

Does Consumer Environmental Advocacy Matter for Sustainable Marketing?



Kıvılcım DÖĐERLİOĐLU DEMİR¹

Abstract

This study introduces the concept of consumer environmental advocacy (CEA), defined as the commitment of pro-environmental customers to influence other individuals toward sustainable consumption. A conceptual model is developed to explore key constructs related to the CEA. In Study 1, we analyze panel data from 3,054 Scottish consumers, and find that pro-environmental purchasing (PEP) behavior mediates the link between CEA and pro-environmental attitudes (PEA). Pro-environmental consumption seems to be a key behavior that intervenes between holding PEAs and becoming environmental advocates. In Study 2 we enhance the validity of results from Study 1, by systematically developing a new CEA scale using three pretests and testing the full conceptual model among 187 U.S. consumers. Results of our analyses support all previous findings, and also show that perceptions of issue salience moderate the indirect effects of PEAs on CEA through PEP behaviors. Implications for scholars, managers and public policy makers are discussed.

¹ **Sorumlu Yazar / Corresponding Author:** Assistant Professor, Sabanci University School of Management, kivilcimdd@sabanciuniv.edu, <https://orcid.org/0000-0001-6021-544X>

Makale Türü / Paper Type: Arařtırma Makalesi / Research Paper

Makale Geliř Tarihi / Received: 15.09.2018

Makale Kabul Tarihi / Accepted: 03.11.2018

Keywords: Environmentalism, Consumer Environmental Advocacy, Sustainable Consumption

Çevresel Savunuculuk Sürdürülebilir Pazarlama için Gerekli midir?

Öz

Bu makale, çevre yanlısı müşterilerin diğer bireyleri sürdürülebilir tüketime yöneltmesi olarak tanımlanan tüketici çevre savunuculuğu (CEA) kavramını tartışmaktadır. CEA ile ilgili yapıları keşfetmek için kavramsal bir model geliştirilmiştir. Çalışma 1’de, 3,054 İskoç tüketicisinden oluşan panel verisi analiz edilmiştir. Bu çalışma, çevre dostu satın alma (PEP) davranışının CEA ve çevre dostu tutumlar (PEA) arasındaki bağlantıya aracılık ettiğini göstermektedir. Çalışmada, üç ön test kullanılarak yeni bir CEA ölçeği sistematik olarak geliştirilmiştir. Tüm kavramsal model 187 ABD’li tüketici kapsamında test edilerek, Çalışma 1’deki sonuçların geçerliliği artırılmıştır. Bilim insanları, yöneticiler ve kamu politika belirleyicileri için sonuçlar tartışılmıştır.

Anahtar Kelimeler: Çevrecilik, Tüketici Çevre Savunuculuğu, Sürdürülebilir Tüketim

Introduction

The growth of the “green” lobby particularly among youth population worldwide (e.g., lobbying during Earth Day and the Green Canvas event by artists for pushing environmental issues) and concerns about environmental protection have prompted individuals, institutions and governments to engage in environmental advocacy, defined as the symbolic discourse aimed at supporting conservation and the preservation of finite resources (cf., Bryant, 1990). The growing importance of environmental advocacy in the discourse on sustainability and sustainable development is reflected in recent stream in marketing which examines the importance of consumers or customers in exhibiting advocacy behaviors

for the products or brands they have purchased, in the form of word of mouth behaviors, e.g., (White and Schneider, 2000; Van Hove and Lievens, 2009), customer advocacy, e.g., (Liu and Payne, 2007; Russell and Morgan, 2007); Easley et al., 1995, or brand evangelism, e.g., (Matzler, Pichler et al., 2007). Though academic research in marketing has made impressive strides over the past decade to study sustainable consumption (e.g., Banbury, Stinerock and Subrahmanyam 2011) and pro-environmental purchasing (PEP) behaviors (e.g., Banerjee, 2002; Clemens & Douglas, 2006; Grossbart et al., 1975; Meneses, 2010; Rivera-Camino, 2012), there is no research on the outcomes of such behaviors. In this study, we attempt to study consumer environmental advocacy (CEA).

Stated informally, any consumer of a pro-environmental product who tries to mold policies and opinions about how to treat the earth can be considered a consumer environmental advocate (Cantrill, 1993). Though past research has studied several determinants of environmental advocacy, e.g., (Cantrill, 1993), extant research has not systematically examined the antecedents or consequences of CEA. In this research, PEP is postulated as an antecedent of CEA, and will hence mediate the link between environmental advocacy and its antecedents. We also investigate moderating influences on important relationships that involve CEA. To do this, we develop a psychometrically valid scale that can be used to measure the CEA construct.

We hope that the findings from this study will have important theoretical and implications for researchers in marketing and public policy. Theoretically, we introduce CEA into the pro-environmental discourse as an important variable, and develop a valid scale to measure it. The availability of a reliable and valid CEA scale will help advance future sustainability research as well as for identifying high CEA consumer segments for reach by public policy makers and green firms. Marketing and public policy researchers are likely to benefit from the findings of this study as it offers a broader understanding of the consequences of consumer behaviors related to the environment. By showing the conditions under which CEA is enhanced, the readers are likely to gain a better understanding of

the CEA phenomenon. Our findings will also inform managers whether customers' PEP behaviors can indeed result in an even higher form of long-term commitment and dedication by individuals in the form of customer advocacy for the environment.

Our research consists of two empirical studies: Study 1 aims at exploring important antecedents of CEA with the goal of investigating the role of PEP behaviors in the relationship between CEA and its antecedents. Specifically, we examine the role of PEP behaviors in forming CEAs. After confirming the impact of the antecedent variables on CEA, we proceed to develop and validate a new scale for CEA that will help us retest our original hypotheses and test interactions between important variables from Study 1. Thus, our study 2 will test an expanded conceptual model that not only includes antecedents and moderators, but also some possible consequences of CEA.

The manuscript is organized as follows: we first review the literature on environmental advocacy and its antecedents. We also discuss our initial conceptual model explaining the relationship between CEA and its antecedents, and how these relationships may be mediated by PEP behaviors. Then, we report results of analyses conducted on a large Scottish panel data to test our initial hypotheses. Further we report the development and purification procedure of our new CEA scale, in addition to the results of our expanded conceptual model, including tests of interaction variables. Specific implications which arise from the results of our studies are then discussed.

Literature review

Environmental advocacy involves persuading and educating others to embrace environmental thinking through promotion of environmentally responsible actions (Jickling, 2003). Academic research on environmental advocacy abounds across many fields of scholarship, such as biosciences (e.g., (Lach, List et al., 2003; Nelson and Vucetich, 2009), policy studies (e.g., (Bosso, 2003), law (e.g., (Cole, 1994), sociology (e.g., (Dunlap and Catton, 1979), anthropology (e.g., (Sponsel, 1987; Welker, 2009), communication studies (e.g., (Sehmel, 2002), environ-

mental education (e.g., (Jickling, 2003), and business management (e.g., (Ryan, Kaplan et al., 2001; Sirgy, 2002). In addition, past research in other areas has also shown interest in this phenomenon: social psychology (e.g., (Yates and Aronson, 1983), political science (e.g., (Vig and Kraft, 1990), rhetoric (e.g., (Lange, 1990), public relations (e.g., (Grunig, 1989), and journalism (e.g., (Friedman and Friedman, 1989). However, this research area has remained largely conceptual in nature, and empirical studies on the concept have been far and few between. Notable among them is a series of studies by Grunig (1983); Grunig (1987); Grunig (1989) on persons' responsiveness to environmental communications and how awareness affects subsequent cognition and communications, and environmental advocacy. Cantrill's (1993) review of research concerning environmental communication spanning a variety of disciplines (including sociology, ecological and environmental psychology, political science, anthropology, communication studies, social psychology, cognitive science, public relations, journalism, and leisure studies) provided a more general framework which identifies the different elements affecting persons' attention to and comprehension of the environmental discourse. According to this broad framework, antecedents of environmental advocacy are grouped into four categories.

The first category of antecedents discussed in the literature is termed *Sociocultural Beliefs*, comprising various demographic variables as well as the particular cultural milieu which fosters a person's social development (Cantrill, 1993). Relatively tangible demographic factors can influence the reception and production of environmental advocacy, which would be much easier with audiences representing a homogeneous demographic profile, and the more pluralistic a target market, the more difficult it would be to account for the opposition's advocacy in the shaping of public opinion (Olien, Tichenor et al., 1989). However, based on the typical finding of no reliable relationship between social variables and environmental behavior (e.g., (Honnold, 1984; Neuman, 1986), Cantrill (1993) suggests that we focus on factors beyond demographics in studying and advising advocacy campaigns. Another sociocultural factor proposed to influence EA relates to the deeply embedded environmental

value systems that muster a person's definition of the environment (Bird, 1987; Sponsel, 1987; Olien, Tichenor et al., 1989). For example, researchers believe that scholarly discourse about the environment is trapped within the dominant social paradigm (e.g., Campbell, 1986; Bird, 1987; DeLuca, 1992). Specifically, language, a cultural resource, inhibits the ability of advocates to find a voice for implicit feelings and guides a larger audience's psychological response to new ways of environmental thinking e.g., (Oravec, 1984; Dionisopoulos and Crable, 1988). Overall, past research findings show that cultural influences outweigh demographic factors in the construction and interpretation of environmental discourse (Cantrill, 1993).

