



# Environmental Behavior On and Off the Job: A Configurational Approach

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## Abstract

The current literature on environmental sustainability acknowledges that habits are often shaped in private life and that experiences with environmental activities in a non-work setting positively influence environmental behaviors in the work domain. However, the conditions that lead individuals to behave responsibly at work based on their environmental commitment outside the workplace remain poorly understood. We address this issue by pursuing two objectives. First, we outline archetypes of environmental behavior on and off the job and classify individuals into four profiles: Apathetic, Conformist, Citizen and Enthusiast. Second, we examine a set of organizational and psychological variables that explain the likelihood of behaving in accordance with the principles of an archetype in terms of pro-environmental behavior at work. Our findings show that supervisory support, job self-efficacy and affective commitment increase the likelihood of being green at work but that environmental management practices do not. The results differ according to the profiles identified, allowing a better understanding of employees' commitment to environmental sustainability. We conclude the paper by discussing the theoretical and managerial implications of our findings.

**Keywords** Corporate greening · OCB-E · Private green behaviors · Spillover · Sustainability

## Introduction

Over the past 20 years, systematic efforts have been made to understand the motivations of pro-environmental behaviors. Although most research in this area has focused on the non-work domain (for major reviews and meta-analyses, see Bamberg and Möser 2007; Osbaldiston and Schott 2012; Steg and Vlek 2009), the work domain has recently attracted considerable attention (for reviews, see Lo et al. 2012a, b; Lülfs and Hahn 2014; Norton et al. 2015; Ones and Dilchert 2012).

To date, these two streams of literature have tended to develop separately. However, an overview of the two bodies of research reveals that many pro-environmental behaviors in the workplace are, in principle, relatively similar to those displayed in non-work settings (e.g., recycling waste, saving water and energy and using less-polluting means of transport). In addition, such behaviors often derive from individuals' civic engagement or environmental activities outside the workplace (Boiral 2009; Daily et al. 2009; Lamm et al. 2013; Muster and Schrader 2011; Smith and O'Sullivan 2012). Research has found that environmental actions, skills and habits developed in one domain are not necessarily transferred to another domain (e.g., Barr et al. 2010; Truelove et al. 2014). Pro-environmental behavior is a function of the context in which it occurs and does not simply spill over from the non-work domain to the work domain. Thus, a better understanding of the relationship between environmental behavior on and off the job may be useful for organizations that are seeking to become greener.

Although it has been claimed that in order to achieve environmental sustainability organizations require the engagement of all employees at all levels (Paul and Nilan 2012), not all employees are interested in environmental

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issues (Ciocirlan 2017). Some employees may engage in environmental efforts beyond their job requirements on a voluntary basis because of their pro-environmental beliefs, while others may feel a sense of obligation to adopt pro-environmental behaviors regardless of their beliefs or simply refrain from engaging in environmental behavior in the workplace. This phenomenon points to the existence of profiles based on the degree of employee environmental concern, which may stem partly from experiences, routines and habits acquired outside the workplace and partly from the degree to which an individual complies with organizational environmental objectives.

The purpose of this paper is to address the following question: What can organizations that aim to become greener do to increase the environmental commitment of employees who are comparatively less concerned about environmental issues than those who are more concerned? Our aim is twofold. First, we address the question of environmental profiles from a configurational perspective by bridging the literature on individual pro-environmental behaviors inside and outside the workplace. Previous empirical studies have largely sought to determine how individuals translate their environmental concern from one sphere to another, including consumption and work (e.g., Berger and Kanetkar 1995), home and transport (e.g., Mobley et al. 2010), education and work (e.g., Swaim et al. 2014) and home and work (e.g., Wells et al. 2015). However, the question of environmental profiles has been overlooked in the literature. The configurational approach used in this paper aims to understand the differences between environmental profiles inside and outside the workplace. The approach is consistent with previous work in the field of environmental sustainability devoted to understanding the degree to which individuals feel concerned about environmental issues in their private lives (Stern 2000) and in a work setting (Ciocirlan 2017) and the distinction between discretionary and mandated behaviors inside (Bissing-Olson et al. 2013; Norton et al. 2015) and outside the workplace (Mesmer-Magnus et al. 2012; Steg and Vlek 2009).

Second, the study explores key differentiating variables that predict the likelihood that individuals with high or low environmental concerns in their private life will exhibit pro-environmental behavior on the job. Muster and Schrader (2011) contended that individuals who have pro-environmental habits in their private lives tend to help their companies achieve environmental sustainability. This contention has been supported in recent research (e.g., Manika et al. 2015). However, we contend that employees may face “mental boundaries” (Ashforth et al. 2000) that may lead them to refrain from engaging in responsible environmental behavior in the workplace. Considering employees’ environmental profiles may refine our understanding of how employees may be encouraged because most of the existing research in the

area assumes that employees base their efforts on a favorable environmental predisposition. The present research extends the literature on environmental sustainability by investigating a set of organizational and psychological variables that are likely to motivate employees to behave responsibly, depending on their environmental profiles.

The remainder of the paper is organized as follows. First, we develop the theoretical background that leads to the four main configurations of environmental behavior. Next, the research framework and hypotheses are presented. Then, we detail the method, analytical procedure and results of the study. Finally, we discuss the implications of the findings and suggest directions for future research.

## Literature and Theoretical Framework

### Outlining the Configurational Approach

This section describes the four main configurations stemming from the combination of levels of individuals’ environmentally responsible behavior in and out of the workplace. This configurational approach is depicted in Fig. 1. In the remainder of the paper, we use the terms private green behaviors (PGB) and organizational citizenship behaviors for the environment (OCB-E). For clarity, PGB refers in this study to behavior “that harms the natural environment as less as possible, or even benefits the environment” (Steg and Vlek 2009, p. 309), while OCB-E reflects “discretionary acts by employees within the organisation not rewarded or required that are directed toward environmental improvement” (Daily et al. 2009, p. 246).

