Chapter 4
How Cultural Beliefs and the Response to Fear Appeals Shape Consumer's Purchasing Behavior Toward Sustainable Products

Nuria Rodríguez-Priego and Francisco J. Montoro-Ríos

Abstract This study examines how cultural beliefs and other cognitive processes related with the response to fear appeals can contribute to explain why consumers choose to purchase goods produced by sustainable companies. For this purpose, it tested the Cultural Cognition Theory and the Protection Motivation Theory as determinants of consumers' purchasing behavior. There are two independent ordered probit regression models that examine the relationships between the proposed independent variables and the behavior of respectively punishing non-sustainable companies and rewarding sustainable companies. Results show that the more egalitarian and the less hierarchical individuals are, the more they will reward sustainable companies. Besides, consumer's behavior toward the companies is determined by their perception of environmental threat and their perceived response efficacy. These outcomes are relevant for companies seeking to differentiate their products and their image to improve the positioning in the market, and for governments aiming at increasing citizens' awareness toward global climate change.

4.1 Introduction

Global climate change has become unequivocal and one of the most significant environmental issues in recent years. Scientists coincide regarding the current precarious state of the environment. The 2015 United Nations Climate Change Conference COP 21 held in Paris emphasizes the urgent need to reduce the global annual emissions of greenhouse gases by 2020. According to this agreement, the aggregate emission pathways should hold the increase in the global average

N. Rodríguez-Priego (✉)
Joint Research Centre – European Commission, Seville, Spain
e-mail: nuria-rodriguez.priego@ec.europa.eu

F.J. Montoro-Ríos
Universidad de Granada, Granada, Spain

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temperature to well below 2 °C above pre-industrial levels. Furthermore, countries should pursue efforts to limit the temperature increase to 1.5 °C above pre-industrial levels (UNFCCC, 2015).

Environmentally concerned individuals are aware of these problems. They will support efforts to solve them, and will be willing to contribute personally to their solution (Dunlap & Jones, 2002, p. 485). Consumers who are concerned with global warming will try to take into account their involvement when purchasing (Datta, 2011; Laroche, Bergeron, & Babaro-Forleo, 2001; Mainieri, Barnett, Valdero, Unipan, & Oskamp, 1997). Engagement in pro-environmental behavior has increased in the last decades from a consumer's perspective (Dunlap, Gallup, & Gallup, 1993; Schultz, 2002). A review of past studies suggests the existence of different factors related to green behavior. There are two major streams (Dietz, Stern, & Guagnano, 1998): studies focused on socio-demographic factors and studies of values, beliefs and other socio-psychological constructs related to environmentalism. In the first line, there are many studies stating that demographic variables are associated with environmental commitment (Straughan & Roberts, 1999). Age has been examined by a number of researchers (e.g. Aaker & Bagozzi, 1982; Anderson & Cunningham, 1972; Samdahl & Robertson, 1989; Straughan & Roberts, 1999), although some studies reveal contradictions in their findings and are far from being conclusive, as the relationships are sometimes not significant (e.g. Barr, 2007; Diamantopoulos, Schelegelmich, Sinkovics, & Bohlen, 2003; Fraj & Martinez, 2006; Gatersleben, Steg, & Vlek, 2002). Similar results are shown when focusing on research concerning income, education and place of residence as environmental determinants, with certain studies stating opposite relationships between the variables (Kinnear, Taylor, & Ahmed, 1974; Samdahl & Robertson, 1989; Van Liere & Dunlap, 1981; Zimmer, Stafford, & Stafford, 1994).

The second stream attempts to explain environmentalism through psychological theories. It applies attitudes, values, beliefs and norms as determinants of behavior (Ajzen, 1991; Dunlap & Van Liere, 1978; Poortinga, Steg, & Vlek, 2004; Stern, 2000). In this research, we have focused on this second approach, considering that people differ when evaluating environmental problems as they diverge in their perceptions (Dunlap & Jones, 2002; Milfont & Gouveia, 2006).

The objectives of the present research are twofold. First, to examine whether individuals' beliefs may have an effect on their behavior. Second, to identify potential paths that may help change their behavior to more sustainable options, focusing on them as the target public.