Unlike sociocultural beliefs, the next set of environmental advocacy antecedents, subsumed under *informational bases*, is more tangible to the extent it is reflected in overt cognition, and reflects the beliefs generated by personal experience, interpersonal networks, and the mass media (Cantrill, 1993). Experience concerns beliefs related to direct experiences with the environment, which given their repetition and salience, can result in fairly strong expectations for and perceptions of information campaigns (Ham, 1983). However, since little research has been devoted to understanding how one's experiences affect perceptions of discourse, we do not know how persons' experiential beliefs regulate the reception of a particular advocacy campaign (Cantrill, 1993). Another factor that is central in the processing of environmental communications is interpersonal networks, in the form of personal relationships and formal education. Since personal relationships generate abundant information regarding environmental problems and their solutions (Cantrill, 1993), such relationships may offer the best venue for changing behaviors (Atkinson, 1989). Education on the other hand, has been assumed by environmentalists as the key to environmental advocacy (e.g., (Borrelli, 1987). The final factor under the informational bases category, comprises mass-mediated sources, since direct or indirect exposure to the mass media, in particular print and electronic journalism, are sources by which individuals gain most of their understanding of issues and learn about how they should act regarding the environment (Cantrill, 1993).

Another category of factors that has been suggested to affect environmental advocacy relates to the *strategies* people take in reasoning about the environment and how such beliefs motivate them to act in particular ways. Strategic-actional concerns refer to “individuals’ ways of thinking about themselves as participants in environmental settings, what they want for and anticipate happening in their environment, and what they intend to do to achieve their goals *vis a vis* the environment” (Cantrill, 1993), p. (82).

The last category of factors that influence environmental advocacy comprises *environmental awareness and pro-environmental attitudes (PEA)*. Past research suggests that environmental knowledge and awareness be associated with environmental advocacy, though the relationships may always not be positive. For instance, past research suggests that individuals with the most environmental knowledge are typically the least likely to further communicate about problems (Honnold and Nelson, 1979; Hines, Hungerford et al., 1987), and that those with little knowledge are the ones to be the most vocal environmental advocates (Ramsey and Rickson, 1976). Some studies also report no relationship that media-based knowledge about an environmental problem and commitment to participate in the problem’s solution (Novic and Sandman, 1974). Research also suggests that environmental advocates view themselves as rational and concerned citizens (Baglan, Lalumia et al., 1986), and use personal interest as an anchor in assessing argument and engaging the environment (Cantrill, 1993), pointing to PEAs and environmental concern as important antecedents to environmental advocacy. Overall, though past research conceptualizes PEAs to be related to environmental advocacy, empirical evidence for this relationship is limited.

Conceptualization of CEA and Its Antecedents

As discussed in the literature review, antecedents of environmental advocacy vary across different categories. This research attempts to further develop work in the category of PEAs and behaviors by exploring whether and how these lead to consumer environmental advocacy. We propose our conceptual model as depicted in Figure 1.

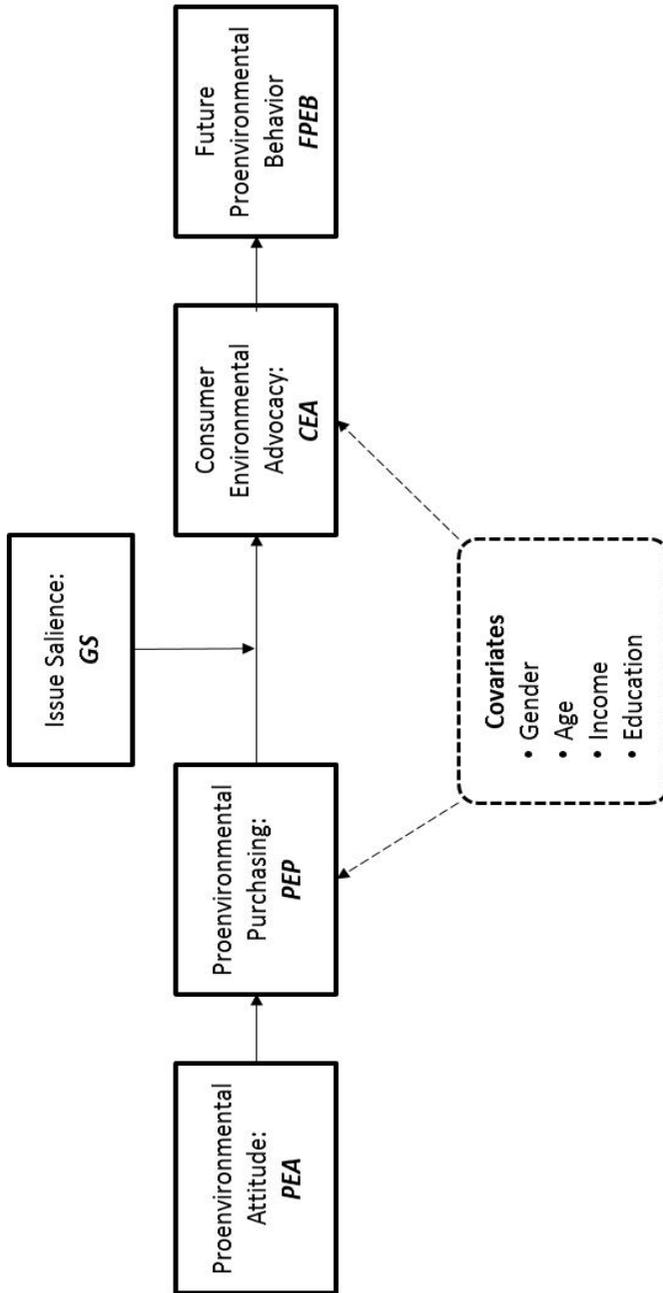


Figure 1. Conceptual Model

First, we focus on PEAs as an antecedent of CEA. Several studies in the past have shown that PEAs lead to pro-environmental behaviors (e.g., Balderjahn, 1988; Kilbourne, Beckmann, & Thelen, 2002; McCarty and Shrum 1994; Minton & Rose, 1997; Synodinos, 1990). Attitudes are viewed as a combination of cognitive and affective responses to objects and are thought to function partly as guides to behavior (Pratkanis and Greenwald, 1989). The effect of PEAs can be explained through the lens of social identity theory (Tajfel and Turner, 1985). Past research suggests that when a person's self-concept is enhanced by the characteristics that define the activity, the individual is drawn to the act because it provides easy opportunities for self-expression (Shamir, 1991). Social-identity theorists contend that people need to distinguish themselves from others in social contexts and thus are likely to seek out groups for affiliation that are distinctive on dimensions they value (Tajfel and Turner, 1985). Therefore, we contend that the perceived degree of overlap between one's self-schema and advocacy behaviors will determine identification with the act and whether attitudes will transfer into advocacy.

Behaviors such as discussing about issues that an individual values, or trying to spread the word about an issue that is personally important to an individual are means of expressing one's self-identity. The greater the identification with the cause, the greater the self-expressing need will be. The attitude that an individual holds about an issue, e.g., PEA, is an indicator of the individual's identification with the issue, and is important to the formation of his/her self-identity. Therefore, the PEAs held by an individual will translate into advocacy and word-of-mouth activities, since such advocacy will serve as a tool for individuals to express themselves on matters that they value and identify with (Brown, Barry et al., 2005). Based on the convergence of the predictions of the TRA and social identity theory, we hypothesize as follows:

Hypothesis 1: PEA is positively related to CEA.

Pro-environmental Purchasing

Generally, pro-environmental behaviors are activities that harm the environment as little as possible or in some cases, and are even beneficial

to the environment (Steg and Vlek, 2009). Stern, Dietz et al. (1999) distinguished the following major classes of pro-environmental behaviors that have found empirical support: committed activism (e.g., working in environmental movements), citizenship behaviors (e.g., voting), support for environmental policy (e.g., via opinion polls), private-sphere behaviors including consumer purchasing behaviors (purchase and use of environmentally benign or friendly products), sector-wise consumer behaviors (e.g., household, transportation), activity-wise consumer behaviors (purchase of household equipment, use of equipment, waste-related behavior), and other miscellaneous consumer behaviors (e.g., efficiency, curtailment, maintenance). Among these, we focus on PEP behaviors as an important indicator of pro-environmental behaviors.