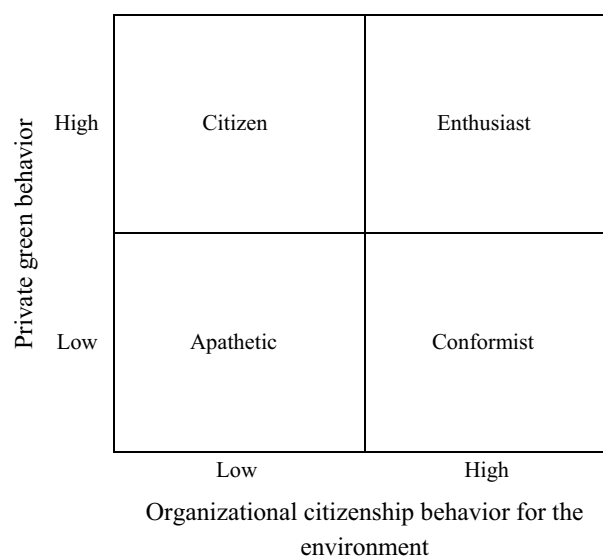


Fig. 1 Configurations of environmental behavior on and off the job

We partitioned PGB and OCB-E into high and low categories and combined them into four cells: (1) high PGB and high OCB-E; (2) low PGB and high OCB-E; (3) high PGB and low OCB-E; and (4) low PGB and low OCB-E. We termed them *Enthusiast*, *Conformist*, *Citizen* and *Apathetic* profiles, respectively. The profiles (i.e., configurations) can be described as follows:

### Enthusiasts

The first cell contains individuals who demonstrate a high level of OCB-E and a high level of PGB. This profile corresponds to individuals who are *enthusiastic* about the environment. Caring for the environment is important to these individuals. Van Velsor and Quinn (2012) noted that many leaders “exhibit environmentally responsible behaviors at work and at home (recycling, doing more with less, etc.) and are seen at work as being consistent in their words and in their own decisions and deeds” (p. 256). Enthusiasts are environmentally responsive and proactive in the sense that they tend to put environmental values ahead of their own interests. In their private lives, their attachment and connectedness to nature contribute to shaping their environmental behaviors, such as water and power saving, waste reduction and ecological transportation (e.g., Gosling and Williams 2010; Kiesling and Manning 2010; Scannell and Gifford 2010). In the workplace, they engage in OCB-E that fall into—but are not limited to—categories of influencing others and taking initiatives (Boiral and Paillé 2012). Interestingly, prior research indicates that employees who recycled the most at work were also those who recycled the most at home; however, recycling rates were much lower at work than at home (Lee et al. 1995).

### Conformists

The second cell contains individuals who exhibit a low level of PGB and a high level of OCB-E; these individuals are termed *Conformists*. Conformists align themselves with environmental values that are widespread in the workplace and behave in a way that conforms to the environmental policies of their organizations. Prior research has provided findings that support this possibility. For example, in a study conducted in the context of a waste management program, Berger and Kanetkar (1995) reported that “persons who are highly supportive of environmental protection and have had the opportunity to participate personally in environmentally conscious behaviors are likely to actualize their attitudes” (p. 212). More recently, Andersson et al. (2005) noted that for pragmatic reasons arising from the employment relationship, supervisors of a multinational corporation were prone to set their environmental beliefs aside and align their behaviors with the goals and expectations of the organization. These

studies suggest that perceived obstacles may be overcome when persons are encouraged to transfer their habits, skills, abilities and knowledge from one sphere to another.

### Citizens

The third cell contains individuals termed *Citizens* who exhibit a high level of PGB and a low level of OCB-E. This cell may refer to the profile described by Fineman (1997). In a study undertaken in four major polluting industries, Fineman reported that when at home certain individuals “would do a bit of recycling and respond sympathetically to their children’s questions about an environmentally degraded world. However, their beliefs (whether moderate or radical) and their moral agency were suspended when they slipped into their work roles” (p. 243). Subsequent research found similar behavioral patterns. Lo et al. (2012b) showed that people do not necessarily continue to save energy in the office. More recently, Wells et al. (2016) reported that while employees transfer their positive environmental attitudes from home to work, they do not engage in the same environmental behaviors at work (examined in terms of saving water and energy) as they do at home. These previous studies suggest that depending on the context, the lack of spillover effects may be due to personal barriers such as having low external control over what can be done at work to preserve the natural environment (e.g., Plank 2011), having no direct financial interest in saving energy (e.g., Carrico and Riemer 2011) or facing internal obstacles such as a lack of support or concern from management (e.g., Zibarras and Ballinger 2011). Citizens are individuals who are concerned about the environment but may face difficulties in transferring their environmental habits to the workplace.

### Apathetics

Finally, the fourth cell contains individuals who exhibit low levels of both PGB and OCB-E. This profile includes individuals with little concern for environmental issues and are *Apathetic*. The literature provides many reasons to explain why individuals are not engaged in PGB. In this regard, Gifford (2011) categorized a wide range of psychological barriers affecting individual decisions to engage in environmentally responsible behavior, including ideologies and limited cognition. Based on a literature review on pro-environmental behavior in the private sphere by Steg and Vlek (2009), we posit that an *Apathetic* person is likely to express low moral concern, to lack concern for social approval when not engaging in ecological efforts and to fail to search for solutions when facilities are lacking. An individual’s lack of environmental values and the absence of organizational incentives in this area may explain why individuals are passive about environmental issues.

In summary, enthusiastic and Conformist employees tend to engage in environmental efforts in the workplace, whereas Citizen and Apathetic employees tend to refrain from engaging in such efforts.

## Hypotheses

In line with the research question, which seeks to understand how organizations can target employees depending on their previous environmental concern (or lack thereof), we developed our hypotheses based on factors related to, and substantiated by, border theory (Clark 2000). This framework helps to grasp how organizations can support employees' involvement in environmental sustainability, including those who tend to refrain from doing so, depending on their level of experience with PGB. Though applied in many fields of research, including ethnology, psychology and geography (Brunet-Jailly 2005), border theory remains surprisingly underused in environmental sustainability. Briefly, Clark (2000) introduced border theory and developed four associated core concepts—domains, borders, border-crossers and border-keepers—to explain how individuals face demands from the various domains in which they operate.

Domains and borders are intertwined. According to Clark (2000), domains are circumscribed by more or less permeable psychological borders (e.g., thinking patterns). Ashforth et al. (2000) claimed that the difficulty of crossing a border tends to decrease when the line between domains becomes more blurred. Given that domains generally convey distinctive norms, expectations and identities (Ashforth et al. 2000), borders act as signals to individuals about what constitutes appropriate behavior in a given situation (Clark, 2000). Border-crossers and border-keepers play central roles in this regard. Border-crossers are individuals who switch easily, frequently and regularly from one domain to another, while border-keepers are individuals with the capacity to influence others to behave in accordance with the requirements of the domain (Clark 2000).

Role play by border-crossers and border-keepers is crucial because individuals typically tend to minimize the efforts required to move between domains and roles (Ashforth et al. 2000). Job duties are performed in different places and at different times than family responsibilities and tend to differ in terms of valued ends and means. Furthermore, because employees need to contribute productive work by fulfilling role-related tasks, the work domain allows less self-determination than the private domain and encourages certain ways of thinking, acting and behaving (Clark 2000). In this research, we use border theory and related premises as a metaphor. We also draw on the framework of social exchange theory (SET) to express the extent to which organizational and psychological factors may act as facilitators helping less environmentally concerned employees to

cross mental barriers, allowing them to behave like more concerned employees.