The present study tests two theories to increase the understanding of consumers' behavior related with sustainable companies. First, regardless of the scientific consensus about environmental hazard, it seems that individuals still differ in their personal beliefs toward the issue (Maibach, Roser-Renouf, & Leiserowitz, 2009). The Cultural theory asserts that group membership might determine individuals' beliefs as patterns that become repetitive and predictable inside a cultural group (Schwarz & Thompson, 1990, p. 6; Kahan, Braman, Gastil, Slovic, & Mertz, 2005). Second, to understand the factors that influence fear, the Protection Motivation Theory (PMT) proposes that individuals protect themselves based on the perceived severity

of a threatening event, and the perceived self-efficacy of their behavior among other factors (Maddux & Rogers, 1983).

The outcomes presented could be helpful for corporations considering changing their production chain in order to include environmental care, as consumers will consider this when purchasing. In addition, they might consider the possibility to improve their communication strategies with the purpose of increasing consumers' awareness about the pro-environmental actions on behalf of companies so as not to miss any information that could distort the image that the corporations want to offer in an integrative way.

On the other hand, governments aiming to enhance citizens' pro-environmental behavior should focus on improving their perceived threat of global climate change, while also attempt to make them aware of the positive outcomes of their pro-environmental actions, so their perceived self-efficacy could increase and, as a consequence, their pro-environmental behavior.

This chapter begins with a literature review on Cultural Cognition and Protection Motivation. Section 4.3 describes the methods. Section 4.4 presents the results and discussion. Finally, Sect. 4.5 discusses the conclusions.

4.2 Conceptual Framework

Cultural Theory

The first theoretical approach that we apply in the present research is the Cultural Cognition. This theory is a subsequent development of the grid-group Cultural Theory (CT: Douglas, 1978; Thompson, Ellis, & Wildavsky, 1990). It states that there are two trends concerning the definition of culture. First, some authors refer to culture as mental constructs. This definition includes all the values, beliefs, norms, and biases related to individuals' membership to a cultural group. Second, it refers to the social relations that determine individuals' behavior and attitudes. Both ideas integrate the CT as ways of life (Thompson et al., 1990). This theory was further developed by Schwarz and Thompson (1990, p. 61) and others (Douglas, 1992; Douglas & Wildavsky, 1982; Wildavsky, 1987) and named the Four Political Cultures or CT. It answers two central questions about the existence of human beings: 'Who am I?' and 'How should I behave?' (Wildavsky, 1987). On the one hand, it argues that individuals' relationships to groups determine personal identity. It means that cultural groups affect individuals who incorporate to them (group dimension). On the other hand, behavior depends on the social circumstances to which an individual is subject (grid dimension), the degree to which an individual's life is circumscribed by other's instructions.

According to this approach, our knowledge, our actions, our way of justifying what we do and our judgments of people's behavior are all biased. Schwarz and Thompson postulated the existence of these Political Cultures in terms of individuals' perception of risk. Each is a package of biases that explains the view of one's surroundings. Thus, the two dimensions of sociality (group and grid) generate four

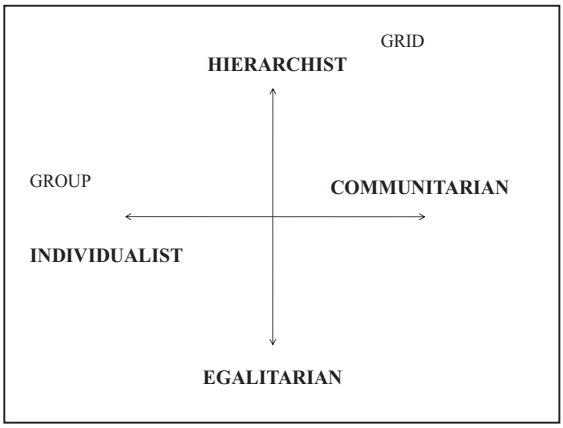

Fig. 4.1 Cultural cognition worldviews. *Source:* Kahan (2008)

basic forms of social relationships (Schwarz & Thompson, 1990, p. 6): Fatalism, Hierarchy, Individualism and Egalitarianism. Dake (1992) also proposed four separate scales to measure political attitudes identifying the quadrants isolated by grid and group dimensions.

