** (0.0570)	
Instrument		0.869*** (0.0907)			0.0615 (0.618)
Atanh $\rho$			-0.368** (0.154)		
Ln( $\sigma^2$ )			-0.598*** (0.0158)		
Constant	-3.686*** (0.900)	0.417 (0.316)		-1.718*** (0.537)	-4.416 (188.1)
Observations	1,999	1,999	1,999	1,999	473

Instrument: average generativity/cooperativeness at regional, education class level. Wald test of exogeneity (corr = 0):  $\chi^2(1) = 3.01$  Prob >  $\chi^2 = 0.0830$ . Robust standard errors in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Omitted benchmarks: male, no education, student, aged 18-24, income up to 11.700 euros, never married, living in head of region, very good health. For full estimate details see Appendix.

**Table 6.3 Generativity/cooperation and purchase of green certified products: IV estimates**

	(1)	(2)	(3)	(4)	(5)
VARIABLES	IV estimate Second stage	First stage		Non IV estimate	Falsification test
Generative/cooperative	0.753*** (0.271)			0.626*** (0.0591)	
Instrument		0.869*** (0.0906)			-0.996 (0.660)
Atanh $\rho$			-0.0741 (0.156)		
Ln( $\sigma^2$ )			-0.598*** (0.0158)		
Constant					-
Observations	-4.046*** (0.987)	0.417 (0.315)		-3.640*** (0.523)	-4.492 (160.5)

Instrument: average generativity/cooperativeness at regional, education class level. Wald test of exogeneity (corr = 0):  $\chi^2(1) = 0.22$  Prob >  $\chi^2 = 0.6353$ . Robust standard errors in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Omitted benchmarks: male, no education, student, aged 18-24, income up to 11.700 euros, never married, living in head of region, very good health. For full estimate details see Appendix.

## Appendix

**Table 3 The drivers of care for social impact in economic choices**

VARIABLES	(1)	(2)	(3)	(4)
Female	0.0512 (0.0977)	0.0811 (0.0994)	0.0696 (0.0992)	0.0191 (0.100)
25-34	-0.277 (0.220)	-0.226 (0.227)	-0.256 (0.221)	-0.334 (0.220)
35-44	0.274 (0.326)	0.366 (0.339)	0.387 (0.334)	0.243 (0.326)
45-54	0.317 (0.320)	0.485 (0.334)	0.580* (0.332)	0.396 (0.325)
55-64	0.309 (0.350)	0.698* (0.363)	0.876** (0.361)	0.686* (0.355)
65-74	0.573 (0.416)	1.243*** (0.425)	1.409*** (0.428)	1.163*** (0.422)
75-84	0.374 (0.447)	1.087** (0.453)	1.249*** (0.456)	0.978** (0.452)
Children	-0.319*** (0.0671)	-0.289*** (0.0661)	-0.321*** (0.0673)	-0.363*** (0.0682)
North-East	-0.171 (0.153)	-0.164 (0.154)	-0.190 (0.155)	-0.187 (0.155)
Center	-0.324** (0.146)	-0.316** (0.147)	-0.324** (0.148)	-0.363** (0.148)
South and Isles	-0.260** (0.133)	-0.312** (0.132)	-0.330** (0.133)	-0.347*** (0.133)
Between 11.701 € and 16.000 €	-0.318* (0.169)	-0.285* (0.164)	-0.459*** (0.174)	-0.361** (0.173)
Between 16.001 € and 20.100 €	-0.338* (0.193)	-0.404** (0.196)	-0.681*** (0.201)	-0.506** (0.206)
Between 20.101 € and 23.900 €	-0.806*** (0.240)	-0.819*** (0.243)	-1.221*** (0.247)	-0.926*** (0.254)
Between 23.901 € and 28.000 €	-0.392 (0.238)	-0.518** (0.241)	-0.991*** (0.240)	-0.803*** (0.242)
Between 28.001 € and 34.000 €	-1.636*** (0.490)	-1.699*** (0.491)	-2.116*** (0.492)	-1.687*** (0.501)
Between 34.001 € and 41.003 €	0.980 (0.966)	0.718 (0.879)	0.00388 (0.706)	0.634 (0.750)
Beyond 70.400	-3.285*** (0.547)	-3.014*** (0.340)	-3.377*** (0.382)	-2.420*** (0.353)
Does not know/does not answer	-1.058*** (0.154)	-1.029*** (0.150)	-1.450*** (0.166)	-1.251*** (0.166)
Primary education	0.525 (0.505)	0.320 (0.503)	0.200 (0.493)	0.390 (0.445)
Secondary education	1.939*** (0.527)	1.370*** (0.525)	1.236** (0.514)	1.349*** (0.470)
Tertiary education	2.469*** (0.548)	1.840*** (0.550)	1.570*** (0.540)	1.527*** (0.496)
Married/civil union	1.076***	1.027***	0.990***	0.931***

