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ECOLOGICALLY CONSCIOUS CONSUMER BEHAVIOUR: ARE ACTIVISTS DIFFERENT?

Abstract

In recent decades, concern about the environment has been increasing. Many individuals are now more worried about their purchasing behaviour and the consequences their actions could have for the environment. Managers are becoming more committed to responding to individual needs and desires in a responsible way, taking into account possible environmental damage. Previous studies concentrated more on explaining this phenomenon through demographic variables, but the trend now is towards explaining this through psychographic and environmental variables, which have already been shown to be the most significant in this context. This study sought to establish the relationship between activists and ecologically conscious consumer behaviour (ECCB) by analysing the profile of green consumers (i.e. demographic and psychographic variables). To reach this objective, an online survey was conducted. The results of data analyses support the conclusion that activism is the strongest predictor of ECCB.

Keywords: Environment, green consumer, activism, survey, sustainability

Introduction

Over the past decades, production and consumption all over the world have increased, which has meant more environmental deterioration and utilisation of natural resources (Shahnaei, 2012). At the same time, environmental issues have emerged as a mainstream issue due to a large number of factors. The presence of environmental groups, more reported disasters and restrictive legislation at the national and international level are among these factors. Recent changes include consumers' purchasing behaviour, which is now based not only on satisfying individuals' needs but also on knowing how products affect the environment (Kheiry and Nakhaei, 2012). Indeed, sustainable consumption is at the top of public administrations' international agenda (Miniero *et al.*, 2014).

Straughan and Roberts (1999) state that concern about the environment started growing in the 60s, during which the main issues were pollution and energy conservation, given the lack of environmentally friendly products. Having a green offer has now become a competitive

advantage for companies (Follows and Jobber, 2000). Akehurst *et al*. (2012) argue that it is important to understand that this has triggered a significant change in how managers run their companies and, in particular, develop their marketing strategies and actions. In this context, marketers in contemporary companies have to be more focused on, and concerned about, environmental issues, as well as communicating these values in a clear way and increasing the number of environmentally friendly products, in order to appeal to green consumers (Follows and Jobber, 2000; Samarasinghe, 2012). Companies no longer develop just pollution-free and energy saving products but also alternatives such as packaging design and composition and alternative product formulations (Straughan and Roberts, 1999). This is why the role of green marketing has become so important: to plan all activities so that they satisfy human needs and desires while taking into consideration possible damage that these can cause to the environment.

Protecting the environment and making environmentally responsible consumption decisions have become a part of many consumers' lifestyles (Brown and Wahlers, 1998). The growing importance of protecting the environment has modified the way people see the market, especially in terms of consumer behaviour, since consumers now believe that their purchasing behaviour will find a better match in products (Akehurst *et al*., 2012). This increased concern about the environment has led to a larger number of environmentally friendly products (Jansson *et al*., 2010).

If a consumer cares about the environment, most likely, he or she will consider the consequences of his or her purchasing decisions. To clarify this, Follows and Jobber (2000) gave the example of a person who worries about the amount of garbage generated (i.e. an environmental issue) and who is possibly concerned about the type of packaging that is used in a product (i.e. an environmental consequence). If a consumer concludes that the environmental consequences are important enough, this may result in the purchase of more environmentally friendly products.

Studying the purchasing behaviour of environmentally conscious consumers sometimes can be tricky due to the type of measurement this requires. In this context, researchers need to distinguish between consumer intentions to buy environmentally friendly products and consumers' actual behaviour (Follows and Jobber, 2000).

As mentioned previously, concern about the environment has increased, leading to changes in consumer purchasing behaviour. People are now more aware of the consequences of their

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behaviour for the environment, which has transformed normal consumers into green consumers.

A few studies have analysed the determinates of green consumer behaviour (e.g. Khare, 2014; Gonçalves and Viegas, 2015). However, none of these studies have analysed whether environmental activists have been effective in terms of changing levels of green purchasing behaviour.

Therefore, the main goals of the present study were:

- To test whether psychographic variables are better predictors of green consumer behaviour than demographic ones
- To test whether activists exhibit higher levels of environmentally conscious behaviours

Literature Review

Green Behaviour

Since many perspectives exist on how to study consumer behaviour, this type of research has become a quite complex task. According to Fraj and Martinez (2006), part of the challenge is the difficulty of establishing limits on the definition of green consumers.