Consequently, CT has three main claims and three propositions (Mamadouth, 1999). The first claim assumes that culture matters and everything that individuals do is culturally biased. The second claim is that we can only distinguish a limited number of cultural types with the grid-group dimensions. Third, we can apply the typology of viable combinations anywhere, and at any time, as they are universal. Concerning the propositions, the first is the compatibility condition meaning that we cannot combine social relationships and cultural bias contrary to each other as they must remain consistent and coherent. The second proposition is the impossibility theorem that states that there are only four ways of live. The third proposition is the variety condition meaning that the different typologies depend on each other to be viable.

CT is being tested empirically (Kahan, Braman, Gastil, Slovic, & Mertz, 2010). These authors developed a new approach called Cultural Cognition (CC) that asserts that individuals have different perceptions of risk, as mentioned above, and classifies them in four types of worldviews or supportive values.

Initially, CC used Dake's scales to measure worldviews while using two continuous attitudinal scales instead of four (Jenkins-Smith, 2001; Jenkins-Smith & Herron, 2009; Silva & Jenkins-Smith, 2007). The purpose was to avoid Dake's problems of multiple competing orientations in one individual, or low reliability of the measurement scales. One of the scales is for "Hierarchist-Egalitarian" and depends on the individual's orientation for high or low *grid*. The other scale measures the orientation toward weak or strong *group* ways of life, and it distinguishes between "Individualist-Communitarian" (see Fig. 4.1). CC eliminates the *Fatalism* option.

An individual with an individualistic worldview will give less importance to the group and collective interests will be less important than individual needs. This worldview will support less communitarian social order and collective needs will be secondary. The worldview of a communitarian individual, in contrast, will be the

opposite. Regarding the grid axis, a hierarchical individual will think that resources, opportunities, duties and rights depend on the social level while an individual with a low grid worldview will consider that society has to be egalitarian in the distribution of resources, opportunities, duties and rights.

The properties of the scale make it well suited for testing Douglas and Wildavsky's theory (Kahan, 2008). Public risk perception should be correlated with a combination of cultural worldviews and the position of an individual in the "grid-group" map, as hypothesized by Douglas (1985, p. 54). The present paper uses the items cited as a "short form" version of the scales. There are four latent variables, two for each axis as in Fig. 4.1 (Hierarchist vs Egalitarian; Individualist vs Communitarian). This paradigm states that individual perceptions of different hazards depend on cultural values (Douglas & Wildavsky, 1982). Thus, people from a particular dimension will assign similar reasons for events that are different from other dimensions.

Views of Nature

Douglas (1998, p. 98) has taken CT a step further by applying it to the view that individuals have about nature. The task of CT is to decompose the elements of this argument and show how each derived view of nature relates to a distinct vision of society. Schwarz and Thompson (1990) followed this theory stating that each view has a way of organizing and is predatory in terms of time, space and resources. A ball in a landscape as in Table 4.1 can graphically represent these four views. The category 'Nature Gradual' is a new proposal added by Leiserowitz and Smith (2010).

Protection Motivation Theory

This theory postulates that there are three main components of fear appeals that can drive an attitude change. The three components are the magnitude of danger of an event, the probability of occurrence, and the efficacy of the protective response (Rogers, 1975). PMT factors are 'threat-appraisal,' and 'coping appraisal.' The 'threat-appraisal' refers to the likelihood, severity and immediacy of the situation perceived by the individual. It is the individual's perception of the degree of harm that the event will cause and the probability of suffering from it. The 'coping appraisal' is the process related with individual's ability to cope with and prevent the threat. It consists of three elements. The first is the response efficacy, or effectiveness of the recommended behavior to prevent the harm. The second is the self-efficacy, as the belief that the individual can perform the recommended behavior to prevent the harm. The third is the response cost which is associated with the recommended behavior. Both the response efficacy and self-efficacy constructs derive from previous psychological theories such as the Self-Efficacy Theory (Bandura, 1977, 1982), and now define the PMT coping appraisal and many other psychological theories.

PMT explains individuals' behavior and attitude change when confronted to fear appeals of different type such as health related behavior (Pechmann, Zhao, Goldberg, & Reibling, 2003; Rippetoe & Rogers, 1987), but also pro-environmental behavior (Axelrod & Lehman, 1993; Bockarjova & Steg, 2014; Kim, Jeong, & Hwang, 2012). The last approach is of interest to this manuscript as it aims to answer what factors guide pro-environmental behavior and may help explain why individuals decide to buy products from companies that respect the environment (Fig. 4.2).