	(0.195)	(0.197)	(0.199)	(0.195)
Separated	-0.307	-0.0950	-0.184	-0.0722
	(0.369)	(0.347)	(0.328)	(0.337)
Divorced	0.105	0.301	0.187	0.177
	(0.306)	(0.296)	(0.296)	(0.305)
Widowed	0.0802	0.176	0.305	0.403
	(0.363)	(0.363)	(0.369)	(0.368)
Houseworker	0.327	0.331	0.495*	0.555*
	(0.297)	(0.300)	(0.296)	(0.291)
Retired	-0.632*	-0.434	-0.397	-0.265
	(0.344)	(0.341)	(0.344)	(0.337)
Employed	0.0224	0.0722	0.0874	0.124
	(0.237)	(0.243)	(0.238)	(0.229)
Unemployed	-0.0975	0.0404	0.147	0.266
	(0.237)	(0.241)	(0.235)	(0.223)
Head of province	0.0346	0.0318	-0.0715	-0.0706
	(0.153)	(0.154)	(0.154)	(0.153)
Medium municipality	0.131	0.111	0.0142	0.00352
	(0.151)	(0.151)	(0.151)	(0.150)
Small municipality	-0.0828	-0.113	-0.175	-0.234
	(0.172)	(0.171)	(0.173)	(0.172)
		0.276	0.314*	0.329*
Good Self-assessed-health		(0.180)	(0.182)	(0.177)
		-0.962***	-0.747***	-0.611***
Discrete Self-assessed-health		(0.216)	(0.220)	(0.218)
		-1.836***	-1.723***	-1.616***
Bad Self-assessed-health		(0.310)	(0.307)	(0.304)
		-1.626***	-1.750***	-1.682***
		(0.420)	(0.409)	(0.422)
Religious	0.462***	0.411***	0.174*	0.226**
	(0.0968)	(0.0978)	(0.102)	(0.104)
Generative			0.788***	0.371***
			(0.0863)	(0.0999)
Cooperative				0.654***
				(0.0617)
/cut1	-3.889***	-4.395***	-2.006***	-1.377**
	(0.633)	(0.643)	(0.680)	(0.635)
/cut2	-1.351**	-1.795***	0.705	1.414**
	(0.609)	(0.618)	(0.663)	(0.620)
/cut3	1.643***	1.330**	3.940***	4.803***
	(0.606)	(0.614)	(0.668)	(0.628)
/cut4	3.725***	3.475***	6.135***	7.062***
	(0.612)	(0.622)	(0.677)	(0.639)
Observations	2,001	2,001	2,001	2,001

Dependent variable: *When considering your purchasing, saving, and investment decisions, how often do you take into account their social impact (such as the protection of workers' dignity, community development, etc.)? (Never=1, rarely=2, sometimes=3, often=4, always=5).* Robust standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Omitted benchmarks: male, no education, student, aged 18-24, income up to 11.700 euros, never married, living in head of region, very good health. For full estimate details see Appendix.

**Table 4 The drivers of care for environmental impact in economic choices**

VARIABLES	(1)	(2)	(3)	(4)
Female	0.0857 (0.0983)	0.119 (0.0988)	0.0993 (0.0990)	0.0571 (0.100)
25-34	-0.689*** (0.215)	-0.695*** (0.218)	-0.723*** (0.217)	-0.800*** (0.222)
35-44	-0.447 (0.316)	-0.444 (0.326)	-0.410 (0.323)	-0.558* (0.328)
45-54	-0.0440 (0.318)	0.0228 (0.328)	0.111 (0.326)	-0.0696 (0.332)
55-64	-0.0376 (0.338)	0.250 (0.348)	0.393 (0.347)	0.203 (0.350)
65-74	-0.0935 (0.410)	0.438 (0.420)	0.561 (0.421)	0.335 (0.423)
75-84	-0.455 (0.437)	0.153 (0.446)	0.267 (0.447)	0.00616 (0.449)
Children	-0.322*** (0.0716)	-0.285*** (0.0701)	-0.305*** (0.0703)	-0.334*** (0.0705)
North-East	-0.0643 (0.148)	-0.0529 (0.149)	-0.0692 (0.149)	-0.0709 (0.149)
Center	-0.102 (0.151)	-0.0765 (0.152)	-0.0676 (0.153)	-0.0883 (0.154)
South and Isles	-0.0586 (0.131)	-0.0913 (0.132)	-0.102 (0.132)	-0.121 (0.131)
Between 11.701 € and 16.000 €	-0.327** (0.160)	-0.294* (0.157)	-0.424*** (0.163)	-0.355** (0.164)
Between 16.001 € and 20.100 €	0.327 (0.200)	0.298 (0.200)	0.111 (0.205)	0.262 (0.211)
Between 20.101 € and 23.900 €	0.150 (0.240)	0.177 (0.238)	-0.0896 (0.239)	0.181 (0.248)
Between 23.901 € and 28.000 €	0.516** (0.246)	0.432* (0.251)	0.110 (0.254)	0.279 (0.252)
Between 28.001 € and 34.000 €	-0.414 (0.515)	-0.481 (0.507)	-0.746 (0.501)	-0.370 (0.511)
Between 34.001 € and 41.003 €	1.939** (0.970)	1.665* (0.907)	1.088 (0.784)	1.594* (0.816)
Beyond 70.400	-1.789*** (0.472)	-1.574** (0.704)	-1.769*** (0.668)	-0.960 (0.756)
Does not know/does not answer	-0.522*** (0.153)	-0.491*** (0.151)	-0.775*** (0.163)	-0.598*** (0.165)
Primary education	0.258 (0.635)	-0.113 (0.596)	-0.197 (0.569)	-0.0495 (0.522)
Secondary education	1.251* (0.653)	0.538 (0.617)	0.429 (0.590)	0.511 (0.547)
Tertiary education	1.970*** (0.670)	1.218* (0.635)	1.002* (0.609)	0.974* (0.566)
Married/civil union	0.456**	0.382*	0.322	0.257