Daily et al. (2009) argued that “the organization needs to engender employees with high environmental concern, leveraging individual concern into workplace behavior” (p. 252). Although border theory contributes to explaining how individuals handle the passage from one domain to another psychologically, SET provides an appropriate theoretical framework for describing employees' environmental behaviors in an organizational context. According to the classic definition by Blau (1964), social exchanges refer to “the voluntary actions of individuals that are motivated by the returns they are expected to bring and typically do in fact bring from others” (p. 91). Well established in many research fields (Cropanzano and Mitchell 2005), SET has recently emerged in the environmental literature as a framework of choice (e.g., Norton et al. 2015). The SET framework investigates why and how partners exchange benefits that help build, maintain and strengthen good relationships over time (Tekleab and Chiaburu 2011). A key premise is that employees who experience good relationships with an organization and its members seek to reciprocate fair treatment by engaging in actions and efforts that go beyond their job requirements. Although based on different foundations, research in the environmental area has shown the key roles of supervisory support, environmental management practices, personal environmental beliefs, job self-efficacy and affective commitment to the organization (hereafter referred to as affective commitment) in predicting employee engagement with environmental sustainability (e.g., Lamm et al. 2013; Paillé et al. 2013; Raineri and Paillé 2016; Temminck et al. 2015; Walls and Hoffman 2013).

To predict the likelihood that less environmentally committed employees will behave like more concerned employees, we developed our hypotheses based on factors related to border theory and substantiated by SET.

### Supervisory Support Behavior Toward the Environment

The previous literature on environmental sustainability has stressed the importance of support in predicting OCB-E in an organizational context. According to the literature, employees may receive support from different sources, including the organization (Lamm et al. 2015; Manika et al. 2015; Temminck et al. 2015), co-workers (Paillé et al. 2016) and their supervisor (e.g., Cantor et al. 2015; Ramus and Steger 2000; Raineri and Paillé 2016; Robertson and Barling 2013). Supervisory support has been reported as having a greater influence than organizational support on employees' green behavior (Ramus and Steger 2000). In the context of environmental sustainability, perceived supervisory support refers to “the extent to which an employee believes that his or her supervisor cares about environmental issues

and provides the resources needed to engage in workplace environmental activities” (Cantor et al. 2015, p. 703). The supervisor strongly contributes to demonstrating that the environment is a value-laden issue by providing adequate resources to subordinates (Ramus 2001). Research suggests that although their environmental initiatives may be voluntary in nature, employees expect such efforts to be acknowledged and considered in the workplace (Daily et al. 2009). In addition, when they are environmentally concerned, employees tend to pay attention to the words and actions of their supervisors and to behave accordingly and on a discretionary basis (Robertson and Barling 2013). Supervisors are common border-keepers at work (Clark 2000). Consistent with this premise, Graves and Sarkis (2011) argued that managers have the capacity to help employees who are Apathetic about environmental sustainability to adopt pro-environmental values and reach a level of compliance similar to that of employees who hold strong environmental values (i.e., in this research, Citizens). In summary, we hypothesize that

**H1** Supervisory support increases the likelihood that employees who are less environmentally committed (Apathetics and Citizens) will behave like employees who are more environmentally committed (Enthusiasts and Conformists).

### Environmental Management Practices (EMPs)

Paillé et al. (2013) defined EMPs as “formal practices aimed at integrating environmental concerns in organizational management and at providing stakeholders with tangible evidence of the environmental commitment of the organization” (p. 3554). The primary purpose of environmental management practices is to standardize organizational processes and employee behaviors relating to environmental sustainability (Ramus and Killmer 2007), which suggests that employees are more likely to show interest, and participate, in environmental activities when their organization sends a clear signal to members about its commitment to protecting the natural environment. Thus, EMPs communicate important cues to employees and create a supportive atmosphere, expressing organizational encouragement for environmentally focused activities (Cantor et al. 2012). Although their primary purpose is to standardize organizational processes and employee behaviors, EMPs convey subjective norms that enhance the value attributed to environmental initiatives and thereby increase individuals’ motivation to engage in OCB-E (Ramus and Killmer 2007). This contention has been supported in subsequent research (Paillé et al. 2013). Interestingly, social norms related to environmental management practices have been found to have a greater influence when employees have weak personal environmental norms (Chou 2014).

Border theory suggests that organizational policies set conditions for the balance between domains (Clark, 2000). Consistent with this premise, EMPs may be seen as facilitators because they are organizational policies dedicated to achieving corporate greening through employee participation (Paillé et al. 2013). Accordingly, we hypothesize that

**H2** Environmental management practices increase the likelihood that employees who are less environmentally committed (Apathetics and Citizens) will behave like employees who are more environmentally committed (Enthusiasts and Conformists).

### Personal Environmental Beliefs

Personal environmental beliefs are influenced by personal values and are an expression of concern for the adverse effects of human activities on the natural environment (Stern et al. 1995, 1999). Research has found that environmental beliefs influence PGB (Kollmuss and Agyeman 2002; Stern et al. 1995) and OCB-E (Bissing-Olson et al. 2013; Lamm et al. 2013; Temminck et al. 2015) and that the relationships between environmental beliefs and behavior are generally not very strong in a private context (Steg and Vlek 2009). In a review of research on the work domain, Lo et al. (2012a) reached the same conclusion, reporting that compared to individual attitudes, “the findings for beliefs were far less consistent” (p. 2946)—suggesting that ecological worldviews are not automatically translated into generalized environmental ethics. However, personal environmental beliefs may lead individuals to behave responsibly if they perceive that they can make a difference in activities with a strong environmental purpose (Ciocirlan 2017). Border theory researchers have suggested that ease of transition between domains is a function of segmentation level (Ashforth et al. 2000). According to Ashforth et al. (2000), high segmentation between domains increases the difficulty of crossing the border, while low segmentation tends to facilitate the transition. As a result, we may assume that the spillover of personal environmental beliefs greatly depends on the employee’s degree of segmentation regarding environmental concerns. Research supports this possibility and indicates that personal environmental beliefs enable the continuity of ecological efforts (e.g., recycling e-waste) between domains, including the household and work or school (Saphores et al. 2012). Thus,

**H3** Personal environmental beliefs increase the likelihood that employees who are less environmentally committed (Apathetics and Citizens) will behave like employees who are more environmentally committed (Enthusiasts and Conformists).

## Job Self-Efficacy

Self-efficacy is defined as the confidence individuals have in their ability to plan and execute a course of action and accomplish a task or solve a problem (Bandura 1994). Examination of self-efficacy is important because of its close relationship to self-esteem, locus of control and pro-social development. Individuals who exhibit high levels of confidence and control in terms of their abilities to execute and accomplish tasks are likely to participate in pro-social behaviors, i.e., behaviors intended to help or benefit an individual or group of people (Eisenberg and Mussen 1989). According to Clark (2000), flexibility fosters porosity between domains. The individual capacity to perform tasks with strong decisional latitude is consistent with the principle of flexibility proposed by border theory. In addition, previous research has shown that job self-efficacy facilitates the emergence of OCB-E based on accumulated prior experience from sustainable behaviors performed in a work context (Lo et al. 2012a). This finding is consistent with border theory (Clark 2000), which posits that individual perceptions of the permeability of borders tend to facilitate the spillover effect between domains. Based on the above, we hypothesize that

**H4** Job efficacy increases the likelihood that employees who are less environmentally committed (Apathetics and Citizens) will behave like employees who are more environmentally committed (Enthusiasts and Conformists).