Table 4.1 The five views of nature

View of nature	Description	Representation
Benign	Nature provides global or stable equilibrium. In spite of what happens, the ball will always return to the bottom of the basin. This *laissez-faire* attitude is held by the managing institutions. There are abundant resources.	
Capricious	Random world. Members do not have any particular view concerning the environment. The situation of the resources is a lottery. Institutions with this view of nature do not really manage or learn but just cope with erratic events.	
Tolerant	The world is forgiving of most events, but is vulnerable to an occasional knocking of the ball over the rim. Resources are scarce, but controllable. The managing institutions must therefore regulate and control against unusual occurrences. It accepts that the small risk of disaster necessitates government regulation, but once minimum standards have been met, management should be free to make its own decisions. There are acceptable environmental risks that can be determined by experts.	
Gradual	Earth's climate is slow to change. Global warming will gradually lead to dangerous effects. It is represented by a ball in an inclined landscape.	
Ephemeral	The world is a terribly unforgiving place and the least jolt may cause a catastrophic collapse. There is a precarious balance of the ball on the landscape. The managing institutions must treat the ecosystem with great care as resources are depleting.	

Source: Adapted from Schwarz and Thompson (1990, p. 5) and Leiserowitz and Smith (2010)

In the context of pro-environmental behavior, the threat appraisal relates to individuals' perceived vulnerability to environmental hazards. If they feel vulnerable to climate change, they will be willing to act in consequence. The coping appraisal relates to the efficacy that individuals perceive of their actions to reduce climate change (response efficacy) or if they think they can have an effect in reducing global climate change. It also relates to the capacity that they believe to have to carry out these actions (self-efficacy).

4.3 Methods

4.3.1 Respondents and Procedure

We conducted in Spain an online survey developed by the Yale Project on Climate Change Communication. The original project examined the level of concern of the American population and provided several subgroups depending on their beliefs

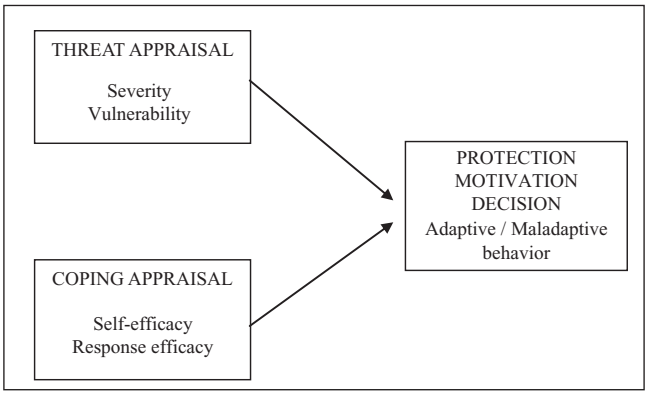

Fig. 4.2 Conceptual model of Protection Motivation Theory. *Source:* Adapted from Rogers (1983)

and behavior.[1] For the Spanish project, a total of 835 completed questionnaires were returned corresponding to an overall response rate of 75%. Yet 233 were excluded from the final data base since the time of response was considerably lower than the average (16 min) that participants spent in the pre-test questionnaire. The total final sample consisted of 602 individuals with females representing 52%. The ages ranged between 18 and more than 75 years distributed as shown in Table 4.2.

4.3.2 Measures

Dependent Measures

The survey measured two behavioral outcomes related with pro-environmental companies. The first behavioral measure was that of rewarding companies that were taking steps to reduce their impact on global warming by buying their products. The second behavioral measure was punishing companies that were not taking steps to reduce their impact on global warming by not purchasing their products. A single item measured each of the two variables and answers ranged in a [1–5] scale as in Table 4.3.

Independent Measures

Cultural Cognition Theory

There were four scales to measure each type of culture according to this theory. Participants have to provide their level of agreement with several statements in a 6-point Likert scale to be classified according to the four cultural types: hierarchist, egalitarian, individualist and communitarian. The software used in the online survey mixed and presented randomly the items corresponding to Individualist and

[1] http://climatecommunication.yale.edu/about/projects/global-warmings-six-americas/.