	(0.196)	(0.198)	(0.199)	(0.201)
Separated	-0.628*	-0.453	-0.552*	-0.485
	(0.345)	(0.339)	(0.328)	(0.336)
Divorced	-0.150	0.0441	-0.0393	-0.0585
	(0.333)	(0.330)	(0.327)	(0.328)
Widowed	-0.504	-0.383	-0.324	-0.279
	(0.377)	(0.377)	(0.376)	(0.376)
Houseworker	0.848***	0.862***	0.979***	1.049***
	(0.285)	(0.287)	(0.283)	(0.284)
Retired	0.244	0.466	0.508	0.623*
	(0.335)	(0.339)	(0.337)	(0.335)
Employed	0.405*	0.474**	0.485**	0.521**
	(0.232)	(0.234)	(0.229)	(0.231)
Unemployed	0.464**	0.606***	0.698***	0.776***
	(0.231)	(0.232)	(0.229)	(0.234)
Head of province	0.00623	0.0372	-0.0342	-0.0338
	(0.153)	(0.151)	(0.152)	(0.151)
Medium municipality	-0.00457	-0.00599	-0.0790	-0.0866
	(0.152)	(0.150)	(0.150)	(0.148)
Small municipality	-0.0199	-0.0276	-0.0742	-0.103
	(0.165)	(0.162)	(0.162)	(0.161)
Good Self-assessed-health		0.322*	0.347**	0.371**
		(0.171)	(0.171)	(0.172)
Discrete Self-assessed-health		-0.724***	-0.557***	-0.414*
		(0.205)	(0.209)	(0.211)
Bad Self-assessed-health		-1.859***	-1.763***	-1.637***
		(0.297)	(0.297)	(0.299)
		-1.869***	-1.946***	-1.852***
		(0.461)	(0.451)	(0.460)
relig	0.130	0.0598	-0.119	-0.0838
	(0.100)	(0.101)	(0.106)	(0.108)
Generative			0.560***	0.212**
			(0.0896)	(0.103)
Cooperative				0.523***
				(0.0607)
/cut1	-4.763***	-5.407***	-3.673***	-3.188***
	(0.773)	(0.754)	(0.785)	(0.753)
/cut2	-2.058***	-2.618***	-0.815	-0.287
	(0.720)	(0.695)	(0.731)	(0.701)
/cut3	0.752	0.326	2.169***	2.776***
	(0.714)	(0.687)	(0.730)	(0.701)
/cut4	3.660***	3.288***	5.173***	5.844***
	(0.720)	(0.696)	(0.738)	(0.709)
Observations	2,001	2,001	2,001	2,001

Dependent variable: *when considering your purchasing, saving, and investment choices, how often do you take into account their environmental impact (emission levels, biodiversity conservation, etc.)? (Never=1, rarely=2, sometimes=3, often=4, always=5)*. Robust standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Omitted benchmarks: male, no education, student, aged 18-24, income up to 11.700 euros, never married, living in head of region, very good health.