## Affective Commitment

Employee commitment is defined by Meyer and Herscovitch (2001) as “a force that binds an individual to a course of actions” (p. 301) and is generally associated with a positive emotional attachment to, and a higher involvement in, the social life of the organization. In previous research, employee commitment has often been associated with self-efficacy in refining the prediction of work-related outcomes, including pro-social organizational behavior (e.g., Walumbwa et al. 2010). In this regard, according to Walumbwa et al. (2010), commitment and self-efficacy are viewed as “complementary attitudes” (p. 519) because, while self-efficacy reflects the “employee’s appraisal of being able to accomplish a given task” (p. 519), employee commitment relates to the individual’s feelings toward the organization. Research has demonstrated that affective commitment and self-efficacy are related but distinct constructs (e.g., Rafferty and Griffin 2004). Daily et al. (2009) argued that affective commitment is a key factor in sustainability and posited that “to the extent that individuals are willing to put forth effort on the organization’s behalf and accept the organization’s goals and values, they will direct their efforts in ways that they perceive

will accomplish things that are valued by the organization” (p. 248). The environmental literature reports recurrent findings indicating that organizational commitment positively influences OCB-E (e.g., Lamm et al. 2013; Paillé and Boiral 2013; Temminck et al. 2015).

Border theory states that balance is facilitated when individuals identify domains with which they nurture strong ties (Clark 2000). Because affective commitment stems from identification with the norms and values internalized by employees (Klein et al. 2012), affective commitment plays a role in an individual’s decision to take actions that cross organizational borders. Research in political science has found that committed employees are more likely to use their civic engagement as a positive work input and eventually transfer their citizenship behaviors from the non-work domain to the organizational context (Cohen and Vigoda 2000). Therefore, we hypothesize that

**H5** Affective commitment increases the likelihood that employees who are less environmentally committed (Apathetics and Citizens) will behave like employees who are more environmentally committed (Enthusiasts and Conformists).

## Method and Procedure

### Participants

Approximately 3200 employees selected from the alumni database of a French business school offering bachelor’s and master’s programs were invited to take part in the study. Participants received an email containing a link to a web-based survey with an introductory statement on ethical considerations, including confidentiality, voluntary participation and informed consent. We received a total of 665 questionnaires, for a response rate of 21%. Of these, 134 were excluded because of missing data, reducing the sample to 531 participants. Most of the respondents were 40 years of age or younger. A high proportion of the respondents held a master’s degree, the standard diploma required in France to enter the white-collar job market. At the time of the survey, all participants were in employment. Table 1 shows the characteristics of the sample by OCB-E and PGB configuration.

### Measurements

For multistage translation-back-translation, we followed the procedure recommended by Brislin (1980). Briefly, the procedure recommends using two interpreters. In this study, the first interpreter translated the items from English to French, while the second interpreter translated the items from French to English to check for semantic differences.

**Table 1** Characteristics of the sample broken down by configuration

	Apathetic <i>N</i> = 189 (%)	Conformist <i>N</i> = 79 (%)	Citizen <i>N</i> = 78 (%)	Enthusiast <i>N</i> = 185 (%)	Total <i>N</i> = 531 (%)
<i>Gender</i>					
Male	34	52	31	35	37
Female	66	48	69	65	63
<i>Age (years)</i>					
30 or less	63	62	63	57	61
31–40	32	32	31	32	32
41–50	3	5	6	9	6
51–60	2	1	0	2	1
<i>Education</i>					
Bachelor's degree	19	20	13	15	17
Master's degree	81	80	87	85	83
<i>Job level</i>					
Non-management	21	24	24	21	22
Lower management	44	22	31	38	37
Middle management	35	54	45	41	41
<i>Sector</i>					
Service	68	63	71	79	71
Manufacturing	32	37	29	21	29
<i>Organization size (number of employees)</i>					
10 or less	3	13	3	9	7
11–50	13	11	17	17	15
51–250	24	19	26	20	22
251–500	13	10	14	17	14
Over 500	47	47	41	37	43

### Operationalization of the Dependent Variable

Consistent with the purpose of the study, we operationalized the environmental behavior-dependent variable using two indices: an index for PGB and an index for OCB-E.

The first index mixed two scales to measure PGB (conservation behavior was measured using five items from the scale developed by Korfiatis et al. 2004; green consumerism was measured using a four-item scale developed by Stern et al. 1999). For each statement, respondents were asked to rate the frequency of their behavior on a 6-point scale ranging from 1 to 6 with 1 = *never*, 2 = *rarely*, 3 = *sometimes*, 4 = *quite often*, 5 = *very often* and 6 = *always*. The nine items forming the index of PGB had an overall reliability coefficient of .83.

The second index capturing OCB-E was based on the short version validated by Roy et al. (2013) stemming from statements developed by Boiral and Paillé (2012) to measure organizational citizenship behaviors for the environment. For each statement, respondents were asked to indicate their level of agreement using an 11-point scale ranging from 0 = *no absolutely not* to 10 = *yes absolutely*. The Cronbach's alpha for this measure was .94.

To reflect the PGB and OCB-E levels (i.e., high vs. low), we created a composite variable for each of the indices by averaging the responses for the nine-item and seven-item indices, respectively.

### Independent Variables

**Organizational Context Factors** Environmental management practices were measured using a list of five statements created by Ramus and Steger (2000). Supervisory support behavior toward the environment was measured using five supervisory behaviors identified by Ramus (2001) as being of value to employees. The responses to each statement on the two scales were scored from 1 = *strongly disagree* to 5 = *strongly agree*. The Cronbach's alpha for these measures was .89 and .94.

**Psychological Factors** Personal environmental beliefs were measured using five items developed by Dunlap et al. (2000) and validated by Stern et al. (1999). Job self-efficacy was measured using four items developed by Jones (1986). Affective commitment was measured using the scale of Vandenberghe et al. (2004). The responses to each statement on

the three scales were scored from 1 = *strongly disagree* to 6 = *strongly agree*. The Cronbach's alpha for these measures was .72, .67 (although below the .70 standard, this remains interpretable given the sample size; see Lance et al. 2006) and .83, respectively.

The items measuring environmental management practices, supervisory support, personal environmental beliefs, job self-efficacy and affective commitment to the organization are presented in "Appendix".