In this research, we contend that the relationship between PEAs and CEA can be explained by an individual's PEP behaviors. Although pro-environmental behaviors (and their antecedents) have been examined in the literature, the possibility of PEP behaviors mediating the relationship between environmental attitudes, and environmental advocacy has not been explored. Extant research has studied the role of attitudes such as altruism and liberalism (Rowlands, Scott et al., 2003), and individuals' attitudes towards recycling (Biswas, Licata, Mckee, Pullig, and Daughtridge, 2000; Ellen, 1994; Mathur & Mathur, 2000; McCarty and Shrum, 1994; Webb, Mohr, & Harris, 2008) in affecting recycling and pro-environmental purchase behaviors. Since an individual's beliefs and feelings with respect to an issue, object, or behavior are likely to guide how they choose to act, one's attitude toward the environment should guide their actions which impact upon the environment (Axelrod and Lehman, 1993). Based on our previous discussion of social identity theory, we expect individuals' favorable attitudes towards the environment to result in recycling and pro-environmental purchase behaviors. That is, the link between PEA and CEA will be enabled through individuals' exhibition of pro-environmental purchase behaviors.

Based on self-identity theory, PEP behaviors may help others make inferences about the characteristics of the user (Belk, Bahn et al., 1982);

therefore, pro-environmental buying behavior and recycling behavior can be considered to provide important signals about one's identity. However, since individuals consider purchasing of pro-environmental products as more beneficial, visible and perhaps more controllable, compared to recycling behaviors, purchase of pro-environmental products can be expected to intervene the link between PEA and CEA. Therefore, we state as follows:

Hypothesis 2: The relationship between PEA and CEA is mediated by pro-environmental purchase behaviors.

Previous research indicates that personal relevance that originates from experience and "motivation to think about the attitude object" leads to a stronger attitude-behavior link (Petty and Cacioppo, 1986). Having direct experience with the attitude object affects the attitude-behavior connection by triggering attitude accessibility. Such a strong personal involvement will induce individuals to think about their attitudes, and the high cognitive effort will enhance accessibility of attitudes and make individuals use the attitudes as a basis for future behavior. In other words, when the salience of issue helps attitudes to be retrieved from memory, it is more likely to predict behavior (Glasman and Albarracín, 2006). When issue salience is high, the conversion of pro-environmental customers into consumer environmental advocates is accelerated. As issue salience influences the PEP-CEA link, it can be seen that the variable moderates the indirect effect of PEA on CEA, through PEP behavior. Therefore, issue salience can be considered as a favorable condition for CEA formation.

An individual's salience of an environmental issue such as the salience of greenspace may accelerate the conversion of pro-environmental customers to a strong advocate. Greenspace has been defined as natural or human-modified urban outdoor environments containing significant amounts of vegetation, e.g., (Burgess, Harrison et al., 1988). Based on past research that suggests that attachment to places leads to involvement (Gross and Brown 2006) and environmental stewardship and activism (Ryan, 2005), we expect consumers placing importance on greenspace

to be motivated to shift from just being pro-environmental purchasers to actively evangelize for the environmental cause. Pro-environmental customers' bond with natural areas may provide the personal conviction required for them to convert to being environmental advocates. In other words, when issue salience is high, the conversion of pro-environmental customers into customer environmental advocates is also accelerated. Based on our discussion, we hypothesize as follows:

Hypothesis 3: Issue salience (IS) moderates the indirect relationship between PEA and CEA, such that when environmental issues are considered salient, the indirect relationship will be stronger.

Consequence of CEA

Though extant research suggests that current behaviors such as CEA will be positively associated with future behavior when the current behavior is well-practiced and frequent (Ouellette and Wood, 1998), future behavior can be also be either consistent or inconsistent with current behavior depending on the resolution process of goal-achievement conflicts (Laran and Janiszewski, 2009). Based on social-identity theory, we contend that consumers who have strong propensity of environmental advocacy through PEA and PEP behavior will show frequent and consistent behaviors during the course of actions, because their social identity goals can be achieved by their environmental advocating behaviors. Thus, we expect that these consumers would have consistent patterns of behavior in the future (i.e., PEA, PEP, and CEA). Consistent with theory of reasoned action, when consumers exhibit pro-environmental behaviors, such past behaviors should guide future pro-environmental behaviors as well. Hence, we formally hypothesize:

Hypothesis 4: Current CEA is positively related to future pro-environmental behavior.

Study 1: An Exploratory Study of CEA

To examine whether the construct of CEA was worthwhile explo-

ring, we relied on existing data from the Scottish Environmental Attitudes and Behaviors Survey (SEABS 2008) commissioned by the Scottish Government Rural and Environment Analytical Services (REAS) Division (Davidson, Martin et al., 2009). Personal, in-home interviews were conducted with a quota sample of the Scottish adult population, who were above the age of 16. Altogether, 388 data zones were selected with a quota spreading across three demographic variables viz., gender, age, working status and one key behavioral variable (car availability). Field interviews were conducted using Computer Assisted Personal Interviewing (CAPI) via laptop computers. Eighty-seven percent of respondents responded using CASI (Computer Assisted Self Interviewing) where they entered their responses directly into the CAPI machine. The target number of interviews for the survey was 3000 while the total number of interviews actually conducted was 3,054.

Measures

PEA. PEA was measured using a 6-item 7-point Likert scale with verbal endpoints (1 strongly disagree, neither agree nor disagree, 7 strongly agree), on items like: “I don’t give much thought to the amount of rubbish and waste that is produced by my household,” “I do worry about the changes to the countryside and the loss of native animals and plants,” and “Reusing bottles and food containers is unhygienic,” etc. This scale reflects the items developed by Preisendörfer (1996) to conceptualize environmental concern, which is used in the literature to study PEA (Kinnear and Taylor, 1973).

PEP. The items used to measure PEP behaviors reflect the items used by Biswas, Licata et al. (2000) to measure Recycling Shopping Behavior. Biswas, Licata et al. (2000) who operationalized their recycling shopping behavior by presenting the respondents with items anchored by nine-point Likert scales (1 = strongly disagree to 9 = strongly agree). Similar to their scale, the survey used a 5-item scale anchored by five-point Likert scales (1 = every time to 5 = never), to ask respondents how

often they used organic carrots, organic cows' milk, free range poultry, eco-friendly cleaning products and eco-friendly clothing (e.g. organic cotton).

Recycling Behaviors. The items used to measure recycling behaviors reflect the items used by Biswas, Licata et al. (2000) and Smith, Haugtvedt et al. (1994) to measure waste recycling behavior. Similar to Biswas, Licata et al. (2000), the survey presented respondents with four items anchored by five-point Likert scales (1 = every time to 5 = never) to ask respondents how often they used curbside garden waste recycling collection, curbside bottle recycling collection, curbside can recycling collection and curbside paper recycling collection.

CEA. CEA is measured by an average of three items that reflect the items in the brand evangelism scales developed by Park, Macinnis et al. (2009), and Matzler, Pichler et al. (2007). Respondents were asked to choose among the following three statements that applied to them the most: "I discuss the environment and climate change with people I know," "I try to persuade people I know to do more to help the environment," and "I've suggested improvements at my workplace to help the environment."

Control variables. Age, gender, income and education were used as control variables these variables have frequently been studied as affecting pro-environmental behaviors. Literature has found that recycling behavior has positive relationship with age (Granzin and Olsen, 1991; Lansana, 1992; Derksen and Gartrell, 1993), income (Vining and Ebreo, 1990; Gamba and Oskamp, 1994) and education (Vining and Ebreo, 1990; Lansana, 1992; Edgerton, McKechnie et al., 2009). As research shows that the ecologically concerned consumer belongs to the upper social classes (Balderjahn, 1988), the socio-economic class of the respondents was derived from income. In addition to the above, data was also collected on respondents' volunteer behavior, donation behavior, and general satisfaction with life.

Analysis and Results

To test hypothesis H_1 and H_2 , we employed the methods suggested by Preacher and Hayes (2008) to test indirect effects in multiple mediator models. As shown in Table 1, our results show that that PEA has a positive and significant effect on CEA ($\beta = .143$; $p < 0.001$), supporting Hypothesis 1. Hypothesis 2 relates to the indirect effects of PEA on CEA through pro-environmental purchase behavior. Results show that PEA has a positive and significant effect on pro-environmental purchase behavior ($\beta = .291$; $p < 0.001$). Pro-environmental purchase behavior is positively and significantly related to CEA, when accounting for PEA and the control variables ($\beta = .038$; $p < 0.001$). Moreover, results show that the direct positive effects of PEA on CEA is diminished when pro-environmental purchase behavior is added ($\beta = .132$; $p < 0.001$), suggesting partial mediation of pro-environmental purchase behavior in the relationship between PEA and CEA.