**Table 5 Drivers of purchase of green certified products**

VARIABLES	(1)	(2)	(3)	(4)
Female	0.282*** (0.103)	0.288*** (0.104)	0.274*** (0.104)	0.249** (0.104)
25-34	-0.140 (0.231)	-0.117 (0.234)	-0.0994 (0.233)	-0.132 (0.230)
35-44	-0.467 (0.314)	-0.412 (0.317)	-0.393 (0.317)	-0.465 (0.316)
45-54	-0.715** (0.318)	-0.630* (0.323)	-0.540* (0.325)	-0.648** (0.323)
55-64	-0.748** (0.339)	-0.540 (0.345)	-0.340 (0.350)	-0.446 (0.350)
65-74	-0.557 (0.427)	-0.212 (0.435)	-0.0410 (0.444)	-0.186 (0.446)
75-84	-0.732 (0.471)	-0.380 (0.479)	-0.227 (0.482)	-0.395 (0.483)
Children	-0.308*** (0.0760)	-0.286*** (0.0761)	-0.345*** (0.0776)	-0.364*** (0.0775)
North-East	-0.164 (0.149)	-0.151 (0.151)	-0.165 (0.152)	-0.171 (0.151)
Center	-0.0754 (0.152)	-0.0597 (0.153)	-0.0184 (0.156)	-0.0419 (0.156)
South and Isles	-0.0457 (0.133)	-0.0575 (0.134)	-0.0527 (0.136)	-0.0627 (0.135)
Between 11.701 € and 16.000 €	0.0983 (0.158)	0.0947 (0.157)	-0.102 (0.167)	-0.0503 (0.168)
Between 16.001 € and 20.100 €	1.286*** (0.195)	1.233*** (0.197)	0.970*** (0.204)	1.084*** (0.207)
Between 20.101 € and 23.900 €	1.392*** (0.228)	1.382*** (0.231)	0.968*** (0.238)	1.141*** (0.243)
Between 23.901 € and 28.000 €	2.073*** (0.231)	2.019*** (0.233)	1.546*** (0.242)	1.682*** (0.246)
Between 28.001 € and 34.000 €	2.791*** (0.381)	2.795*** (0.386)	2.395*** (0.405)	2.679*** (0.420)
Between 34.001 € and 41.003 €	4.210*** (0.713)	4.061*** (0.716)	3.165*** (0.740)	3.471*** (0.760)
Beyond 70.400	1.692 (1.039)	1.873** (0.882)	1.713* (0.964)	2.284** (0.934)
Does not know/does not answer	1.140*** (0.163)	1.151*** (0.163)	0.755*** (0.175)	0.891*** (0.179)
Primary education	1.173 (0.816)	1.205 (0.849)	1.057 (0.712)	1.162* (0.697)
Secondary education	1.393* (0.831)	1.233 (0.866)	1.041 (0.732)	1.098 (0.717)
Tertiary education	1.594* (0.844)	1.389 (0.879)	1.023 (0.749)	0.988 (0.733)
Married/civil union	0.661*** (0.185)	0.607*** (0.187)	0.575*** (0.189)	0.534*** (0.191)
Separated	0.390	0.494	0.375	0.450

	(0.331)	(0.329)	(0.316)	(0.326)
Divorced	0.511	0.578*	0.470	0.486
	(0.327)	(0.328)	(0.327)	(0.330)
Widowed	-0.352	-0.429	-0.277	-0.243
	(0.547)	(0.551)	(0.533)	(0.530)
Houseworker	0.913***	0.929***	1.157***	1.191***
	(0.286)	(0.286)	(0.289)	(0.287)
Retired	1.205***	1.288***	1.439***	1.527***
	(0.356)	(0.353)	(0.361)	(0.361)
Employed	1.121***	1.148***	1.242***	1.262***
	(0.240)	(0.241)	(0.242)	(0.240)
Unemployed	0.574**	0.635**	0.838***	0.886***
	(0.248)	(0.248)	(0.252)	(0.251)
Head of province	0.122	0.121	-0.0153	-0.0211
	(0.153)	(0.154)	(0.155)	(0.154)
Medium municipality	0.0684	0.0447	-0.0886	-0.102
	(0.152)	(0.153)	(0.154)	(0.153)
Small municipality	0.0474	0.0300	-0.0422	-0.0683
	(0.172)	(0.172)	(0.174)	(0.174)
Good Self-assessed-health		0.0752	0.136	0.144
		(0.157)	(0.158)	(0.159)
Discrete Self-assessed-health		-0.556***	-0.256	-0.167
		(0.206)	(0.214)	(0.216)
Bad Self-assessed-health		-0.871**	-0.633*	-0.539
		(0.364)	(0.358)	(0.354)
		-0.174	-0.348	-0.293
		(0.624)	(0.541)	(0.544)
Religious	0.0810	0.0606	-0.225**	-0.199*
	(0.103)	(0.105)	(0.112)	(0.112)
Generative			0.928***	0.709***
			(0.0993)	(0.109)
Cooperative				0.334***
				(0.0601)
/cut1	-3.379***	-3.514***	-0.540	-0.177
	(0.939)	(0.977)	(0.906)	(0.888)
/cut2	-0.347	-0.465	2.554***	2.937***
	(0.896)	(0.934)	(0.865)	(0.851)
/cut3	3.127***	3.049***	6.228***	6.649***
	(0.901)	(0.936)	(0.880)	(0.865)
/cut4	5.788***	5.718***	8.990***	9.436***
	(0.900)	(0.934)	(0.880)	(0.868)
Observations	2,001	2,001	2,001	2,001