### Control Variables

Previous research suggests potential links between demographic characteristics and PGB (e.g., Klein et al. 2012) and OCB-E (e.g., Lamm et al. 2013). Therefore, we controlled for gender (1 = male, 2 = female), age (1 = 30 years or under, 2 = 31–40 years, 3 = 41–50 years, 4 = 51–60 years, 5 = 61 years or over), education (1 = bachelor's degree, 2 = master's degree), job level (1 = non-management, 2 = lower management, 3 = middle management) and industry sector (1 = service sector, 2 = manufacturing sector).

### Analytical Procedure

Following previous studies in other fields of business research (e.g., Cravens et al. 2004; Kumar et al. 2010), a median split procedure was used to create the four configurations. The medians of the two indices were calculated, and values of 4.00 (PGB) and 4.43 (OCB-E) were obtained. The four configurations of environmental behavior were determined based on the following combination of the two indices:

- Apathetic: PGB index  $\leq 4.00$  and OCB-E index  $\leq 4.43$ .
- Conformist: PGB index  $\leq 4.00$  and OCB-E index  $> 4.43$ .
- Citizen: PGB index  $> 4.00$  and OCB-E index  $\leq 4.43$ .
- Enthusiast: PGB index  $> 4.00$  and OCB-E index  $> 4.43$ .

The four configurations offer the possibility of testing more than four models. However, the focus of this research was on examining the key organizational and psychological variables that are likely to motivate individuals to behave pro-environmentally in the workplace depending on their environmental profile. Thus, a binary logistic regression was performed for each of the four models, explaining the likelihood of behaving in a pro-environmental fashion at work in terms of OCB-E.

$$\begin{aligned} \text{Log} \left[ \frac{P_i}{1 - P_i} \right] = & \beta_0 + \beta_1 \text{GENDER} + \beta_2 \text{AGE} \\ & + \beta_3 \text{EDUCATION} + \beta_4 \text{JOBLEVEL} \\ & + \beta_5 \text{SECTOR} + \beta_6 \text{SUPPORT} \\ & + \beta_7 \text{EMP} + \beta_8 \text{ENV} + \beta_9 \text{SELF - EFF} \\ & + \beta_{10} \text{AC - ORG} + \varepsilon \end{aligned}$$

where  $\beta_i$  ( $i = 0, \dots, 10$ ) are the coefficients and  $\varepsilon$  is the random error.

$\text{Log} [P_i/(1 - P_i)]$  is the logarithm of the ratio of the probability that employees who have a less committed profile behave like those with a more committed profile. The binary logistic regression results are interpreted for the set of predictors with values given by the coefficient  $\beta$ , which indicates their respective weight and direction and their associated odds ratios (i.e.,  $\text{Exp}(\beta)$ ). According to Field (2009), "if the value is greater than 1 then it indicates that as the predictor increases, the odds of the outcome occurring increase. Conversely, a value less than 1 indicates that as the predictor increases, the odds of the outcome occurring decrease" (p. 271).

## Results

Table 2 reports the descriptive statistics of the study. Table 3 summarizes the results of the binary logistic regression analyses. The explanatory power of the three logit models is good as the percentage of correct prediction is greater than 70% for each model. Similarly, the Nagelkerke pseudo  $R^2$  are adequate (i.e., all greater than .20; for details, see Menard 2002) for models with categorical-dependent variables.

Consistent with the aims of this research, the models examined key differentiating variables predicting the likelihood that individuals with high or low levels of environmental concern in their private lives will exhibit pro-environmental behavior on the job.

Model 1 explored the likelihood that Apathetics will behave like Conformists. The results reported in Table 3 indicate that supervisory support for environmental behavior (Coeff.  $\beta = .61$ ,  $p < .001$ ; odds ratio = 1.84) and affective commitment (Coeff.  $\beta = .47$ ,  $p < .01$ ; odds ratio = 1.60) positively and significantly increased the likelihood that Apathetics will behave like Conformists. The results also indicated that environmental practices, environmental beliefs and self-efficacy were not significantly related to this likelihood. Finally, gender had a diminishing, though marginal, effect (Coeff.  $\beta = -.67$ ,  $p < .05$ ; odds ratio = .51).

Model 2 explored the likelihood that Citizens will behave like Enthusiasts. Table 3 shows that supervisory support (Coeff.  $\beta = .93$ ,  $p < .001$ ; odds ratio = 2.61) and self-efficacy (Coeff.  $\beta = .53$ ,  $p < .01$ ; odds ratio = 1.69) positively and significantly increased the likelihood that Citizens will behave like Enthusiasts. However, environmental management practices, environmental beliefs and affective commitment had no effect (i.e., were not significant). In addition, this likelihood is negatively impacted by the activity sector, although the effect should be considered marginal (Coeff.  $\beta = -.77$ ,  $p < .05$ ; odds ratio = .46).



**Table 2** Summary statistics and zero-order correlations

Variable	Min–max	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12
1. Gender	1–2	1.63	0.48	–											
2. Age	1–4	1.48	0.67	–.15	–										
3. Education	1–2	1.83	0.38	–.01	–.10	–									
4. Job level	1–3	2.19	0.77	–.19	.33	.26	–								
5. Industry sector	1–2	1.29	0.45	–.07	.04	.23	.26	–							
6. Environmental practices	1–5	3.06	1.15	–.10	.00	.09	.06	.25	(.89)						
7. Supervisory support	1–5	2.49	1.16	–.04	–.04	.04	–.03	.09	.58	(.94)					
8. Environmental beliefs	1–6	4.95	0.66	.06	.04	–.02	.05	–.09	–.03	.00	(.72)				
9. Job self-efficacy	1–6	3.84	0.83	.12	.08	–.04	–.06	–.08	.01	–.15	.03	(.67)			
10. Affective commitment	1–6	4.09	0.91	–.12	.02	.02	.05	.04	.30	.43	.04	–.20	(.83)		
11. OCB-E	0–10	4.47	2.51	–.04	.07	.04	.03	–.05	.18	.47	.21	.00	.22	(.94)	
12. Private green behavior	1–6	4.03	0.74	.10	.05	.04	.02	–.14	.08	.27	.32	.08	.07	.56	(.83)

*N* = 531 for all variables. Correlations larger than |.12| are significant at *p* < .01 and those larger than |.09|. at *p* < .05. Cronbach’s alphas appear in parentheses on the diagonal