In recent times, due to the higher profile of environmental issues, consumers have started to become more environmentally friendly and to switch from traditional purchases to environmentally friendly alternatives (Akehurst *et al*., 2012). According to Vermillion and Peart (2010), consumers' behaviour is changing in significant ways, and the trend is for consumers to switch to greener products. In this context, Shamdasani *et al*. (1993) claim that environmentally concerned consumers have certain personality traits that less concerned consumers do not have. Straughan and Roberts (1999) argue that individuals' level of environmental knowledge (EK) plays an important role and that this acts as a driver of consumers' green behaviour. Others assert that, since consumers function in an increasingly globalised market, attitudes towards environmental issues and the associated behaviours and knowledge may contrast across cultures (Laroche *et al*., 2002; Mostafa, 2009).

Green consumers are individuals who take into consideration some environmental criteria when deciding what to buy. When meeting his or her needs and desires, this type of consumer chooses products that damage the environment less. Green consumers try to avoid behaviour

that can injure themselves, the health of the environment and other people, such as excessive consumption of energy, unnecessary waste, use of animals to test products and some manufacturing processes (Elkington, 1994). According to Fraj and Martinez (2006), this type of consumer worries about environmental problems, and their behaviour is characterised by their responsible attitudes and actions.

Green consumers pay attention to the public consequences of their consumption or attempt to use their purchasing behaviour to bring good to society. These consumers buy products that not only satisfy their needs and wants but also benefit the environment in the long run (Samarasinghe, 2012). The purchasing behaviours of green consumers include reading labels, using natural or biodegradable detergents, buying products that use recycled materials, avoiding products from specific companies that harm the environment, avoiding aerosols and sometimes contributing money to environmental groups and cutting down on car use, among other behaviours (Minton and Rose, 1997). To summarise, green consumers are individuals whose behaviour reflects a consistent and conscious concern for an environmentally friendly use and disposal of some products (Samarasinghe, 2012). Fraj and Martinez (2006) report that green consumers are individuals characterised by their feeling of self-fulfilment, who are always trying to meet new challenges that will allow them to improve in some way. To evaluate green consumer behaviour, Roberts (1996) developed the ecologically conscious consumer behaviour (ECCB) scale, which has also been used in other studies (e.g. Straughan and Roberts, 1999; Gonçalves and Viegas, 2015). The next section discusses the main demographic and psychographic determinants of green consumer behaviour.

Demographic Determinants

Age

The variable of age has been extensively studied by several researchers (Roberts, 1996; Straughan and Roberts, 1999; Akehurst *et al*., 2012). Some have concluded that green consumers are older (Roberts, 1996), while others believe that younger people are more sensitive to green marketing issues (Straughan and Roberts, 1999; Akehurst *et al*., 2012). Straughan and Roberts (1999) explain this phenomenon as the relationship between environmental concern (EC) and the time when individuals have born. If a person grows up in a period in which environment issues are at a peak, he or she will be more sensitive to this topic. Gonçalves and Viegas (2015) claim that older consumers might be more knowledgeable

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and more exposed to sustainable products and services. Therefore, the present study assumed that:

H1(a): Age has a direct and positive influence on ECCB.

Gender

Some studies' results (Roberts, 1996; Mainieri *et al*., 1997; Laroche *et al*., 2001) suggest that women tend to be more pro-environment than men, buying a higher number of green products and more actively recycling. Women, as a result of social development and gender role differences, might consider their impact of their actions on others (Straughan and Roberts, 1999). This study, therefore, assumed that:

H1(b): Female gender has a direct and positive influence on ECCB.

Income

Straughan and Roberts (1999) defend the idea that people with a higher income can afford the marginal increase in costs that some activities related to protecting the environment can cause. Do Paço and Raposo (2009) report that consumers with higher income levels are more likely to adopt environmentally friendly behaviours. Khare (2014) also found a positive relationship between income and ecologically conscious behaviour. Therefore, in this study, the following was proposed:

H1(c): Income has a direct and positive influence on ECCB.

Education

Regarding the variable of education, the majority of studies have found a positive relationship between education and green consumer behaviour (Roberts, 1996). Consumers with higher education are more sensitive to environmental issues and act accordingly. However, Straughan and Roberts (1999) did not find a positive relationship between education and green consumer behaviour. Nonetheless, this study proposed the hypothesis that:

H1(d): Education has a direct and positive influence on ECCB.