Though not specifically hypothesized, we ran a multiple mediation model after including recycling behavior along with PEP, to show how recycling behavior does not mediate the relationship between PEA on CEA, while Pro-environmental purchase behavior does. Our results show that though PEA has a positive and significant effect on recycling behavior ($\beta = .038$; $p < 0.001$), recycling behavior does not have a significant effect on CEA. Finally, results of the indirect effects test show that the indirect effects of PEA on CEA through pro-environmental purchase behavior is positive and significant ($\beta = .011$; $p < 0.001$), supporting Hypothesis 2. The indirect effects of PEA on CEA through recycling behavior is not significant ($\beta = .001$; *ns*).

Table 1

Study 1: Unstandardized regression estimates for indirect effects through Pro-environmental Purchase Behaviors (PEP)

Dependent Variable →	Unmediated Direct Effect Model		Mediated Model through PEP					
	CEA		PEP		CEA (controlled for independent variables)		CEA	
	B	SE	B	SE	B	SE	Indirect Effect	SE
PEA	.143	0.007***	.291	.022***	.132	.007***	.011	.002***
PEP					.038	.006***		
Age	.000	0.000	-.002	.001*	.000	.000		
Gender	-.034	.009***	.091	.028**	-.038	.009***		
SEC	-.008	.004	-.094	.012***	-.005	.004		
Education	.032	.004***	.071	.011***	.029	.004***		
R ²	0.19		0.15		0.20			
F	141.08***		103.79***		126.026***			

*** $p < .001$; ** $p < .01$; * $p < .05$; † $p < .10$.

Discussion of Study 1 Results

While our exploratory study benefited substantially from the large Scottish consumer data, the measures used in Study 1 suffer from operational limitations of using secondary data in not entirely capturing their corresponding constructs. Our key measure, CEA, was an environmental advocacy scale that is comprised of only three items. These items reflected behavioral tendency to discuss environmental issues with others and suggest improvements at workplace to help the environment. However, we argue that there is a need to investigate the consumer side of the story as purchasing behavior has a greater environmental benefit than other pro-environmental behaviors such as recycling and reusing (cf. (Gardner and Stern, 2002)). Moreover, as CEA is a new construct introduced into the marketing literature, and Study 1 used items not designed for the

purpose of measuring CEA, we conducted Study 2 to mitigate the data limitations of Study 1. Hence, the purpose of Study 2 was to (a) develop a new and psychometrically valid scale to measure CEA, and (b) use the new scale for CEA and more recently developed existing scales for PEA and PEP to test the full conceptual model that includes the moderating influence (Hypothesis 3) on the indirect relationship hypothesized in Hypotheses 1 and 2, and consequence of CEA (Hypothesis 4).

Study 2: Development of New CEA Scale

Though there is a gamut of instruments that assess individual differences on beliefs concerning sustainable consumption, these scales generally overlook the differences in propensity to try to ‘convert’ others into being sustainable consumers. The New Ecological Paradigm (NEP) is perhaps the most widely used measure of environmentalism in literature. NEP, a 15-item self-report scale, measures awareness of adverse consequences of environmental conditions (Dunlap, Van Liere et al., 2000). NEP aims to measure individuals’ beliefs concerning their relationship to the natural world. CEA’s focus, however, is not on consumer beliefs; each item in the CEA scale should describe consumers’ likelihood to try and persuade others into becoming sustainable consumers. Thus, the focus will be on the desire to convince people how great green marketing is, change how they understand green marketing and convert them to sustainable consumers. To our knowledge, there is no established scale that measures CEA.

Face Validity

A total of three pretests were conducted to assess the quality of the measure items. To establish the face validity of the CEA construct that will assess the individual differences in the propensity to support and advocate green marketing and sustainable consumption, we first created an initial pool of 54 items that reflect such a propensity by reviewing work on sustainable consumption (e.g., (Alwitt and Pitts, 1996; Ger, 1997; Press and Arnould, 2009), word of mouth behaviors (e.g., (White

and Schneider, 2000; Van Hove and Lievens, 2009), customer advocacy (e.g., (Liu and Payne, 2007; Russell and Morgan, 2007), brand evangelism (e.g., (Matzler, Pichler et al., 2007) and environmental advocacy (e.g., Cantrill, 1993; (Jickling, 2003). We grouped the items under ten different categories such as defending, persuading, selling, converting/proselytizing, convincing, changing, excitedness, talking, acting/behaving, and advocacy, so we could test whether on these respective factors.

First Pretest

We submitted the 54 items under 10 categories to a panel of subject-matter experts who rated the extent to which these 54 statements reflected the CEA construct defined by the inclination to support and promote sustainable consumption and green marketing. The three-member subject matter expert panel comprising faculty members and doctoral students rated each item for its consistency with CEA and also recommended additional items for inclusion. We submitted items that received a high rating or were suggested by the first-round panelists to a second panel of three researchers who excluded items that were rated as poor, long, confusing and redundant. The items that the second panel considered to have a high consistency with CEA were included in the instrument. The result of this process was a set of 13 items (see Appendix A).

Second and Third Pretest

The preliminary 13-item CEA questionnaire was pretested with 146 undergraduate students at a North American University who completed CEA survey to fulfill research requirement. The order of items in the scale was randomized for each participant. We conducted an exploratory factor analysis (EFA) with a maximum likelihood estimation which highlighted the presence of a single dominant factor explaining 69.32% of the variance. All 13 items in the scale had a loading of .70 or higher, with an internal consistency (Cronbach's alpha) of .94. To test the construct validity of the 13-item scale, we conducted another online study and collected data for the CEA and NEP scales, as well as constructs such

as self-identity (SI), Future Pro-environmental Purchasing Behavior (FPPEB; see Appendix B). We collected data from a total of 101 subjects, and after accounting for missing data we were able to arrive at a dataset containing 45 cases.

We conducted our tests for convergent, discriminant, predictive and nomological validity utilizing the partial least squares (PLS) approach to structural equation modeling (Chin, 1998; Lohmöller, 1989; Wold, 1985) with the software package SmartPLS 2.0 (Ringle, Wende, and Will 2005). While other methods of structural equation modeling – such as the covariance-based LISREL or AMOS – are more common, we decided in favor of the PLS approach as this approach allows us to model latent constructs under conditions of small sample sizes (Chin and Newsted, 1999). PLS results showed that all 13 items of the CEA scale in the measurement model showed loadings of more than 0.7 to the latent CEA construct. Moreover, the reliabilities for CEA were satisfactory: the Cronbach alpha of CEA was 0.90, above the threshold value of 0.7 (Nunnally, 1978), and the composite reliability of 0.92 score of 0.71 exceeds the recommended value of 0.7 (Chin, 1998). Finally, the Average Variance Extracted (AVE) score indicate that for the variance explained by CEA equals 50%, thus exceeding the measurement error. These measures demonstrate adequate convergent validity and reliability (Fornell and Larcker, 1981).

Convergent validity can also be tested by examining correlations with constructs that should, based on theory or past empirical findings, be significantly correlated (Campbell & Fiske, 1959). Since past research (e.g., Baglan, Lalumia et al., 1986; Cantrill, 1993) suggests that pro-environmental attitudes should be theoretically correlated to CEA, we ran a PLS model relating pro-environmental attitudes (as measure using the NEP scale) to the 13-item latent CEA construct and find significant correlations between the two constructs. We then assess the discriminant validity of the measures by calculating the shared variance between CEA and Self-identity, as they are different constructs that need not be related. The results show that the AVE of CEA is higher than the

shared variance with the SI, in support of discriminant validity (Fornell and Larcker, 1981). To assess the predictive validity of CEA, we entered future pro-environmental purchasing behavior (FPEB) as a consequence of CEA, and found significant correlation between the two. Finally, we entered all the three variables (CEA, NEP and FPEB) in one model and found that the model showed adequate fit ($R^2 = .75$), providing evidence for nomological validity. Overall, these results show that our measures possess adequate reliability and validity.

Testing the Full Conceptual Model

To improve the data quality and to ensure confidence in the results of the hypothesis tests in Study 1, we tested the full conceptual model with new data based on more reliable and valid measures, including the recently developed CEA instrument.

Participants and procedure. A consumer panel of 187 participants completed a 20 minute online survey on sustainable consumption. The survey included the newly developed 13-item CEA instrument, 6-item modified NEP scale to measure PEA (Dunlap, Van Liere et al., 2000), 5-item PEP scale (Biswas, Licata et al., 2000), issue salience (Mariadoss et al., 2011), and instruments created specifically for this research to measure future pro-environmental behavior (FPEB; Appendix B). The order of each scale and the order of items in the scale were randomized for each participant. At the end of the survey, gender, age, income and education were collected as control variables.