Dependent variable: *In your daily life, how often do you perform the following actions to reduce your environmental impact? Purchase of products certified for their environmental sustainability (Never=1, rarely=2, sometimes=3, often=4, always=5)*. Robust standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Omitted benchmarks: male, no education, student, aged 18-24, income up to 11.700 euros, never married, living in head of region, very good health.

**Table 6.1 Generativity/cooperation and care for social impact of products: IV estimates**

VARIABLES	(1)	(2)	(3)	(4)	(5)
	IV estimate Second stage	First stage		Non IV estimate	Falsification test
Instrument	1.140*** (0.247)			0.655*** (0.0620)	
Female	0.0277 (0.0729)	-0.0680** (0.0274)		-0.00334 (0.0726)	0.227 (0.187)
25-34	-0.278* (0.161)	0.0788 (0.0639)		-0.255 (0.164)	-0.0528 (0.517)
35-44	-0.0926 (0.231)	0.103 (0.0920)		-0.0318 (0.234)	-0.322 (0.680)
45-54	-0.00248 (0.236)	0.0634 (0.0942)		0.0439 (0.240)	0.236 (0.653)
55-64	0.249 (0.253)	0.00821 (0.101)		0.271 (0.258)	0.359 (0.701)
65-74	0.519* (0.308)	0.0564 (0.118)		0.591* (0.310)	0.532 (0.782)
75-84	0.540 (0.335)	0.0544 (0.125)		0.618* (0.338)	1.002 (0.806)
Children	-0.221*** (0.0483)	0.0506*** (0.0178)		-0.204*** (0.0494)	-0.223** (0.101)
North-East	-0.138 (0.104)	-0.0300 (0.0410)		-0.140 (0.106)	-0.215 (0.279)
Center	-0.209** (0.105)	-0.0196 (0.0408)		-0.218** (0.106)	-0.157 (0.248)
South and Isles	-0.194** (0.0923)	-0.0336 (0.0364)		-0.200** (0.0940)	-0.190 (0.232)
Between 11.701 € e 16.000 €	-0.417*** (0.121)	0.0786* (0.0465)		-0.394*** (0.123)	-0.106 (0.272)
Between 16.001 € e 20.100 €	-0.512*** (0.140)	0.107* (0.0562)		-0.470*** (0.142)	-0.233 (0.337)
Between 20.101 € e 23.900 €	-0.738*** (0.160)	0.142** (0.0641)		-0.694*** (0.163)	-0.0110 (0.431)
Between 23.901 € e 28.000 €	-0.550*** (0.182)	0.253*** (0.0695)		-0.433** (0.178)	-0.00311 (0.532)
Between 28.001 € e 34.000 €	-1.040*** (0.258)	-0.0126 (0.0992)		-1.099*** (0.257)	-1.172* (0.683)
Between 34.001 € e 41.300 €	-0.575 (0.453)	0.292 (0.185)		-0.401 (0.459)	0.0232 (1.108)
Does not know/does not answer	-0.836*** (0.112)	0.175*** (0.0421)		-0.783*** (0.114)	-0.767*** (0.255)
Primary education	4.872 (306.2)	-0.110 (0.138)		4.505 (163.2)	3.966 (240.0)
Secondary education	5.405 (306.2)	-0.219 (0.149)		5.124 (163.2)	4.633 (240.0)