Marital Status and Children

According to Samarasinghe (2012), it is commonly accepted that married people with children have a higher predisposition to purchase green products, but the cited study showed that marital status has no significant effect on green purchase behaviour. Laroche *et al*. (2001) report that

consumers with at least one child tend to adopt environmentally friendly actions. Thus, it was hypothesised in this study that:

H1(e): Being single has a direct and positive influence on ECCB.

H1(f): Having children has a direct and positive influence on ECCB.

Psychographic Determinants

EK

EK can be defined as the quantity of knowledge that a person has about environmental issues (Chan, 2001; Zsóka *et al*., 2013). It is the ability to recognise and evaluate the impact of ecosystems on humanity. Laroche *et al*. (2001) explain that the variable of EK measures the ability of individuals to identify or define every symbol, concept or behaviour related to the environment. The cited authors identify consumers' EK as a significant predictor of environmentally friendly behaviour (Chan, 1999).

Therefore, in this study, it was proposed that:

H2(a): EK has a direct and positive influence on ECCB.

EC

EC, as the level of involvement with environmental issues, can be defined as individuals' consciousness of environmental issues and their willingness to be part of solutions (Chan, 2000). According to Bamberg (2003), studies over the past 30 years have provided a solid theoretical base for this variable. The cited author grouped studies of EC into three groups. The first group focused on the definition of the concept and analysed this in a vast number of areas. The second group sought to define and understand which factors contribute to EC. The last group was dedicated to proving the relationships between EC and attitudes.

In a first attempt to characterise this variable, Milfont and Duckitt (2004) define it as a unidimensional construct that can be classified as ranging from 'unconcerned' to 'highly concerned'. Currently, some authors assume this is a concept with sub-dimensions. Bamberg (2003) argue that EC's complex relationship to ECCB is low to moderate. Mainieri *et al*. (1997) attribute this complexity to a number of factors: effects of external variables, lack of measurement reliability and validity, low correlations between environmental behaviours and

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different levels of specificity regarding attitude and/or behaviour measures. This weak relationship between attitude and behaviour has led some authors to add other variables, for example, emotions or perceived consumer effectiveness (PCE) (Lee and Holden, 1999).

In their study, Straughan and Roberts (1999) found that EC is positively correlated with environmental behaviour. Consumers who are highly concerned about environmental issues have a higher probability of buying more green products than those who have a low level of concern about the environment (Kim and Choi, 2005). Bamberg (2003) reports that EC has a strong and direct effect on the purchasing of environmentally friendly products, recycling, energy saving and even choosing travel modes. This study, therefore, assumed that:

H2(b): EC has a direct and positive influence on ECCB.

PCE

Ellen *et al*. (1991) define PCE as the belief a person has that his or her actions (e.g. membership in an environmental group and purchasing environmentally friendly products) will help the environment. Individuals need to be convinced that their behaviour will affect the environment (Awad, 2011). Those who believe their actions will result in positive consequences to, or outcomes in, the environment are expected to present more environmentally sensitive behaviour than others do (Lee and Holden, 1999; Kim and Choi, 2005). Ellen *et al*. (1991) found that PCE is positively correlated with environmentally conscious behaviour and that PCE is related to knowledge and people's experiences. Some individuals believe their actions will have positive and long-term results, but others have less trust in their ability to produce any change in the environment. Kim and Choi (2005) suggest that different behaviours can be observed in different situations, in other words, PCE is a changing phenomenon. If an individual believes a specific behaviour can solve an environmental problem, that belief will lead to a change in this consumer's behaviour (Albayrak *et al*., 2011). In this way, it is necessary to have high PCE to convert positive environmental attitudes into environmental purchases (Ellen *et al*., 1991; Berger and Corbin, 1992; Lee and Holden, 1999). Therefore, this study hypothesised that:

H2(c): PCE has a direct and positive influence on ECCB.

Activism

Szerényi *et al*. (2011) describe activists as individuals who participate in environmental protests and/or support these and who become members of environmental organisations. The

cited authors further describe activists in regard to their purchases as modest individuals who spend relatively little, especially on clothes, cosmetics, sports equipment and electronic devices. Jacobsen and Dulsrud (2007) define consumer activism as 'ethical shopping, ethical purchase behaviour, ethical consumption, political consumption, political consumerism and critical consumerism'. Based on these findings, the following hypothesis was proposed:

H2(d): Activism has a direct and positive effect on ECCB.