Table 4.2 Sociodemographic distribution

Sample	n = 602
Gender[a]	
Males	48
Females	52
Ages[a]	
18–24	13
25–34	22
35–44	20
45–54	24
55–64	17
65–74	4
75+	1
Education[a]	
Lower than high school	3
High school	11
Some college	40
Bachelor's degree	46

Source: Author's
[a]Data given in percentages

Table 4.3 Dependent measures

Variable	Item	Answer
Reward	*During the last 12 months, how frequently have you rewarded companies that were taking steps to reduce their impact on global warming, by buying their products?*	1. Never 2. Once 3. A few times (2–3) 4. Several times (4–5) 5. Many times (6+)
Punish	*During the last 12 months, how frequently have you punished companies that were taking steps to reduce their impact on global warming, by not buying their products?*	1. Never 2. Once 3. A few times (2–3) 4. Several times (4–5) 5. Many times (6+)

Source: Author's

Communitarian cultural types. The same happened with the items corresponding to Hierarchist and Egalitarian cultural types. All the items are presented (Table 4.4).

View of Nature

This construct was measured as indicated in Table 4.1 where each vision sees the environment as more fragile and delicate to spoil than the previous version.

Protection Motivation

The threat appraisal was measured through three separated items (see Table 4.5). The first aimed to measure the perceived personal severity and vulnerability of global climate change ('Threat_personal') while the second aimed to measure the perceived severity and vulnerability that future generations have to global climate

change ('Threat_future'). The third aimed to measure the perceived severity and vulnerability that plants and animals would have to global climate change ('Threat_animals').

The coping appraisal was measured through three separated items (see Table 4.6). The first item was reversed and measured individuals' perceived response efficacy, meaning if their actions had any effect on global climate change ('Coping_individual'). The second measured the response efficacy of the actions that individuals are already taking ('Coping_personal'). The third measured the response efficacy of this same actions if they were taken at a broader scale, meaning in all the industrialized countries ('Coping_industrialized').

4.4 Empirical Findings and Discussion

4.4.1 Reward Model

An ordered probit regression model tested the effect of the different independent variables on the behavior of rewarding companies for taking steps to reduce global climate change. For this purpose, the ordered probit model includes cultural cognition constructs ('individualist, communitarian, egalitarian and hierarchist') as independent variables. This is followed by view of nature ('nature'). Regarding PMT we have included both threat and coping appraisals as described in the previous section, with three separate items for each of them. Finally, we decided to also include socio-demographic variables such as gender, age and education to test if any of them had an effect in the dependent variable (see Table 4.7). The sample was reduced to n = 576 as several subjects avoided ~~to~~ answering the item related with the rewarding behavior.

The results reveal that individuals who are more egalitarian and less hierarchical will more frequently revert to the behavior of rewarding companies for taking steps to reduce global climate change (95% level of confidence). This is consistent with the literature on cultural cognition theory. However, individualism and communitarianism have no effect on the rewarding behavior. Contrary to what we expected, the construct 'view of nature' has no effect on this behavior.

Regarding the PMT, we see that only one of the items related with the threat appraisal has an effect. This means that individuals who feel global warming as a personal threat, and perceive its severity and their vulnerability, will be more willing to reward pro-environmental companies (p-value < 0.05). The items related with the coping appraisal show the expected effect. Participants who feel that their response has an effect on global warming, will perform the adaptive response. The three coping items, with a 99% level of confidence, show a significant effect on the behavior of rewarding pro-environmental companies.

Finally, there is no effect of any of the socio-demographic variables included in the model (gender, age and education) on the behavioral outcome.