OCB-E Organizational citizenship behavior for the environment

**Table 3** Results of logit models

Variables	From Apathetic to Conformist (Model 1)		From Citizen to Enthusiast (Model 2)		From Apathetic to Enthusiast (Model 3)		From Citizen to Conformist (Model 4)	
	<i>b</i>	Exp( <i>b</i> )	<i>b</i>	Exp( <i>b</i> )	<i>b</i>	Exp( <i>b</i> )	<i>b</i>	Exp( <i>b</i> )
Constant	– 3.03	0.05	– 4.34	0.01	– 8.43	0.00	1.18	3.25
<i>Control variables</i>								
Gender (1 = male, 2 = female)	– 0.67*	0.51	– 0.27	0.76	0.20	1.22	– 0.93**	0.40
AGE	– 0.06	0.95	0.27	1.31	0.51**	1.67	– 0.09	0.92
Education	– 0.24	0.79	– 0.10	0.91	0.64*	1.90	– 1.05*	0.35
Job level	0.21	1.24	0.16	1.18	0.05	1.05	0.24	1.27
Sector (1 = service, 2 = mfg)	– 0.02	0.98	– 0.77*	0.46	– 0.77**	0.46	0.14	1.15
<i>Independent variables</i>								
Organizational context factors								
SUPPORT	0.61***	1.84	0.96***	2.61	1.24***	3.46	0.36	1.43
EMP	– 0.12	0.89	– 0.25	0.78	– 0.30*	0.74	– 0.08	0.93
Psychological factors								
PENVB	0.16	1.18	0.39	1.47	0.76***	2.15	– 0.35	0.70
SELF-EFF	– 0.09	0.91	0.53**	1.69	0.28*	1.32	0.14	1.15
AC-ORG	0.47**	1.60	0.25	1.28	– 0.03	0.97	0.84***	2.31
<i>N</i>	268		263		374		157	
$\chi^2$ ( <i>df</i> )	41.04 (11)		50.54 (11)		129.46 (11)		34.96 (11)	
Nagelkerke <i>R</i> <sup>2</sup> (pseudo <i>R</i> <sup>2</sup> )	0.20		0.25		0.39		0.27	
Correct predictions	74.3%		72.2%		74.1%		67.5%	

SUPPORT, supervisory support behavior toward the environment; EMP, environmental management practices; PENVB, personal environmental beliefs; SELF-EFF, job self-efficacy; AC-ORG, affective commitment to the organization. Exp(*b*) is the factor change in the odds of the dependent variable due to a one-unit increase in the specific independent variable. Statistical tests are based on one-tailed tests

\**p* < .05

\*\**p* < .01

\*\*\**p* < .001

Model 3 explored the likelihood that Apathetics will behave like Enthusiasts. The results in Table 3 show that supervisory support (Coeff.  $\beta = 1.24$ ,  $p < .001$ ; odds ratio = 3.46), personal environmental beliefs (Coeff.  $\beta = .76$ ,  $p < .01$ ; odds ratio = 2.15) and self-efficacy (Coeff.  $\beta = .28$ ,  $p < .05$ ; odds ratio = 1.32) positively and significantly increased this likelihood. In addition, environmental management practices significantly and negatively explained this likelihood (Coeff.  $\beta = -.30$ ,  $p < .05$ ; odds ratio = .74), whereas affective commitment had no effect. Age contributed positively to increasing this likelihood (Coeff.  $\beta = .51$ ,  $p < .01$ ; odds ratio = 1.76), while the activity sector marginally decreased it (Coeff.  $\beta = -.77$ ,  $p < .05$ ; odds ratio = .46).

Finally, Model 4 explored the likelihood that Citizens will behave like Conformists. According to the findings, whereas affective commitment positively and significantly explained this likelihood (Coeff.  $\beta = .84$ ,  $p < .01$ ; odds ratio = 2.31), no effect was found for supervisory support, environmental management practices, self-efficacy or personal environmental beliefs. In addition, gender (Coeff.  $\beta = -.93$ ,  $p < .01$ ; odds ratio = .40) and education (Coeff.  $\beta = -1.05$ ,  $p < .05$ ; odds ratio = .35) marginally decreased this likelihood.

In summary, our research provides support for H1, H3, H4 and H5. As expected, we found that supervisory support, personal environmental beliefs, self-efficacy and affective commitment increased the likelihood that employees displaying less environmental concern (i.e., Apathetics and Citizens) will behave like those who are more concerned (i.e., Enthusiasts and Conformists). However, contrary to expectations, we found no support for H2 because environmental management practices had no effect (Models 1, 2 and 4) or a marginal negative effect (Model 3). Figure 2 depicts the significant results.

## Discussion

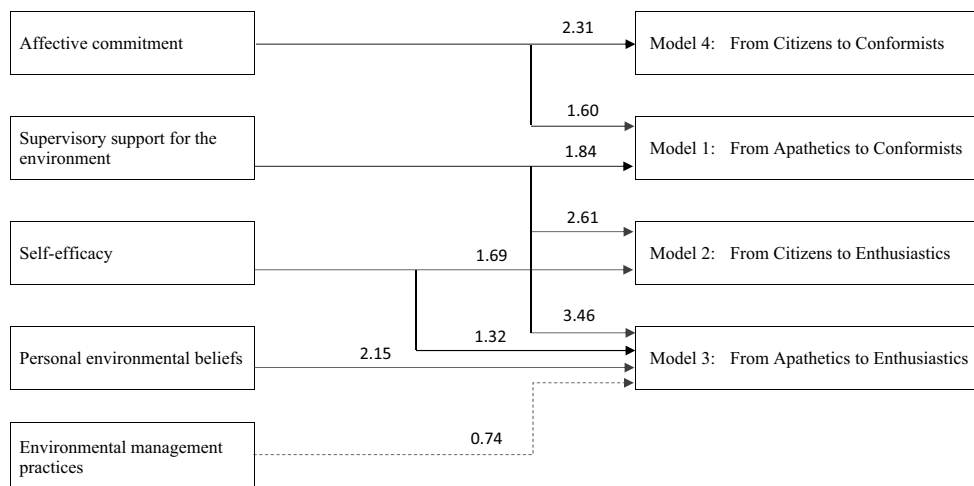
### Findings

Returning to the research question, our aim was to detect factors that are likely to encourage employees who are less environmentally concerned to behave like those who show greater concern for the environment. Here we discuss our results for the organizational factors (supervisory support and EMPs) and the psychological factors (personal environmental beliefs, self-efficacy and affective commitment).

As predicted by H1, supervisory support plays a pivotal role in predicting OCB-E. According to our results, supervisory support helps Apathetics behave like Conformists (Model 1) and Enthusiasts (Model 3) and helps Citizens behave like Enthusiasts (Model 2). Because supervisory support is implied in most of the models (except Model 4), our results confirm previous findings on the importance of management commitment and leadership for employees' environmental initiatives (e.g., Daily et al. 2009; Raineri and Paillé 2016; Ramus and Steger 2000; Robertson and Barling 2013). However, our research goes a step further by showing that supervisory support does not merely "[preach] to the converted" and is vital to encouraging employees who are less concerned with environmental sustainability in the work context.