Methodology

This study sought to identify the main drivers of ECCB. The main objective was to test if environmental activists who truly believe in this type of lifestyle actually buy environmentally friendly products. This research also explored whether psychographic variables are better predictors of ECCB than demographic variables are.

Questionnaire Design

The questionnaire used in this study was divided into four main sections. The first section had the objective of introducing respondents to the subject under analysis. In this section, the respondents were asked to list three green products that they know and three green behaviours they engage in on a daily basis. The general responses collected in terms of knowledge of green products were light bulbs, recycled paper and recycled bags – usually those that supermarkets give. Regarding green behaviours, the most common answers were recycling, saving energy (e.g. switching off power strips, not leaving appliances on standby and using domestic appliances only at night) and saving water (e.g. taking shorter showers and turning off the water while brushing teeth).

The second section of the questionnaire relates to the psychographic variables of activism, EK, EC and PCE. Activism (do Paço and Raposo, 2009) was measured by four items in a Likert-type scale, anchored by 'always' (five points) and 'never' (one point). EK (do Paço and Raposo, 2009), EC (do Paço and Raposo, 2009) and PCE (Straughan and Roberts, 1999) were measured on a Likert-style scale, anchored by 'totally agree' (five points) and 'totally disagree' (one point). EK was measured by five items, and both EC and PCE by four items.

The third section measured ECCB (Roberts, 1996) on a Likert-style scale, encompassing 33 items anchored by 'always' (five points) and 'never' (one point). The last section asked respondents to provide sociodemographic data: age, gender, marital status, dependent children, education and income. The first draft of the questionnaire was subjected to a pre-test involving personal interviews with consumers and a green consultancy worker.

Sample Design and Fieldwork

The target population of this research was composed of individuals of both genders and all ages, who were living in Portugal. The main focus in this research was the purchasing of green products. Therefore, the study required a sample of individuals who either buy or do not buy this kind of products. At the same time, as this study attempted to test if activism is a major predictor of environmentally friendly purchases, it was crucial to reach activists and environmentalists. Therefore, questionnaires were distributed on the Internet, in forums and blogs on environmental issues, reaching consumers of different ages from all over Portugal. The result was a convenience sample.

Results

Sample Description

Demographic Description

The sample comprised 326 respondents, 55.8% female and 44.2% male. The majority of the respondents were 38 years old or older (67.3%). Over 55.8% of respondents were single, 34.1% were married or living with a partner, and only 10.1% were divorced or widowed. Only 23.2% of the sample population had at least one child, and 76.8% did not have any children. Regarding education, 20.1% of respondents did not have a university degree, while 79.9% had graduated from university. Finally, the majority (52.1%) of respondents had a monthly income equal to or lower than €1,000, 34.5% received between €1,001 and €2,000 and 13.4% earned €2,001 or more.

Environmental Behaviour

Regarding activism, the items that have a higher mean score are interest in reading articles and reports (2.61) and collaboration with environmental groups (2.13). The item of donations to

environmental groups has a mean of 1.72, and participations in protests and manifestations has 1.55.

Please insert Table 1 here

EK

Concerning EK, the items with a higher mean score are the issue of plastic bags (4.73) and the ozone layer (4.57). However, in general, all the values are quite close, with knowledge of how not to injure the environment being the item with the lowest mean score (4.26).

Please insert Table 2 here

EC

In terms of EC, the items with higher mean scores (i.e. 4.42 and 4.32) are concern about general pollution and concern about air quality and the health of the ozone layer, respectively.

Please insert Table 3 here

PCE

The item from the PCE scale with the highest mean score is awareness that the green purchases of individuals can have a positive effect on society (4.29).

Please insert Table 4 here

ECCB

Regarding ECCB, the items with higher mean scores are 'I have purchased a household device because it uses less electricity than other brands do (e.g. light bulbs)', with 4.34, and 'I try to use electrical appliances (e.g. dishwasher, washing machine and dryer) according to the rate system that I have (i.e. two- or three-rate system)', with 4.29.

Please insert Table 5 here

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Exploratory Factor Analysis

In order to identify the final items to include in the regression analysis as independent variables, two different techniques were used: exploratory factor analysis followed by reliability analysis by means of Cronbach's alpha. The Kaiser-Meyer-Olkin statistic and Bartlett's test confirm the adequacy of the factor analysis. The percentage of variance explained by the single factor retained range from 61.57 (EK) to 71.87 (EC). Factor loadings also meet the recommended cut-off values.