Table 4.4 Cultural cognition measures

Variable	Item	People in our society often disagree about how far to let individuals go in making decisions for themselves. How strongly you agree or disagree with each of these statements? [1 = Strongly disagree; 6 = Strongly agree]
Individualist	1	The government interferes far too much in our everyday lives.
	2	It's not the government's business to try to protect people from themselves.
	3	The government should stop telling people how to live their lives.
	4	Too many people today expect society to do things for them that they should be doing for themselves.
	5	People who are successful in business have a right to enjoy their wealth as they see fit.
Communitarian	6	Sometimes government needs to make laws that keep people from hurting themselves.
	7	The government should do more to advance society's goals, even if that means limiting the freedom and choices of individuals.
	8	Government should put limits on the choices individuals can make so they don't get in the way of what's good for society.
	9	It's society's responsibility to make sure everyone's basic needs are met.
	10	People should be able to rely on the government for help when they need it.
Variable	Item	People in our society often disagree about issues of equality and discrimination. How strongly you agree or disagree with each of these statements? [1 = Strongly disagree; 6 = Strongly agree]
Hierarchist	11	We have gone too far in pushing equal rights in this country.
	12	A lot of problems in our society today come from the decline in the traditional family, where the man works and the woman stays home.
	13	The women's rights movement has gone too far.
	14	It seems like criminals and welfare cheats get all the breaks, while the average citizen picks up the tab.
	15	It seems like minorities don't want equal rights, but want special rights just for them.
Egalitarian	16	Our society would be better off if the distribution of wealth was more equal.
	17	We need to dramatically reduce inequalities between the rich and the poor, migrants and non migrants, and men and women.
	18	Discrimination against minorities is still a very serious problem in our society.
	19	It's old-fashioned and wrong to think that one culture's set of values is better than any other culture's way of seeing the world.
	20	We live in a sexist society that is fundamentally set up to discriminate against women.

Source: Author's

Table 4.5 Threat appraisal measures

Variable	Item	Answer
Threat_personal	*How much do you think global climate change will harm you personally?*	4-point Likert scale [Not at all – A great deal]
Threat_future	*How much do you think global climate change will harm future generations of people?*	4-point Likert scale [Not at all – A great deal]
Threat_animals	*How much do you think global climate change will harm plants and animals species?*	4-point Likert scale [Not at all – A great deal]

Source: Author's

Table 4.6 Coping appraisal measures

Variable	Item	Answer
Coping_individual (reversed)	*The actions of a single individual will not make any difference in global warming.*	4-point Likert scale [Strongly disagree-Strongly agree]
Coping_personal	*Think back to the energy saving actions you are already doing and those you would like to do over the next 12 months. If you did most of these things, how much do you think it would reduce your personal contribution to global warming?*	4-point Likert scale [Not at all – A great deal]
Coping_industrialized	*If most people in the modern industrialized countries around the world carried out these same actions, how much would it reduce global warming?*	4-point Likert scale [Not at all – A great deal]

Source: Author's

4.4.2 Punish Model

We repeated the regression model using the same approach as in the previous behavior. An ordered probit regression model tested the effect of the different independent variables on the behavior of punishing companies for not taking steps to reduce global climate change. Hence we tested the same independent variables as in the previous subsection (see Table 4.8). The sample was reduced to n = 598 as several subjects avoided answering the item related to punishing behavior.

The results show that none of the cultural cognition types have an effect on the behavior of punishing companies that are not pro-environmental. This result contrasts with that found for the behavior of rewarding.

As to the PMT, we found that only one of the items related with the threat appraisal has an effect as in the case of the previous model. This means that individuals who feel that global warming as a personal threat, and perceive its severity and feel vulnerable, will be more willing to reward pro-environmental companies (95% level of confidence) and to punish anti-environmental companies (99% level of confidence). The items related with the coping appraisal also reveal the expected

Table 4.7 Ordered probit regression for the reward behavior

Factors	Coefficient	Std. error	z	P>|z|	[95% Conf. interval]	
Individualist	0.0560	0.0583	0.96	0.337	−0.0582	0.1702
Communitarian	0.0157	0.0643	0.24	0.807	−0.1104	0.1418
Egalitarian	0.1222**	0.0591	2.07	0.039	0.0064	0.2380
Hierarchist	−0.1036**	0.0478	−2.17	0.030	−0.1973	−0.0099
Nature	0.0533	0.0412	1.29	0.196	−0.0275	0.1341
Threat_personal	0.1812**	0.0744	2.44	0.015	0.0354	0.3270
Threat_future	−0.0301	0.1137	−0.26	0.791	−0.2530	0.1928
Threat_animals	−0.0008	0.1085	−0.01	0.994	−0.2135	0.2119
Coping_individual	0.1603***	0.0448	3.58	0.000	0.0725	0.2481
Coping_personal	0.2349***	0.0644	3.65	0.000	0.1086	0.3611
Coping_industrialized	0.2406***	0.0713	3.37	0.001	0.1008	0.3803
Gender	−0.1062	0.0942	−1.13	0.260	−0.2907	0.0784
Age	0.0001	0.0035	0.04	0.967	−0.0067	0.0070
Education	−0.0463	0.0632	−0.73	0.463	−0.1701	0.0774