Tertiary education	5.393 (306.2)	-0.249 (0.165)	5.258 (163.2)	4.144 (240.0)
Married/civil union	0.369** (0.146)	0.141*** (0.0533)	0.463*** (0.136)	1.111*** (0.376)
Separated	0.0119 (0.229)	0.0418 (0.0871)	0.0322 (0.234)	
Divorced	-0.231 (0.267)	0.105 (0.0974)	-0.187 (0.273)	0.355 (0.678)
Widowed	0.393 (0.291)	-0.175* (0.0968)	0.312 (0.297)	1.274** (0.517)
Houseworker	0.577*** (0.216)	-0.233*** (0.0839)	0.476** (0.217)	0.801 (0.514)
Retired	0.0492 (0.250)	-0.166* (0.0948)	-0.0525 (0.249)	-0.331 (0.572)
Employed	0.354** (0.171)	-0.0744 (0.0689)	0.321* (0.175)	0.194 (0.396)
Unemployed	0.213 (0.188)	-0.174** (0.0723)	0.115 (0.186)	-0.963* (0.566)
Head of province	-0.229** (0.106)	0.0750* (0.0401)	-0.169 (0.105)	0.0514 (0.257)
Medium municipality	-0.202* (0.105)	0.0852** (0.0394)	-0.137 (0.103)	0.346 (0.248)
Small municipality	-0.305*** (0.116)	0.0542 (0.0444)	-0.260** (0.117)	0.187 (0.275)
Good Self-assessed-health	0.165 (0.113)	-0.0668 (0.0450)	0.140 (0.114)	0.0157 (0.404)
Discrete Self-assessed-health	-0.218 (0.193)	-0.379*** (0.0570)	-0.438*** (0.149)	-0.361 (0.453)
Bad Self-assessed-health	-0.401 (0.244)	-0.312*** (0.0773)	-0.596*** (0.220)	-1.058* (0.550)
Religious	-0.703** (0.336)	0.0136 (0.109)	-0.735** (0.343)	
Instrument	0.0218 (0.0941)	0.200*** (0.0276)	0.132* (0.0731)	0.360* (0.197)
atanh $\rho$		0.869*** (0.0907)		-0.235 (0.689)
Ln( $\sigma^2$ )			-0.301* (0.168)	
Constant			-0.598*** (0.0158)	
Constant	-8.727 (306.2)	0.417 (0.316)	-6.909 (163.2)	-4.806 (240.0)
Observations	1,999	1,999	1,999	473

Instrument: average generativity/cooperativeness at regional, education class level. Wald test of exogeneity (corr = 0):  $\chi^2(1) = 3.01$  Prob >  $\chi^2 = 0.0830$ . Robust standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Omitted benchmarks: male, no education, student, aged 18-24, income up to 11.700 euros, never married, living in head of region, very good health. For full estimate details see Appendix. Wald test of exogeneity (corr = 0):  $\chi^2(1) = 3.22$  Prob >  $\chi^2 = 0.0727$ .

**Table 6.2 Generativity/cooperation and care for environmental impact of products: IV estimates**

VARIABLES	(1)	(2)	(3)	(4)	(5)
	IV estimate Second stage	First stage		Non IV estimate	Falsification test
Instrument	1.068*** (0.220)			0.479*** (0.0563)	
Female	0.00560 (0.0688)	-0.0680** (0.0274)		-0.0360 (0.0686)	0.0226 (0.156)
25-34	-0.608*** (0.153)	0.0788 (0.0639)		-0.604*** (0.157)	-0.745* (0.429)
35-44	-0.513** (0.217)	0.103 (0.0920)		-0.467** (0.224)	-1.132** (0.546)
45-54	-0.174 (0.223)	0.0634 (0.0942)		-0.129 (0.229)	-0.145 (0.526)
55-64	-0.0289 (0.239)	0.00821 (0.101)		-0.0160 (0.246)	-0.0521 (0.578)
65-74	0.0587 (0.284)	0.0564 (0.118)		0.122 (0.290)	0.431 (0.663)
75-84	-0.0239 (0.307)	0.0544 (0.125)		0.0431 (0.315)	0.611 (0.688)
Children	-0.207*** (0.0449)	0.0506*** (0.0178)		-0.186*** (0.0462)	-0.200** (0.0887)
North-East	-0.0348 (0.0989)	-0.0300 (0.0410)		-0.0299 (0.102)	0.119 (0.245)
Center	-0.115 (0.0987)	-0.0196 (0.0408)		-0.121 (0.101)	0.168 (0.225)
South and Isles	-0.0210 (0.0872)	-0.0336 (0.0364)		-0.0148 (0.0897)	0.0806 (0.210)
Between 11.701 € e 16.000 €	-0.349*** (0.112)	0.0786* (0.0465)		-0.322*** (0.115)	-0.608** (0.240)
Between 16.001 € e 20.100 €	-0.0722 (0.135)	0.107* (0.0562)		-0.000268 (0.135)	0.0711 (0.300)
Between 20.101 € e 23.900 €	-0.208 (0.156)	0.142** (0.0641)		-0.127 (0.158)	-0.527 (0.388)
Between 23.901 € e 28.000 €	-0.0153 (0.185)	0.253*** (0.0695)		0.157 (0.176)	-0.187 (0.498)
Between 28.001 € e 34.000 €	-0.340 (0.237)	-0.0126 (0.0992)		-0.378 (0.242)	-1.405** (0.679)
Between 34.001 € e 41.300 €	-0.195 (0.486)	0.292 (0.185)		0.0463 (0.501)	-0.158 (1.064)
Does not know/does not answer	-0.536*** (0.104)	0.175*** (0.0421)		-0.461*** (0.105)	-0.846*** (0.216)