Construct Validity. We assessed the construct validity of CEA in accordance with Anderson and Gerbing's (1988) recommendations. First, we ran exploratory factor analyses for the three multi-item scales i.e., CEA, PEP and PEA, which result in the theoretically expected factor solutions. The reliability analyses also show that these measures possess satisfactory reliability coefficients. Second, we estimate an overall, three-factor confirmatory measurement model. After dropping five items that possessed either low factor loadings or high cross-loadings, the model achieved a satisfactory fit to the data (comparative fit index [CFI]

= .96, Tucker-Lewis index [TLI] = .97, root mean square error of approximation [RMSEA] = .06, standardized root mean squared residual [SRMR] = .05). Furthermore, all factor loadings are highly significant ($p < .001$), the composite reliabilities of three constructs (PEA = .85, PEP = .93, and CEA = .96) exceed the 0.70 benchmark, and all average variances extracted (AVE) are greater than 0.50 (PEA = .58, PEP = .79, and CEA = .76). These measures demonstrate adequate convergent validity and reliability (Fornell and Larcker, 1981).

We then assess the discriminant validity of the measures in two ways. First, we ran chi-square difference tests for all the constructs in pairs to determine whether the restricted model (correlation fixed as 1) is significantly worse than the freely estimated model (correlation estimated freely). All the chi-square differences were highly significant (e.g., CEA vs. PEP: $\chi^2(1) = 296.66, p < .001$; CEA vs. PEA: $\chi^2(1) = 275.15, p < .001$; PEP vs. PEA: $\chi^2(1) = 160.06, p < .001$), in support of discriminant validity (Anderson and Gerbing, 1988). Second, we calculated the shared variance between all possible pairs of constructs to determine if they are lower than the AVE for the individual constructs. Results show that for each construct, the AVE is higher than the highest shared variance with the other constructs, in additional support of discriminant validity (see Appendix B) (Fornell and Larcker, 1981). Overall, these results show that our measures possess adequate reliability and validity.

Table 2
Study 2: Descriptive Statistics and Intercorrelations

	1	2	3	4	5	6	7	8	9
1. Consumer Environmental Advocacy	1								
2. Pro-environmental Attitude	0.5305**	1							
3. Pro-environmental Purchasing	0.7479**	0.6458**	1						
4. Issue Salience	0.6512**	0.5954**	0.7743**	1					
5. Future Pro-environmental Purchasing Behavior	0.7858**	0.6727**	0.9372**	0.8165**	1				
6. Gender	0.0638	0.1224 [†]	0.1418 [†]	0.1278 [†]	0.1206	1			
7. Age	-0.1165	-0.1871*	-0.104	0.0386	-0.1171	-0.1062	1		
8. Income	0.0223	-0.0062	0.058	0.0802	0.0632	-0.0542	-0.0325	1	
9. Education	0.0578	0.0397	0.1417 [†]	0.1259 [†]	0.125 [†]	0.0426	-0.0088	0.3287**	1
Mean	3.4	4.8	4.32	4.73	4.17	1.5	48.3	50824.08	1.66
Std.	1.4	1.23	1.45	1.35	1.39	0.5	13.85	31761.56	0.67
Composite Reliability (CR)	0.955	0.854	0.934	0.825	0.959	N.A.	N.A.	N.A.	N.A.

** $p < .01$; * $p < .05$; [†] $p < .10$ (two-tailed).

¹Exogenous variables, composite reliability cannot be computed. N.A. = not applicable.

Analysis and Results

As shown in table 3, pro-environmental attitudes have a positive and significant effect on CEA ($\beta = .60; p < 0.01$), supporting H_1 . Results also show that PEA has a positive and significant effect on pro-environmental purchase behavior ($\beta = .75; p < 0.01$). Pro-environmental purchase behavior is positively linked to CEA ($\beta = .68; p < 0.01$). Moreover, the direct positive effects of PEA on CEA is removed when pro-environmental purchase behavior is added ($\beta = .08; ns$). The results of the indirect effects test depict that the indirect effects of PEA on CEA through pro-environmental purchasing is positive and significant ($\beta = .52; p < 0.01$), supporting H_2 . Issue salience significantly moderates the relationship between PEP and CEA ($\beta = .06; p < .05$). The moderated mediation model demonstrates that the indirect effects of PEA on CEA through pro-environmental purchase behavior is moderated by issue salience ($\beta = .41; p < 0.01$). Results of the conditional mediation analysis support H_3 . Table 4 shows that the indirect effects of PEA on CEA is higher when issue salience is high (at one SD above mean issue salience, $\beta = .50; p < 0.001$), than when issue salience is low (at one SD below mean issue salience, $\beta = .37; p < 0.001$), thus supporting H_3 . For the moderated mediation model, the $R^2 = .59$. Finally, we test whether current CEA guides future environmental behavior. Results of a model with future pro-environmental behaviors regressed on all other variables controlling for all other variables, shows that CEA is positively related to FPEB ($\beta = .15; p < 0.01$) supporting H_4 .

Table 3

Study 2: Mediation and Moderated Mediation Models through PEP

Dependent Variable →	Unmediated Direct Effect Model			Mediated Model through PEP						Moderated Mediation Model through PEP						Future Behavior				
	CEA			PEP			CEA			PEP			CEA			FPEB				
	β	SE		β	SE	Indirect Effect	SE	β	SE	Indirect Effect	SE	β	SE	Indirect Effect	SE	β	SE	Indirect Effect	SE	
CEA																				
PEA	0.598	0.073**		0.753	0.066**	0.516	0.065**	0.753	0.066**	0.412	0.069**	0.274	0.15†	0.274	0.15†	0.063	0.028*	0.203	0.064**	0.034**
PEP				0.685	0.062**															
IS																				
PEP*IS																				
Gender	-0.009	0.178		0.183	0.161	-0.134	0.136	0.183	0.161			0.183	0.161			-0.164	0.132	-0.001	0.013	0.061
Age	-0.002	0.006		0.003	0.006	-0.004	0.005	0.003	0.006			0.003	0.006			-0.005	0.005	-0.003	0.002	0.002
Income	0.000	0.000		0.000	0.000	-0.000	0.000	0.000	0.000			0.000	0.000			0	0.000	0.000	0.000	0.000
Education	0.067	0.139		0.223	0.126†	-0.086	0.107	0.223	0.126†			0.223	0.126†			-0.125	0.105	-0.004	0.048	0.048
Constant	0.49	0.619		-0.138	0.561	0.584	0.473	-0.138	0.561			-0.138	0.561			1.483	0.617*	-0.08	0.287	0.287
R ²	0.28			0.44		0.57		0.44				0.44				0.59		0.91		0.91
F	14.31**			-		-		-				-				-		-		-
χ ²	-			144.25**		246.20**		144.25**				144.25**				272.64**		1984.83		1984.83
Observations	187			187		187		187				187				187		187		187

**p < .01; *p < .05; † p < .10 (one tailed tests).

¹Indirect effect of PEA on CEA was significant at $p < 0.01$ at mean levels of GS, and significant at $p < 0.01$ at ± 1 SD from mean GS.

Table 4
 Study 2: Conditional Indirect Effects of PEA on CEA
 at Range Of Values of GS

Level of GS	Mediator: GS	
	Indirect Effect ¹	SE
1	0.2538	0.1022*
2	0.3016	0.0924**
3	0.3494	0.0854***
3.376	0.3674	0.0836***
4	0.3972	0.0818***
4.729	0.4321	0.0817***
5	0.4450	0.0822***
6	0.4928	0.0865***
6.082	0.4967	0.0870***
7	0.5406	0.0940***

*** $p < .001$; ** $p < .01$; * $p < .05$ (one tailed tests).

¹Bootstrapping results (replication of 1000 times) using seemingly unrelated regression

Discussion and Conclusions

Employing social identity theory as well as the TRA model, this research aims at providing an attitude-behavior based framework to map the relationships underlying consumer environmental advocacy, a construct that has not been empirically investigated before. By further proposing and testing for interactions, we explore the conditions that can favor the creation of customer environmental advocates. Overall, this research demonstrates the role of consumer as an agent of change. We believe that by urging others into taking part in environmental protection, consumers have the power to more fully participate in pro-environmentalism.

In this paper, we first conceptualize CEA as an important construct in the environmental discourse, and set out to obtain an understanding of its antecedents and consequences. Then, we hypothesize the interrelationships among key constructs from a consumer's perspective. We systematically examine antecedents and consequences of CEA in two studies that built on each other.

Results from both studies indicate that pro-environmental purchase behavior mediates the relationship between PEA and CEA. Our results indicate that increased perceptions of issue salience not only enhance the impact of PEA on CEA, but also determine whether pro-environmental customers transform into environmental advocates. Thus, increased perceptions of issue salience can result in a stronger indirect effect of PEA on CEA through pro-environmental purchase behavior, making issue salience an important condition for CEA. We included several covariates in the study, e.g., age, gender, education, and socio-economic status for the models with pro-environmental behaviors and CEA as the outcome.