Source: Author's
****p < 0.01*; ***p < 0.05* Number of observations = 576
LR chi2(13) = 112.99 Prob > chi2 = 0.0000
Pseudo R2 = 0.0668 Log likelihood = −789.00958

effect. Participants who feel that their response has an effect on global warming, will perform the adaptive response which in this case means punishing anti-environmental companies. The three coping items show a significant effect on the behavior of punishing companies for not taking steps to reduce global climate change ('Coping_individual' and 'Coping_personal' at a 99% level of confidence, and 'coping industrialized' at a 95% level of confidence).

Finally, as in the rewarding model, there is no effect of any of the socio-demographic variables included in the model (gender, age and education) on the behavioral outcome.

4.5 Conclusions and Implications

The purpose of this chapter was to separately explain and predict two behavioral outcomes. The first is how consumers are rewarding companies that are committed to global climate change reduction. The reverse behavior is also happening and consumers are punishing companies that are not engaging in environmental protection as reflected in their refusal to purchase their products.

The tested models show that different factors predict the behaviors of rewarding and punishing. In the first case, the cultural cognition theory partially explains why people choose to buy products to reward pro-environmental companies, and this effect increases the less hierarchical and the more egalitarian individuals are.

Table 4.8 Ordered probit regression for the behavior of punish

Factors	Coefficient	Std. error	z	P>|z|	[95% Conf. interval]	
Individualist	−0.0013	0.0579	−0.02	0.982	−0.1148	0.1122
Communitarian	0.0411	0.0631	0.65	0.515	−0.0827	0.1649
Egalitarian	0.0691	0.0581	1.19	0.234	−0.0447	0.1829
Hierarchist	−0.0827	0.048	−1.7	0.08	−0.177	0.011
Nature	0.064	0.041	1.5	0.117	−0.0162	0.1459
Threat_personal	0.2276***	0.0724	3.14	0.002	0.0856	0.3695
Threat_future	0.0785	0.1107	0.71	0.478	−0.1385	0.2954
Threat_animals	−0.0882	0.1053	−0.84	0.402	−0.2947	0.1182
Coping_individual	0.1164***	0.0445	2.61	0.009	0.0291	0.2037
Coping_personal	0.3086***	0.0641	4.82	0.000	0.1830	0.4341
Coping_industrialized	0.1402**	0.0714	1.96	0.050	0.0003	0.2802
Gender	−0.1542	0.0928	−1.66	0.096	−0.3360	0.0276
Age	0.0032	0.0034	0.93	0.352	−0.0035	0.0099
Education	0.0248	0.0622	0.40	0.690	−0.0970	0.1467

Source: Author's
****p < 0.01*; ***p < 0.05* Number of observations = 598
LR chi2(13) = 115.61 Prob > chi2 = 0.0000
Pseudo R2 = 0.0640 Log likelihood = −844.75822

PMT is also useful ~~to~~ in explaining both the behaviors of rewarding and punishing companies. As a result, institutions planning to enhance individuals' pro-environmental purchasing behavior should focus on improving the efficacy of perceived response. They should make people aware of the possibilities that the adaptive behavior may bring to the scene, making them conscious of the positive outcomes of their pro-environmental actions.

Besides, the results obtained in the present study could be helpful to corporations contemplating changing their production chain in order to include environmental care as consumers will consider this when facing purchasing decisions.

In addition, they might consider the possibility to improve communication strategies with the purpose to increase consumers' awareness about the pro-environmental actions they are taking, so as not to miss any information that could distort the image that the corporations want to offer.

Finally, the present research has limitations since it only considers reported behavior. In future research we would recommend to measure real behavior as it may differ from what individuals report. Besides, the present results cannot be generalized to the other sectors of the population as there is a convenience sample that only includes participants with access to the internet.

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