Primary education	0.286 (0.459)	-0.110 (0.138)	0.0889 (0.451)	4.030 (188.1)
Secondary education	0.510 (0.463)	-0.219 (0.149)	0.403 (0.463)	4.149 (188.1)
Tertiary education	0.701 (0.474)	-0.249 (0.165)	0.782 (0.476)	3.360 (188.1)
Married/civil union	0.0201 (0.134)	0.141*** (0.0533)	0.114 (0.131)	0.502* (0.298)
Separated	-0.343 (0.219)	0.0418 (0.0871)	-0.344 (0.227)	
Divorced	-0.334 (0.246)	0.105 (0.0974)	-0.290 (0.254)	-0.287 (0.567)
Widowed	-0.0655 (0.271)	-0.175* (0.0968)	-0.211 (0.274)	0.497 (0.444)
Houseworker	0.796*** (0.202)	-0.233*** (0.0839)	0.695*** (0.207)	0.571 (0.463)
Retired	0.478** (0.230)	-0.166* (0.0948)	0.384 (0.235)	-0.0718 (0.527)
Employed	0.477*** (0.164)	-0.0744 (0.0689)	0.451*** (0.169)	0.515 (0.357)
Unemployed	0.684*** (0.172)	-0.174** (0.0723)	0.601*** (0.177)	0.618 (0.390)
Head of province	-0.174* (0.100)	0.0750* (0.0401)	-0.101 (0.0999)	0.0547 (0.217)
Medium municipality	-0.222** (0.0986)	0.0852** (0.0394)	-0.150 (0.0985)	-0.132 (0.214)
Small municipality	-0.180 (0.110)	0.0542 (0.0444)	-0.122 (0.111)	-0.128 (0.245)
Good Self-assessed-health	0.366*** (0.107)	-0.0668 (0.0450)	0.352*** (0.110)	0.432 (0.345)
Discrete Self-assessed-health	0.0997 (0.170)	-0.379*** (0.0570)	-0.150 (0.141)	-0.269 (0.393)
Bad Self-assessed-health	-0.335 (0.228)	-0.312*** (0.0773)	-0.574*** (0.209)	-0.916* (0.475)
Religious	-0.566* (0.301)	0.0136 (0.109)	-0.607** (0.308)	
Instrument	-0.195** (0.0808)	0.200*** (0.0276)	-0.0738 (0.0693)	-0.216 (0.176)
atanh $\rho$		0.869*** (0.0907)		0.0615 (0.618)
Ln( $\sigma^2$ )			-0.368** (0.154)	
Constant			-0.598*** (0.0158)	
Constant	-3.686*** (0.900)	0.417 (0.316)	-1.718*** (0.537)	-4.416 (188.1)
Observations	1,999	1,999	1,999	473

Instrument: average generativity/cooperativeness at regional, education class level. Wald test of exogeneity (corr = 0):  $\chi^2(1) = 3.01$  Prob >  $\chi^2 = 0.0830$ . Robust standard errors in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Omitted benchmarks: male, no education, student, aged 18-24, income up to 11.700 euros, never married, living in head of region, very good health. For full estimate details see Appendix. Wald test of exogeneity (corr = 0):  $\chi^2(1) = 5.09$  Prob >  $\chi^2 = 0.0241$

**Table 6.3 Generativity/cooperation and purchase of green certified products: IV estimates**

VARIABLES	(1)	(2)	(3)	(4)	(5)
	IV estimate Second stage	First stage		Non IV estimate	Falsification test
Instrument	0.753*** (0.271)			0.626*** (0.0591)	
Female	-0.151** (0.0728)	-0.0680** (0.0274)		-0.159** (0.0703)	0.124 (0.173)
25-34	-0.262 (0.169)	0.0788 (0.0638)		-0.255 (0.169)	0.227 (0.658)
35-44	-0.535** (0.242)	0.103 (0.0919)		-0.521** (0.241)	-0.311 (0.787)
45-54	-0.670*** (0.248)	0.0635 (0.0942)		-0.661*** (0.248)	-0.321 (0.784)
55-64	-0.458* (0.261)	0.00829 (0.100)		-0.457* (0.262)	0.102 (0.800)
65-74	-0.443 (0.306)	0.0565 (0.118)		-0.433 (0.306)	0.133 (0.854)
75-84	-0.573* (0.326)	0.0544 (0.125)		-0.561* (0.326)	0.368 (0.868)
Children	-0.156*** (0.0481)	0.0505*** (0.0178)		-0.149*** (0.0465)	-0.0741 (0.0900)
North-East	-0.185* (0.104)	-0.0300 (0.0410)		-0.183* (0.104)	-0.581** (0.276)
Center	-0.0964 (0.103)	-0.0196 (0.0408)		-0.0960 (0.104)	-0.112 (0.228)
South and Isles	-0.119 (0.0915)	-0.0336 (0.0364)		-0.117 (0.0915)	-0.0911 (0.214)
Between 11.701 € e 16.000 €	0.0127 (0.138)	0.0786* (0.0465)		0.0218 (0.137)	-0.238 (0.289)
Between 16.001 € e 20.100 €	0.689*** (0.154)	0.107* (0.0561)		0.705*** (0.149)	0.341 (0.344)
Between 20.101 € e 23.900 €	0.824*** (0.173)	0.142** (0.0641)		0.844*** (0.167)	0.645 (0.414)
Between 23.901 € e 28.000 €	1.265*** (0.198)	0.253*** (0.0695)		1.302*** (0.180)	1.128** (0.447)
Between 28.001 € e 34.000 €	1.714*** (0.257)	-0.0126 (0.0992)		1.715*** (0.257)	1.413*** (0.508)