Our empirical study with a large sample of real consumers bears significant contribution theoretically and managerially. Theoretically, we expand the literature on sustainable consumption by examining other possible mediators and moderators that can affect the relationships between PEA and behaviors. Results from this study support the general proposition that PEA leads to behavior, yet, show that part of this relationship has to go through the consumption act (i.e. purchasing green goods). It seems that if an individual has PEA to begin with, her self-concept is accentuated by the PEP activities, as the very act of consumption offers consumers opportunities for self-expression (Shamir, 1991). Our research views environmental advocacy behaviors such as discussing about environmental issues, as a means of expressing one's self-identity. Our results also confirm that the impact of attitude on green behavior becomes stronger as consumers' issue salience gets stronger. These findings are both important and new. Finally, from a market orientation perspective, actions to promote green behaviors that are driven by fellow consumers are likely to be in accordance with needs and wants of con-

sumers, leading to more “pull” by consumers who demand greener offerings. This paper also adds to the literature in marketing which examines the importance of word of mouth behaviors (e.g., (White and Schneider, 2000; Van Hove and Lievens, 2009), customer advocacy (e.g., (Liu and Payne, 2007; Russell and Morgan, 2007); Easley et al., 1995) and brand evangelism (e.g., (Matzler, Pichler et al., 2007).

Methodologically, to our knowledge, this is the only study to explore and empirically test the consumer environmental advocacy concept using several rounds of data collection from real consumers. This study shows that the green purchase behavior plays a central role in translating PEA into environmental advocacy. From a practical perspective, this research sheds light on the role of PEA of consumers, and more importantly, their green purchasing behaviors in encouraging environmental advocacy. Apparently, encouraging consumers regularly to enhance their green purchasing will be positively related to advocacy behaviors. Following this logic, a wise marketing strategy for green-marketing companies is to expand campaigns directed at increasing awareness and knowledge about environmental quality (e.g. advertising campaigns, point-of-sale material). Past research finds that consumers’ belief that they, as individuals, can help solve environmental problems is the best predictor of environmentally conscious behaviors. Thus, marketers should choose proper messages that communicate that buying green products can have a momentous influence on the environment. Issue salience should be considered for inclusion in company messages to help consumers move from PEA to actual purchasing behaviors and ultimately to advocacy activities.

The ultimate goal for public policy makers and pro-environmental firms is to increase the number of CEAs as fast as possible. Our results indicate that the environmental advocates need to display PEP behaviors. Results of our mediation analyses show that purchase behavior mediates the relationship between attitudes and CEA. It seems that using green goods is a highly visible act that satisfies self-expression needs, and advocacy behavior can be viewed as a natural next step in fulfilling

self-expression needs of consumers. Therefore, marketers need to go one step further in encouraging green consumers to become advocates who spread ‘green gospels.’ Sustainable marketing must include building a large and strong consumer segment which responds positively to green strategies and also enthusiastically leads others into sustainability.

Limitations and Future Research

The present research has some limitations. For instance, we focused on a limited range of pro-environmental behaviors. Although these behaviors are considered important in research on environment, issues such as energy conservation and auto emissions should also be studied. While our research examined what people were willing to do, future research would benefit from assessing actual behavior. Yet, this research represents a starting point in developing a framework for understanding consumer environmental advocacy. Several questions arise that seek further investigation. Future research should study other constructs that may strengthen or weaken the attitude-behavior relationship. Past research has suggested that the immediate nature of a threat can influence behaviors (Paterson and Neufeld, 1987). Perceptions of urgency has played a central role in whether people choose to engage in sustainable consumption (Weinstein, 1980), and increased acceptance of government regulations regarding the environment (Steg and Sievers, 2000). Future studies should investigate the role of urgency perceptions in engaging in CEA behaviors. Relatedly, perceived threat induced by mortality salience manipulation has been shown to affect consumer actions (Fransen et al 2008) and pro-environmental behaviors (Fritsche, Jonas et al., 2010). Examining the unique effects of mortality salience needs research that primes that variable. Finally, social factors that distinguish between CEA from “simply green” consumers should be investigated, e.g., cultural and value differences in pro-environmental consumption (individualism).

To conclude, policy makers should note that by encouraging individuals to consume green goods, they can generate advocates who voluntarily spread the word on environment. Understanding and promoting

CEA will be more effective in reaching the public, especially in time of a depressed economy characterized by budget cuts. How to effectively design and spread such messages merits greater understanding. These issues need to be addressed to further this exploration. The concept of consumer environmental advocacy is worth further investigation by scholars and marketing managers, and this study marks the beginning of research on green advocates in the global marketplace, who are educated and mindful in making good choices in purchases, consumption and disposal, and have the passion to mobilize others along this green path for all.

References

- Alwitt, L. F. and Pitts, R. E. (1996). "Predicting Purchase Intentions for an Environmentally Sensitive Product." *Journal of Consumer Psychology*, 5(1), 49-64.
- Anderson, J. C. and Gerbing, D. W. (1988). "Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach." *Psychological Bulletin*, 103(3), 411.
- Atkinson, J. (1989). *Environmental Advocacy in Family Communication: Bringing It Home and Back out the Door*.
- Axelrod, L. J. and Lehman, D. R. (1993). "Responding to Environmental Concerns: What Factors Guide Individual Action?" *Journal of Environmental Psychology*, 13(2), 149-159.
- Baglan, T., Lalumia, J., et al. (1986). "Utilization of Compliance Gaining Strategies: A Research Note."
- Balderjahn, I. (1988). "Personality Variables and Environmental Attitudes as Predictors of Ecologically Responsible Consumption Patterns." *Journal of Business Research*, 17(1), 51-56.
- Belk, R. W., Bahn, K. D., et al. (1982). "Developmental Recognition of Consumption Symbolism." *Journal of Consumer Research*, 4-17.
- Bird, E. A. R. (1987). "The Social Construction of Nature: Theoretical Approaches to the History of Environmental Problems." *Environmental History Review*, 11(4), 255.
- Biswas, A., Licata, J. W., et al. (2000). "The Recycling Cycle: An Empirical Examination of Consumer Waste Recycling and Recycling Shopping Behaviors." *Journal of Public Policy & Marketing*, (93)105.
- Borrelli, P. (1987). "Environmentalism at a Crossroads." *The Amicus Journal*, (9), 24-37.
- Bosso, C. J. (2003). "Rethinking the Concept of Membership in Nature Advocacy Organizations." *Policy Studies Journal*, 31(3), 397-411.

- Brown, T. J., Barry, T. E., et al. (2005). "Spreading the Word: Investigating Antecedents of Consumers' Positive Word-of-Mouth Intentions and Behaviors in a Retailing Context." *Journal of the Academy of Marketing Science*, 33(2), 123-138.
- Bryant, B. I. (1990). *Environmental Advocacy: Concepts, Issues, and Dilemmas*. Ann Arbor, MI, Caddo Gap Press.
- Burgess, J., Harrison, C. M., et al. (1988). "People, Parks and the Urban Green: A Study of Popular Meanings and Values for Open Spaces in the City." *Urban studies*, 25(6), 455.
- Campbell, J. A. (1986). "Scientific Revolution and the Grammar of Culture: The Case of Darwin's Origin." *Quarterly Journal of Speech*, 72(4), 351-376.
- Cantrill, J. G. (1993). "Communication and Our Environment: Categorizing Research in Environmental Advocacy." *Journal of applied communication research*, 21(1), 66-95.
- Cole, L. W. (1994). "Community Initiatives: Macho Law Brains, Public Citizens, and Grassroots Activists: Three Models of Environmental Advocacy." *Virginia Environmental Law Journal*, (14), Summer, 687.
- Davidson, S., Martin, C. D., et al. (2009). *Scottish Environmental Attitudes and Behaviours Survey*, Scottish Government Social Research.
- DeLuca, J. (1992). *Articulation, Progress, and the Environment. The conference on the Discourse of Environmental Advocacy*, Salt Lake City, UT, University of Utah Humanities Center.
- Derksen, L. and Gartrell, J. (1993). "The Social Context of Recycling." *American Sociological Review*, 434-442.
- Dionisopoulos, G. N. and Crable, R. E. (1988). "Definitional Hegemony as a Public Relations Strategy: The Rhetoric of the Nuclear Power Industry after Three Mile Island." *Central States Speech Journal*, 39(2), 134-145.