Contrary to H2, environmental management practices were not found to positively relate to OCB-E. This result was unexpected since environmental management practices are usually viewed as a means of developing an atmosphere of support for the environment (e.g., Chou 2014; Paillé et al. 2013). This finding could be explained by the fact that environmental practices are poorly integrated. The decoupling between official corporate practices and actual environmental activities inside the organization

**Fig. 2** Summary of results. *Note* Dashed line indicates nonsignificant effect. Values represent the odds ratio



has been highlighted in the corporate greening literature (e.g., Christmann and Taylor 2006). Research using neo-institutional theory has shown that organizations tend to implement environmental management practices primarily to improve their social legitimacy and respond to institutional pressures. As a result, such practices are not necessarily well integrated in the workplace and employees can perceive a discrepancy between intentions and actions as a form of organizational cynicism that may serve to undermine their engagement in OCB-E. The discretionary nature of OCB-E could also account for the lack of a positive relationship with environmental management practices. Alternatively, it is possible that employees with strong environmental beliefs may be more motivated to perform OCB-E when organizational activities in this area are relatively weak. This compensation phenomenon highlights the negative impact of environmental management practices, which explains why employees in the Apathetic configuration do not behave like employees in the Enthusiast configuration.

As for psychological factors, our research supports H3, H4 and H5, which imply personal environmental beliefs, self-efficacy and affective commitment, respectively. As expected, personal environmental beliefs lead employees who are less concerned about environmental issues to act like more concerned employees. However, according to our results, personal environmental beliefs play a predictive role in only one model (i.e., Model 3) relating to the likelihood that Apathetics (low in PGB and OCB-E) behave like Enthusiasts (high in PGB and OCB-E). Our findings are consistent with prior research indicating that personal environmental beliefs tend to facilitate the transfer of individual ecological efforts from household to organization (Saphores et al. 2012). In addition to the findings of Saphores et al. (2012), in which the employees surveyed reported a high level of belief, our research adds to the environmental literature by indicating that personal environmental beliefs may be leveraged even if employees tend to display little commitment to such beliefs.

As predicted by H4, job self-efficacy increases the probability that employees with a low level of environmental concern will behave like employees demonstrating a high level of concern. Based on the odds ratios, self-efficacy has a stronger predictive effect for Citizens (odds ratio = 1.69) than for Apathetics (odds ratio = 1.32). Thus, we suggest that individuals who perceive themselves to have more self-efficacy because of their high environmental concern outside the workplace (i.e., Citizens in contrast to Apathetics) tend to have greater capability, availability and confidence to engage in behavior that goes beyond the strict requirements of their job description. In this regard, our findings are consistent with previous research showing that self-efficacy facilitates the emergence of OCB-E based on accumulated

experience of sustainable behaviors performed in a work context (Lo et al. 2012a) and in a household context (Marans and Lee 1993).

As predicted by H5, affective commitment encourages employees with little concern for the environment to act like more concerned employees. Affective commitment was found to positively influence OCB-E, even in the presence of low levels of PGB. Interestingly, our findings indicate that the likelihood of acting as a Conformist is greater among Citizens (odds ratio = 2.31) than among Apathetics (odds ratio = 1.60). This predictive difference between the Citizen and Apathetic configurations appears to be explained by the differing level of commitment to the environment outside the workplace. Committed employees develop feelings of pride, belongingness and emotional attachment to the organization and are more likely than other types of employees to freely invest time and energy in organizational life (Cohen and Vigoda 2000). Affective commitment increases compliance with managerial expectations and fosters involvement in extra-role tasks, which often characterize environmental behaviors (Ciocirlan 2017; Ramus and Killmer 2007). As a result, we may infer that OCB-E performed by individuals who have already developed environmental concerns and behaviors in their private life are driven more by internal motivations than by positive feelings toward the organization.

In particular, the number and type of factors contributing to increasing the likelihood that employees with low OCB-E will act like those who display high OCB-E depend on an individual's efforts to actively cross the "mental border" between domains. Furthermore, as noted above, our study revealed the key role of supervisory support. This finding is consistent with previous research in an environmental sustainability context framed with SET (e.g., Norton et al. 2015). Environmental researchers who frame their research using SET tenets typically share the assumption that employees tend to help their supervisor achieve environmental sustainability objectives by engaging in efforts beyond their job requirements when they perceive that their supervisor seeks to develop and maintain cooperation with them in the long term (e.g., Daily et al. 2009; Ramus and Killmer 2007). Accordingly, our findings suggest that crossing the mental border is facilitated by the factors associated with SET. Coupling border theory with a social exchange framework has the potential to expand our understanding of the underlying social processes through which less environmentally concerned employees may adopt eco-friendly behavior.

Finally, our research shows that the likelihood that Apathetic employees act like Enthusiasts is also explained by education and age (Model 3). This finding is consistent with previous environmental literature on the role of age and education. Klein et al. (2012) argued that people who are educated tend to be more sensitive to new knowledge

that can change their mindset about environmental issues. Wiernik et al. (2013) reported meta-analytic findings indicating the differences between younger and older employees in their engagement in activities aimed at environmental sustainability.

Overall, our findings show that Enthusiasts who are environmentally concerned both at work and at home tend to develop OCB-E in a context characterized by supervisory support, personal environmental beliefs and job efficacy. Interestingly, personal environmental beliefs play a role in addition to self-efficacy and supervisory support for individuals who have little concern for the environment both at work and at home (i.e., Apathetics) compared to those who are only environmentally concerned at home (i.e., Citizens). Conformists who are environmentally concerned at work but not at home tend to engage in OCB-E when they feel supported by their supervisor and feel a sense of belonging to their organization. Our results reveal that supervisory support plays an important role when coupled with affective commitment, especially for individuals displaying a low level of environmental concern both at work and at home (i.e., Apathetics) compared to those who are only environmentally committed at home (i.e., Citizens). These findings have managerial implications for managers willing to promote commitment to the environment among their employees.

### Managerial Implications

The organizational psychology literature has highlighted the importance of individual behavior for improving environmental performance (e.g., Paillé et al. 2014). However, it has not considered how employees' private experience with pro-environmental behavior may interact with psychological and organizational variables in the work context. The findings of this study show that job self-efficacy increases the likelihood of enthusiastic behaviors toward the environment and that affective commitment to the organization appears to foster conformity. As a result, organizations should favor autonomy-enhancing practices to enhance employees' capabilities and confidence to engage in activities that are ancillary to their core job responsibilities. In addition, affective commitment to the organization must be cultivated to compel individuals who are Apathetic toward the environment to develop OCB-E when performing their work roles. Finally, managers dedicated to organizational greening should not neglect informal and relational aspects such as encouragement, openness, sharing of ideas, advice and feedback on environmental issues. Employees are attuned to the words and actions of supervisors, who should take special care to value employees' suggestions, receive their input favorably and lead by example.