The Cronbach's alpha verifies the internal consistency of the four scales. Moreover, the Cronbach's alpha of the ECCB items can be considered excellent ($\alpha = 0.974$).

Please insert Table 6 here

Regression Analysis

The analysis also required that dummy variables be created for the demographic data. The variables of gender and children were coded as dummy variables as follows: gender (i.e. male, female = 1, 0) and children (i.e. yes, no = 1, 0). Regarding the variable of age, the base category for the analysis was 18–28, and, for the variable of income, the base category was €1,000 or less. In terms of marital status, single was the base category, and, for education, the base category was high school.

Two separate regression models were developed. In the first, multiple linear regression was used to test the H1 group of hypotheses. In this model, ECCB is the dependent variable and the demographic variables of age, gender, income, education, children and marital status are the predictors.

These predictors were those that resulted from the new groupings, based on the minimum for each one. The assumptions of the multiple linear regression were analysed and confirmed. The model explains 12.90% (i.e. R^2) of the total variance, and it is statistically significant (F = 3.545; p = 0.000). The variables that are significant in explaining ECCB are age and gender. These findings agree with previous studies identified in the literature review. Therefore, there is support for H1(a) and H1(b).

Please insert Table 7 here

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The second regression model was developed to test the H2 group of hypotheses. These hypotheses included the psychographic variables of activism, EC, EK and PCE as predictors of the ECCB variable. The assumptions of the multiple linear regression were analysed and confirmed. The model explains 41.12% (i.e. R^2) of the total variance, and the model is globally significant (F = 45.12; p = 0.00). The variables that explain the variance of ECCB are activism (i.e. ACT), EC and individual PCE (i.e. PSI). All are significant at $p < 0.01$. Therefore, there is partial support for H2. The increase in the adjusted R^2 is statistically significant.

Please insert Table 8 here

Conclusion

In this study, two regression analyses were estimated in order to understand the role of demographic and psychographic variables on ECCB. This study's results contribute to the literature on ecologically conscious behaviour. An innovative variable was included among the psychographic variables (i.e. activism).

As regards the first objective of this study, the empirical results reveal that psychographic variables are more relevant in explaining different levels of ECCB than demographic ones are. This finding is consistent with previous studies that have highlighted the role of psychographic variables when researching the behavioural aspect of ecologically conscious consumers (Roberts, 1999; Straughan and Roberts, 1999; Khare, 2014; Gonçalves and Viegas, 2015). Activism, EC and PCE were significant in explaining ECCB. Even when awareness is not directly translated into ecological conscious consumer behaviour, most of the consumers in the sample are aware of environmental issues (i.e. EK). This study's results are in line with those by Roberts (1999) and Bamberg (2003) with respect to the relative importance of PCE and EC in explaining ECCB, respectively. In regard to the role of EC and PCE, the present findings confirm that, when individuals are concerned about the environment and understand the relevance of protecting the environment, they exhibit ECCB.

In terms of the second objective, activism emerges as the top correlate of ECCB. The segment of activists in the sample differs in some aspects from other consumers. Activism is thus identified as an important variable in predicting ECCB. Therefore, this study adds to the literature by demonstrating that activism is a core correlate of ECCB. Those who fully believe

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in these environmental ideals and 'speak in the name of nature' actually buy environmentally friendly products.

The results reveal that psychographic variables are more relevant correlates of ECCB than demographic ones. However, among demographic variables, age and gender emerge as significant correlates of ECCB. In current research, being female and older is positively associated with ECCB. Age (Roberts, 1996; Straughan ad Roberts, 1999; Gonçalves and Viegas, 2015) and gender (Roberts, 1996; Mainieri *et al.*, 1997; Laroche *et al.*, 2001) have been identified as important variables in explaining green consumer behaviour in previous research. Female consumers are expected to consider carefully the impact of their actions on others and to be more ecologically conscious (Straughan and Roberts, 1999). Older consumers are expected to be more experienced with environmentally friendly products and more knowledgeable about them (Gonçalves and Viegas, 2015).

Previous studies have examined green consumer demographics with different results (Fisher *et al.*, 2012). Many studies have highlighted the lack of importance of demographic variables in explaining ECCB (Roberts, 1996; Gonçalves and Viegas, 2015). However, the present study's results agree with Awad's (2011) findings in the sense that certain demographic variables might help differentiate between different segments of green consumers.