- Dunlap, R. E. and Catton, W. R. (1979). "Environmental Sociology." *Annual Review of Sociology*, (5), 243-273.
- Dunlap, R. E., Van Liere, K. D., et al. (2000). "Measuring Endorsement of the New Ecological Paradigm: A Revised Nep Scale." *Journal of social issues*, 56(3), 425-442.
- Edgerton, E., McKechnie, J., et al. (2009). "Behavioral Determinants of Household Participation in a Home Composting Scheme." *Environment and Behavior*, 41(2), 151-169.
- Fornell, C. and Larcker, D. F. (1981). "Evaluating Structural Equation Models with Unobservable Variables and Measurement Error." *Journal of Marketing Research*, 39-50.
- Friedman, S. M. and Friedman, K. A. (1989). "Environmental Journalism: Guardian of the Asian Commons." *Environment: Science and Policy for Sustainable Development*, 31(5), 6-37.
- Fritsche, I., Jonas, E., et al. (2010). "Existential Threat and Compliance with Pro-Environmental Norms." *Journal of Environmental Psychology*, (30),1, 67-79.
- Gamba, R. J. and Oskamp, S. (1994). "Factors Influencing Community Residents' Participation in Commingled Curbside Recycling Programs." *Environment and Behavior*, 26(5), 587-612.
- Gardner, G. T. and Stern, P. C. (2002). *Environmental Problems and Human Behavior*. Boston, MA, Pearson Custom Publishing.
- Ger, G. (1997). "Human Development and Humane Consumption: Well-Being Beyond the "Good Life"." *Journal of Public Policy & Marketing*, 110-125.
- Glasman, L. R. and Albarracín, D. (2006). "Forming Attitudes That Predict Future Behavior: A Meta-Analysis of the Attitude-Behavior Relation." *Psychological Bulletin*, 132(5), 778.
- Granzin, K. L. and Olsen, J. E. (1991). "Characterizing Participants in Activities Protecting the Environment: A Focus on Donating, Re-

- cycling, and Conservation Behaviors.” *Journal of Public Policy & Marketing*, 1-27.
- Grunig, J. E. (1983). “Washington Reporter Publics of Corporate Public Affairs Programs.” *Journalism Quarterly*, 60(4), 603-614.
- Grunig, J. E. (1987). *When Active Publics Become Activists: Extending a Situational Theory of Publics*. International Communication Association, Montreal.
- Grunig, J. E. (1989). *A Situational Theory of Environmental Issues, Publics, and Activists*. Environmental activism revisited: The changing nature of communication through organizational public relations, special interest groups and the mass media, Troy, OH, The North American Association for Environmental Education.
- Ham, S. H. (1983). “Cognitive Psychology and Interpretation: Synthesis and Application.” *Journal of Interpretation*, 8(1), 11-27.
- Hines, J. M., Hungerford, H. R., et al. (1987). “Analysis and Synthesis of Research on Responsible Environmental Behavior: A Meta-Analysis.” *The Journal of environmental education*, 18(2), 1-8.
- Honnold, J. A. (1984). “Age and Environmental Concern Some Specification of Effects.” *The Journal of environmental education*, 16(1), 4-9.
- Honnold, J. A. and Nelson, L. D. (1979). “Support for Resource Conservation: A Prediction Model.” *Social problems*, 220-234.
- Jickling, B. (2003). “Environmental Education and Environmental Advocacy: Revisited.” *The Journal of Environmental Education*, 34(2), 20-27.
- John Mariadoss, B., Tansuhaj, P., et al. (2011). *Customer Environmental Advocacy: The Construct, Research Propositions and Managerial Implications*. The 18th Annual International Conference Promoting Business Ethics, St. John’s University, New York, NY.
- Kinnear, T. C. and Taylor, J. R. (1973). “The Effect of Ecological Con-

- cern on Brand Perceptions.” *Journal of Marketing Research*, 191-197.
- Lach, D., List, P., et al. (2003). “Advocacy and Credibility of Ecological Scientists in Resource Decisionmaking: A Regional Study.” *BioScience*, 53(2), 170-178.
- Lange, J. I. (1990). “Refusal to Compromise: The Case of Earth First!” *Western Journal of Communication (includes Communication Reports)*, 54(4), 473-494.
- Lansana, F. M. (1992). “Distinguishing Potential Recyclers from Nonrecyclers: A Basis for Developing Recycling Strategies.” *The Journal of Environmental Education*, 23(2), 16-23.
- Laran, J. and Janiszewski, C. (2009). “Behavioral Consistency and Inconsistency in the Resolution of Goal Conflict.” *Journal of Consumer Research*, 35(6) 967-984.
- Liu, D. and Payne, A. (2007). Antecedents and Moderating Influences of Customer Advocacy: A Conceptual Model. ANZMAC Conference, Dunedin.
- Matzler, K., Pichler, E., et al. (2007). Who Is Spreading the Word? The Influence of Extraversion and Openness on Consumer Passion and Evangelism. Winter Educators’ Conference, American Marketing Association, Chicago, IL.
- Mori, I. and Government, S. (2008). Scottish Environmental Attitudes and Behaviours Survey. Colchester, Essex, UK Data Archive.
- Nelson, M. P. and Vucetich, J. A. (2009). “On Advocacy by Environmental Scientists: What, Whether, Why, and How.” *Conservation Biology*, 23(5), 1090-1101.
- Neuman, K. (1986). “Personal Values and Commitment to Energy Conservation.” *Environment and Behavior*, 18(1), 53-74.
- Novic, K. and Sandman, P. M. (1974). “How Use of Mass Media Affects Views on Solutions to Environmental Problems.” *Journalism Quarterly*.

- Olien, C. N., Tichenor, P. J., et al. (1989). *Media and Protest. Environmental activism revisited: The changing nature of communication through organizational public relations, special interest groups and the mass media.* L. Grunig. Troy, OH, North American Association for Environmental Education: 22-39.
- Oravec, C. (1984). "Conservationism Vs. Preservationism: The "Public Interest" in the Hetch Hetchy Controversy." *Quarterly Journal of Speech*, 70(4), 444-458.
- Ouellette, J. A. and Wood, W. (1998). "Habit and Intention in Everyday Life: The Multiple Processes by Which Past Behavior Predicts Future Behavior." *Psychological Bulletin*, 124(1), 54.
- Park, C. W., Macinnis, D., et al. (2009). *Beyond Attitudes: Emotional Attachment, Brand Evangelism, and Brand Equity.* MSI conference on New Art and Science of Branding, San Francisco, CA.
- Paterson, R. J. and Neufeld, R. W. (1987). "Clear Danger: Situational Determinants of the Appraisal of Threat." *Psychological Bulletin*, 101(3), 404.
- Petty, R. E. and Cacioppo, J. T. (1986). "The Elaboration Likelihood Model of Persuasion." *Advances in Experimental Social Psychology*, 19(1), 123-205.
- Pratkanis, A. R. and Greenwald, A. G. (1989). *A Sociocognitive Model of Attitude Structure and Function.* New York, NY, Academic Press.
- Preacher, K. J. and Hayes, A. F. (2008). "Asymptotic and Resampling Strategies for Assessing and Comparing Indirect Effects in Multiple Mediator Models." *Behavior Research Methods*, 40(3), 879-891.
- Preisendörfer, P. (1996). *Umweltbewußtsein in Deutschland. Ergebnisse Einer Repräsentativen Bevölkerungsumfrage 1996.*, Bonn: Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit.
- Press, M. and Arnould, E. J. (2009). "Constraints on Sustainable Energy Consumption: Market System and Public Policy Challenges and Opportunities." *Journal of Public Policy & Marketing*, 28(1), 102-113.

- Ramsey, C. E. and Rickson, R. E. (1976). "Environmental Knowledge and Attitudes." *The Journal of Environmental Education*, 8(1), 10-18.
- Rowlands, I. H., Scott, D., et al. (2003). "Consumers and Green Electricity: Profiling Potential Purchasers." *Business Strategy and The Environment*, 12(1), 36-48.
- Russell, L. and Morgan, R. M. (2007). "Committed Customers as Strategic Marketing Resources." *Journal of Relationship Marketing*, 6(2), 51-65.
- Ryan, R. L. (2005). "Exploring the Effects of Environmental Experience on Attachment to Urban Natural Areas." *Environment and Behavior*, 37(1), 3.
- Ryan, R. L., Kaplan, R., et al. (2001). "Predicting Volunteer Commitment in Environmental Stewardship Programmes." *Journal of Environmental Planning and Management*, 44(5), 629-648.
- Schultz, P., Oskamp, S., et al. (1995). "Who Recycles and When? A Review of Personal and Situational Factors." *Journal of Environmental Psychology*, 15(2), 105-121.
- Sehmel, H. (2002). "Websites and Advocacy Campaigns: Decision Making, Implementation, and Audience in an Environmental Advocacy Group." *Business Communication Quarterly*, 65(2), 100-107.
- Shamir, B. (1991). "Meaning, Self and Motivation in Organizations." *Organization Studies*, 12(3), 405.
- Sirgy, M. J. (2002). "Measuring Corporate Performance by Building on the Stakeholders Model of Business Ethics." *Journal of Business Ethics*, 35(3), 143-162.
- Smith, S. M., Haugtvedt, C. P., et al. (1994). "Attitudes and Recycling: Does the Measurement of Affect Enhance Behavioral Prediction?" *Psychology and Marketing*, 11(4), 359-374.
- Sponsel, L. E. (1987). "Cultural Ecology and Environmental Education." *Journal of Environmental Education*, 19(1), 31-42.