Our research suggests that organizations which seek to become greener may leverage employees' environmental habits acquired in the non-work domain. Supervisory support and self-efficacy are key to transforming employees who are "good Citizens" outside the workplace into "good soldiers" at work. Corporations have an important role to play by providing employees with conditions that allow them to behave in an eco-friendly manner, according to Swaim et al. (2014), and the educational community also has important responsibilities insofar as awareness of, and concern about, the environment is shaped through education about sustainability. In a study conducted among students, Swaim et al. (2014) indicated that the motivation to comply with norms relating to the environment is greatly influenced by a wide range of mentors, including professors, friends, business and political leaders, and celebrities. They also provided a long list of pedagogical tools and strategies that contribute to increasing awareness of ecology and environmental sustainability. The current literature suggests that environmental sustainability is achieved through education (outside the workplace) and training (inside the workplace), which nurture a continuing sense of environmental responsibility.

### Limitations and Avenues for Future Research

This study has several limitations that suggest avenues for future research. First, it focuses on PGB and OCB-E. Although these are the two main classes of pro-environmental behavior in work and non-work contexts, they do not account by themselves for the full, multifaceted range of pro-environmental behaviors. With respect to the workplace, we selected a measure that assesses relatively general and unspecific environmental behavior and which can apply to various "organizations, activity sectors, occupations or circumstances" (Boiral and Paillé 2012, p. 435). Future research could replicate our findings by measuring more specific environmental behaviors such as recycling waste or saving water and energy. In the domestic context, private-sphere environmentalism focuses on green consumerism and conservation behaviors but does not account for environmental activism and non-activist behaviors in the public sphere (Stern 2000). Future research could explore the relationship between OCB-E and these socially motivated pro-environmental behaviors. For example, future studies could examine the link between activities on and off the job that appear to be similar in nature, such as lobbying and activism.

Second, the variables used in this study to explore the likelihood of belonging to a configuration were limited to a small number of attitudinal and managerial aspects. Other individual- and organizational-level factors should be considered in future research. For example, in relation to psychological variables, future studies could measure different types of identities and assess whether these increase

the likelihood of behaving in accordance with an archetype. Environmental identity (i.e., the extent to which environmental aspects and one's relation with nature are important in the definition of the self) can be assessed using the scales of Clayton (2003) or Stets and Biga (2003). Similarly, organizational identification (i.e., the perception of belonging to an organization and the way it influences how individuals define themselves) can be measured using the scale developed by Mael and Ashforth (1992). The concept of organizational identification is complementary to employee affective commitment and should be used to understand the transfer of civic skills from the non-work domain to the work domain.

Third, this study aimed to clarify how an organization can become greener by encouraging all employees to behave in an environmentally responsible way on the job, in accordance with their environmental profiles. Emphasis was placed on predicting employee classifications among a set of configurations (i.e., profiles) within an organizational setting. However, some studies in the environmental literature have suggested that by promoting workplace pro-environmental behaviors, organizations have the potential to influence their employees to adopt sustainability values in the non-work domain (Jackson 2005), which means that a specific set of factors remains unexamined. Future research might consider this possibility.

Finally, because the data were self-reported and cross-sectional, we controlled for common method bias to ensure that systematic error variance did not account for the relationships observed between the variables. A Harman's single-factor test was conducted. The assumption underlying this test is that if there is a substantial amount of common method variance in the data, a single factor will emerge from the factor analysis or one general factor will account for most of the covariance among the measures (Podsakoff et al. 2003). The factor analysis resulted in eight factors with eigenvalues greater than one, and the first factor accounted for only 24 percent of the shared variance. Although this suggests that common method bias was not a serious threat to the validity of our findings, it should be noted that this technique has certain limitations that can be overcome by applying more appropriate procedures for checking for common method bias (Podsakoff et al. 2003).

## Conclusion

Despite theoretical claims about the relationship between environmental behavior outside the workplace (PGB) and environmental behavior inside the workplace (OCB-E), little research has empirically examined how they may be related. In this article, we developed four archetypes of individual environmental behavior: Enthusiasts, Conformists, Citizens and Apathetics. We addressed the

organizational and psychological conditions through which employees who are less environmentally committed (i.e., Apathetics and Citizens) will behave like more committed employees (i.e., Enthusiasts and Conformists). The study showed that organizations can become greener by stressing supervisory support and by accounting for affective commitment, personal environmental beliefs and self-efficacy. This study advances our understanding of the achievement of environmental sustainability in organizational contexts.

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## Appendix

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### Organizational citizenship behavior for the environment (OCB-E)

1. Staying informed of the company's environmental efforts
2. Undertaking environmental actions that contribute positively to the company's image
3. Volunteering for projects or activities that address environmental issues in the company
4. Making suggestions about ways to protect the environment more effectively
5. Suggesting new practices that could improve the environmental performance of the company
6. Giving time spontaneously to help colleagues take the environment into account
7. Encouraging colleagues to adopt more environmentally conscious behaviors

### Environmental management practices (EMPs)

1. Environmental policy
2. Specific targets for environmental performance
3. Environmental management system
4. Environmental considerations to purchasing decisions
5. Employee environmental training

### Supervisory support behavior toward the environment (SUPPORT)

1. Encouraging environmental initiatives
2. Making sure employees develop environmental skills
3. Listening carefully to and valuing inputs on environmental topics
4. Giving complete and accurate information regarding environmental issues
5. Involving employees in environmental problem solving

### Private green behaviors (PGB)

1. Buying organic fruits and vegetables grown without pesticides or chemicals
  2. Buying products that are made from recycled materials
  3. Buying products or services from firms enjoying a reputation for environmental responsibility
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4. Buying household chemicals (detergent, cleaning solutions, etc.) that are environmentally friendly
  5. Avoiding buying products with a lot of plastic and useless packing
  6. Recycling household waste (cans, bottles, paper, etc.)
  7. Avoiding unnecessary consumption of energy (electricity, gas, etc.)
  8. Driving only if absolutely necessary (e.g., leave the car at home for short distances)
  9. Avoiding unnecessary consumption of water
- Affective commitment to the organization (AC-ORG)
1. Ownership of the company's problems
  2. Not a strong sense of belonging to the company (R)\*
  3. Company has a great deal of personal meaning
  4. Emotional attachment to the strategic choices of the company
  5. Proud to be a member of the company
- Personal environmental beliefs (NEP)
1. So-called ecological crisis facing humankind greatly exaggerated (R)
  2. Earth like a spaceship with limited room and resources
  3. Major ecological catastrophe to happen if things continue on their present course
  4. Balance of nature strong enough to cope with the impacts of modern industrial nations (R)
  5. Humans severely abusing the environment
- Job self-efficacy (SELF-EFF)
1. Job well within the scope of abilities
  2. Some trouble to deal with the requirements of work (R)
  3. All the technical knowledge needed to deal with the job
  4. Knowledge to perform successfully at work sometimes lacking (R)
- 

\*(R) reversed

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