This study also has managerial implications. Companies and policymakers need to understand properly the correlates of ECCB in order to design strategies and initiatives to enhance ecologically conscious behaviours. Given the ease with which demographics can be used in consumer segmentation and profiling, the results are favourable for those who wish to target environmentally aware consumers. Therefore, when targeting these consumers with environmental claims as a way to promote products, companies need to focus on females and older groups. Practitioners should integrate different tools to increase EC and PCE because of the significantly positive effect that such factors have on green consumers. Due to the importance of PCE, businesses might consider linking consumer benefits to promotions of green products. According to the study's results, to be effective, campaigns about sustainable consumption need to provide a clear, strong and emotional message that makes consumers understand that their behaviour can make a difference not only through consumers' individual wellbeing but also for all of society.

Activism is identified in the present results as an important correlate of ECCB. These consumers emerge as a new force in ecological consumer behaviour, whereby they require a

sustainable offer from companies. Although activists are still a minority of the population, they constitute an important market for sustainable products as individuals who might function as innovators.

This research has some limitations to take into account. One limitation is that the survey was conducted over the Internet, meaning that individuals who do not have access to the Internet could not answer the questionnaire. A bias also may exist in the sample as the questionnaire's items may lead respondents to give socially desirable answers. The utilisation of a convenience sample limits the scope of the conclusions and the generalisability of the results. Regarding possible future research, due to the relevance of activism as a correlate of ECCB, future studies need to be conducted to profile this segment of green consumers.

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Table 1: Activism Items

		Mean	SD
Act1	I'm interested in reading reports/articles about activist groups (e.g. Quercus).	2.61	1.08
Act2	I collaborate with a group whose goal is the preservation and protection of the environment.	2.13	1.32
Act3	I make donations to an environmental cause or group.	1.72	1.05
Act4	I participate in protests and demonstrations in favour of environmental causes.	1.55	0.98

Source: Author

Table 2: Environmental Knowledge Items

		Mean	SD
Ek1	Generally, I know how not to harm the environment.	4.26	0.69
Ek2	I know what the 'greenhouse effect' is.	4.55	0.57
Ek3	I know what 'acid rain' is.	4.45	0.68
Ek4	I know what the 'hole' in the ozone layer is.	4.57	0.54
Ek5	I know that plastic bags take many years to decompose and cause pollution.	4.43	0.78

Source: Author

Table 3: Environmental Concern Items

		Mean	SD
Ec1	I'm concerned about the problem of pollution in general.	4.42	0.66
Ec2	The degree of air pollution and destruction of the ozone layer is a problem that worries me.	4.32	0.75
Ec3	I get angry when I think of how much pollution can harm plant and animal life.	4.04	0.90
Ec4	When I think of how much industries pollute, I get frustrated and angry.	4.10	0.84

Source: Author

Table 4: Perceived Consumer Effectiveness Items

		Mean	SD
Pce1	When I buy products, I try to consider how my use of them will affect the environment and other consumers.	3.57	0.94
Pce2	Since one person cannot have any effect upon pollution and natural resource problems, it doesn't make any difference what I do.	1.55	0.84
Pce3	Each consumer's behaviour can have a positive effect on society by purchasing products sold by socially responsible companies.	4.29	0.82
Pce4	It is useless for individual consumers to do anything about pollution.	1.51	0.94