- Steg, L. and Sievers, I. (2000). "Cultural Theory and Individual Perceptions of Environmental Risks." *Environment and Behavior*, 32(2), 250.
- Steg, L. and Vlek, C. (2009). "Encouraging Pro-Environmental Behaviour: An Integrative Review and Research Agenda." *Journal of Environmental Psychology*, 29(3), 309-317.
- Stern, P. C., Dietz, T., et al. (1999). "A Value-Belief-Norm Theory of Support for Social Movements: The Case of Environmentalism." *Human Ecology Review*, 6(2), 81-98.
- Tajfel, H. and Turner, J. C. (1985). *Psychology of Intergroup Relations*. Chicago, IL, Nelson Hall.
- Van Hove, G. and Lievens, F. (2009). "Tapping the Grapevine: A Closer Look at Word-of-Mouth as a Recruitment Source." *Journal of Applied Psychology*, 94(2), 341.
- Vig, N. J. and Kraft, M. E. (1990). *Environmental Policy in the 1990s: Toward a New Agenda*. Washington, DC, Congressional Quarterly Press.
- Vining, J. and Ebreo, A. (1990). "What Makes a Recycler?" *Environment and Behavior*, 22(1), 55.
- Weinstein, N. D. (1980). "Unrealistic Optimism About Future Life Events." *Journal of Personality and Social Psychology*, 39(5), 806.
- Welker, M. A. (2009). "Corporate Security Begins in the Community: Mining, the Corporate Social Responsibility Industry, and Environmental Advocacy in Indonesia." *Cultural Anthropology*, 24(1), 142-179.
- White, S. S. and Schneider, B. (2000). "Climbing the Commitment Ladder: The Role of Expectations Disconfirmation on Customers' Behavioral Intentions." *Journal of Service Research*, 2(3), 240-253.
- Yates, S. M. and Aronson, E. (1983). "A Social Psychological Perspective on Energy Conservation in Residential Buildings." *American Psychologist*, 38(4), 435.

Appendix A. Scale development of Consumer Environmental Advocacy: measurement items

Factors/items	Items Selected at first stage	Final Items
<i>Defending</i>		
1. If someone tries to decry environmentalism, I will tell him/her off unmistakably.		
2. If someone tries to decry sustainability, I will tell him/her off unmistakably.		
3. If someone tries to decry recycling, I will tell him/her off unmistakably.		
4. If someone tries to decry green marketing, I will tell him/her off unmistakably.	√	CEA1
<i>Persuading</i>		
1. I am quite persuasive at convincing others how great environmentalism is.		
2. I am quite persuasive at convincing others how great sustainability is.		
3. I am quite persuasive at convincing others how great recycling is.		
4. I am quite persuasive at convincing others how great green marketing is.	√	CEA2
<i>Selling</i>		
1. I would make a perfect salesperson for environmentalism.		
2. I would make a perfect salesperson for sustainability.		
3. I would make a perfect salesperson for recycling.		
4. I would make a perfect salesperson for green marketing.	√	CEA3
<i>Converting/Proselytizing</i>		
1. I have converted several of my friends to environmentalism.		
2. I have converted several of my friends to sustainability.		
3. I have converted several of my friends to recycling.		
4. I have converted several of my friends to green marketing.	√	CEA4
<i>Convincing</i>		
1. I try to convince as many as possible of environmentalism.		
2. I try to convince as many as possible of sustainability.		
3. I try to convince as many as possible of recycling.		
4. I try to convince as many as possible of green marketing.	√	CEA5
<i>Changing</i>		
1. I want to change how other people think about or understand environmentalism.		
2. I want to change how other people think about or understand sustainability.		
3. I want to change how other people think about or understand recycling.		
4. I want to change how other people think about or understand green marketing.	√	CEA6

Excitedness

1. When I talk about environmentalism, I tend to be excited and emotional.
2. When I talk about sustainability, I tend to be excited and emotional.
3. When I talk about recycling, I tend to be excited and emotional.
4. When I talk about green marketing, I tend to be excited and emotional. ✓ CEA7

Talking

1. I talk about environmentalism whenever I find the opportunity to do so.
2. I talk about sustainability whenever I find the opportunity to do so.
3. I talk about recycling whenever I find the opportunity to do so.
4. I talk about green marketing whenever I find the opportunity to do so. ✓ CEA8

Acting/Behaving

1. I often talk with friends about problems related to the environment.
2. I am a member of an environmental organization.
3. In the past, I have pointed out to someone his or her unecological behavior.
4. I sometimes contribute financially to environmental organizations.

Advocacy

1. I say positive things about green products to other people.
 2. I say positive things about green brands to other people. ✓ CEA9
 3. I say positive things about sustainability products to other people.
 4. I say positive things about sustainability brands to other people.
 5. I say positive things about pro-environmental products to other people.
 6. I say positive things about pro-environmental brands to other people.
 7. I recommend green products to someone who seeks my advice.
 8. I recommend green brands to someone who seeks my advice. ✓ CEA10
 9. I recommend sustainability products to someone who seeks my advice.
 10. I recommend sustainability brands to someone who seeks my advice.
 11. I recommend pro-environmental products to someone who seeks my advice. ✓ CEA11
 12. I recommend pro-environmental brands to someone who seeks my advice.
 13. I encourage friends and relatives to buy green products.
 14. I encourage friends and relatives to buy green brands. ✓ CEA12
 15. I encourage friends and relatives to buy sustainability products.
 16. I encourage friends and relatives to buy sustainability brands.
 17. I encourage friends and relatives to buy pro-environmental products. ✓ CEA13
 18. I encourage friends and relatives to buy pro-environmental brands.
-

Appendix B. Scales, items, AVE, and composite reliability (Study 2)

1. Consumer Environmental Advocacy scales (8 items)

Factors/items	AVE	Composite Reliability
<i>CEA</i>		
1. If someone tries to decry green marketing, I will tell him/her off unmistakably.		
2. I am quite persuasive at convincing others how great green marketing is.		
3. I would make a perfect salesperson for green marketing.		
4. I have converted several of my friends to green marketing.	0.765	0.955
5. I try to convince as many as possible of green marketing.		
6. I want to change how other people think about or understand green marketing.		
7. When I talk about green marketing, I tend to be excited and emotional.		
8. I talk about green marketing whenever I find the opportunity to do so.		

2. Pro-environmental Attitude scales (6 items)

Factors/items	AVE	Composite Reliability
<i>PEA</i> ¹		
1. We are approaching the limit of the number of people the earth can support.		
2. When humans interfere with nature it often produces disastrous consequences.		
3. Humans are severely abusing the environment.		
4. The earth is like a spaceship with very limited room and resources.	0.581	0.854
5. The balance of nature is very delicate and easily upset.		
6. If things continue on their present course, we will soon experience a major ecological catastrophe.		

¹*Scales modified from New Ecological Paradigm, NEP scales (Dunlap, Van Liere et al., 2000)*

3. Pro-environmental Purchasing scale (5 items)

Factors/items	AVE	Composite Reliability
<i>PEP</i> ²		
1. I make a special effort to buy products made with recycled materials.		
2. I make a special effort to buy products that can be recycled locally.		
3. When shopping, I make an effort to look for products that I can reuse.	0.791	0.934
4. I make a special effort to buy pro-environmental product.		
5. When shopping, I make an effort to look for pro-environmental products.		

²*Modified from Recycling Shopping Behavior scales (Biswas et al., 2000)*

4. Issue Salience (IS) scale (3 items)

Factors/items	AVE	Composite Reliability
<i>IS</i> ³		
1. The green areas here are special.	0.747	0.825
2. I am attached to the green areas here.		
3. The natural areas are special to me.		

³*Modified from Issue Salience scale (John Mariadoss, Tansuhaj et al., 2011)*

5. Future Pro-environmental Purchasing Behavior scale (8 items)

Factors/items	AVE	Composite Reliability
<i>FPEB</i>		
1. I will always purchase pro-environmental brands in next 5 years.	0.779	0.959
2. I will always purchase pro-environmental product sin next 5 years.		
3. I am willing to buy a new pro-environmental brand in future.		
4. I am willing to buy a new pro-environmental product in future.		
5. I will consume only pro-environmental brands in future, not others.		
6. I will keep saying positive things about pro-environmental products to other people in future.		
7. I will encourage friends and relatives to purchase pro-environmental products in future.		
8. I will recommend pro-environmental products to others in future.		