Between 34.001 € e 41.300 €	2.282*** (0.691)	0.292 (0.185)	2.342*** (0.682)	1.531 (1.095)
Beyond 70.400	1.603* (0.941)	-0.244 (0.398)	1.529 (0.930)	
Does not know/does not answer	0.726*** (0.132)	0.175*** (0.0421)	0.748*** (0.121)	0.325 (0.242)
Primary education	0.625 (0.425)	-0.110 (0.138)	0.604 (0.419)	4.948 (160.5)
Secondary education	0.447 (0.437)	-0.219 (0.149)	0.440 (0.433)	5.427 (160.5)
Tertiary education	0.486 (0.453)	-0.249 (0.165)	0.514 (0.445)	5.496 (160.5)
Married/civil union	0.149 (0.141)	0.141*** (0.0532)	0.167 (0.136)	0.584* (0.330)
Separated	0.291 (0.223)	0.0412 (0.0869)	0.296 (0.222)	0.393 (0.456)
Divorced	0.0127 (0.263)	0.105 (0.0973)	0.0253 (0.262)	0.559 (0.535)
Widowed	-0.0616 (0.266)	-0.175* (0.0968)	-0.0931 (0.258)	0.724 (0.462)
Houseworker	0.633*** (0.231)	-0.233*** (0.0838)	0.605*** (0.224)	0.702 (0.594)
Retired	0.946*** (0.252)	-0.166* (0.0948)	0.924*** (0.250)	0.372 (0.620)
Employed	0.860*** (0.185)	-0.0744 (0.0689)	0.851*** (0.185)	0.854* (0.509)
Unemployed	0.505** (0.200)	-0.174** (0.0723)	0.481** (0.195)	-0.219 (0.636)
Head of province	-0.0589 (0.106)	0.0749* (0.0401)	-0.0433 (0.101)	0.202 (0.234)
Medium municipality	-0.117 (0.105)	0.0852** (0.0394)	-0.101 (0.0997)	0.271 (0.228)
Small municipality	-0.129 (0.116)	0.0542 (0.0444)	-0.117 (0.113)	0.208 (0.249)
Good Self- assessed-health	0.213* (0.118)	-0.0668 (0.0450)	0.206* (0.118)	0.360 (0.464)
Discrete Self- assessed-health	0.134 (0.182)	-0.379*** (0.0570)	0.0844 (0.150)	0.513 (0.508)
Bad Self- assessed-health	0.191 (0.223)	-0.312*** (0.0772)	0.149 (0.206)	0.172 (0.568)
Religious	0.553** (0.281)	0.0135 (0.109)	0.550* (0.281)	-0.165 (0.877)
	-0.113	0.200***	-0.0878	0.179

	(0.0885)	(0.0275)		(0.0707)	(0.184)
Instrument		0.869***			-0.996
		(0.0906)			(0.660)
atanh $\rho$			-0.0741		
			(0.156)		
Ln( $\sigma^2$ )			-0.598***		
			(0.0158)		
					-
Constant	-4.046***	0.417		-3.640***	-4.492
	(0.987)	(0.315)		(0.523)	(160.5)
Observations	2,001	2,001	2,001	2,001	510

Instrument: average generativity/cooperativeness at regional, education class level. Wald test of exogeneity (corr = 0):  $\chi^2(1) = 3.01$  Prob >  $\chi^2 = 0.0830$ . Robust standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Omitted benchmarks: male, no education, student, aged 18-24, income up to 11.700 euros, never married, living in head of region, very good health. For full estimate details see Appendix. Wald test of exogeneity (corr = 0):  $\chi^2(1) = 0.22$  Prob >  $\chi^2 = 0.6353$