Source: Author

Table 5: Ecologically Conscious Consumer Behaviour Items

		Mean	SD
Eccb1	I read the labels to see if products are not harmful to the environment.	2.92	1.18
Eccb2	Whenever possible, I buy biodegradable products.	3.34	1.09
Eccb3	I avoid buying products that I know are tested on animals.	3.23	1.36
Eccb4	I avoid buying sprays/aerosols, but, if I have no alternative, I opt for those that are 'ozone-friendly' (e.g. spray deodorants and air fresheners).	3.84	1.17
Eccb5	I prefer to buy durable products rather than disposable ones.	4.07	0.86
Eccb6	To save energy, I use public transport as much as I can.	3.24	1.43
Eccb7	I try to buy energy-efficient household appliances.	4.28	0.9
Eccb8	I buy products with the least possible wasted packaging.	3.61	1
Eccb9	When there is a choice, I opt for the product that is less polluting.	3.91	1.01
Eccb10	I understand the potential damage to the environment that some products can cause; I do not purchase these products.	3.53	1.03
Eccb11	I have already switched brands and products for ecological reasons.	3.01	1.31
Eccb12	I have purchased a household device because it uses less electricity than other brands do (e.g. light bulbs).	4.34	0.82
Eccb13	I have convinced members of my family or friends not to buy some products that are harmful to the environment.	3.26	1.17
Eccb14	I have replaced light bulbs in my home with those of lower wattage so that I can conserve on the electricity I use.	4.15	0.98
Eccb15	I have purchased products because they cause less pollution.	3.35	1.12
Eccb16	Whenever possible, I buy products packaged in reusable materials.	3.59	1.03
Eccb17	When I purchase products, I always make a conscious effort to buy those products that are low in pollutants.	3.39	1.11
Eccb18	When I have a choice between two equal products, I always purchase the one that is less harmful to other people and the environment.	3.74	1.07
Eccb19	I will not buy a product if the company that sells it is ecologically irresponsible.	3.25	1.2
Eccb20	I have purchased light bulbs that were more expensive but saved energy.	4.21	0.96
Eccb21	I try only to buy products that can be recycled.	3.32	1.07
Eccb22	To reduce our reliance on oil, I drive my car as little as possible.	3.15	1.32
Eccb23	I usually purchase the lowest priced product, regardless of its impact on society.	2.79	1.03
Eccb24	I do not buy household products that harm the environment.	3.05	1.03
Eccb25	I buy high efficiency light bulbs to save energy.	4.13	1.01
Eccb26	I try to use electrical appliances (e.g. dishwasher, washing machine and dryer) depending on the rate that I have (two- or three-rate system).	3.81	1.28

Eccb27	I separate household waste and recycle.	4.29	1.12
Eccb28	I make every effort to buy paper products made from recycled paper.	3.55	1.16
Eccb29	When washing my clothes, I use biodegradable detergents (e.g. at home and the self-service laundry).	3.13	1.26
Eccb30	I buy toilet paper made from recycled paper.	3.09	1.41
Eccb31	I buy Kleenex made from recycled paper.	2.89	1.38
Eccb32	I buy paper towels made from recycled paper.	2.7	1.41
Eccb33	I try to buy only products that can be recycled.	3.29	1.13

Source: Author

Table 6: Factor Analysis Results and Cronbach's Alpha

Construct	Item	Loading	KMO & Bartlett's	% Variance	Cronbach's Alpha
Activism	Act1	0.807	KMO = 0.809 $x^2 =$ 521.647	67.995	0.840
	Act2	0.876			
	Act3	0.810			
	Act4	0.804			
Environmental Knowledge	Ek1	0.603	KMO = 0.818 $x^2 =$ 728.582	61.571	0.838
	Ek2	0.850			
	Ek3	0.821			
	Ek4	0.911			
	Ek5	0.698			
Environmental Concern	Ec1	0.828	KMO = 0.778 $x^2 =$ 671.352	71.865	0.865
	Ec2	0.870			
	Ec3	0.868			
	Ec4	0.824			
Perceived Consumer Effectiveness	Pce1	0.877	KMO = 0.793 $x^2 =$ 483.854	73.470	0.881
	Pce2	0.862			
	Pce3	0.923			
	Pce4	0.869			

Source: Author

Table 7: Regression Coefficients (Demographic Variables)

	β	t
Constant	3.338	27.464***
Gender (male)	-0.294	-3.353***
Children (yes)	-0.01	-0.069
Age2 (29–38)	0.458	3.695***
Age3 (39–48)	0.468	2.72***
Age4 (49–58)	0.498	2.774***
Age5 (=> 59)	0.512	1.881*
Married	-0.051	-0.39
Divorced	0.039	0.208
Higher education	0.083	0.721
Master or doctorate	-0.011	-0.085
Income2 (€1,001–€2,000)	0.12	1.134
Income3 (€2,001–€3,000)	-0.22	-1.072
Income4 (=> €3,001)	-0.035	-0.171
R^2	0.129	
Adjusted R^2	0.092	
F	3.545***	

Notes: Statistically significant at * = 10%; ** = 5%; *** = 1%; base categories: gender (male); children (yes); marital status (single); education (high school); income (less than €1,000)

Source: Author

Table 8: Regression Coefficients (Psychographic Variables)

	β	t
Constant	0.468	1.207
ACT	0.337	8.37***
EK	0.079	1.154
EC	0.235	4.168***
PCE	0.201	3.209***
R²		0.412
Adjusted R²		0.402
F		45.145***

Note: Statistically significant at * =10%; ** = 5%; *** = 1%

Source: Author