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2. THE NATURE OF EMPLOYEES' PRO-ENVIRONMENTAL BEHAVIORS

Olivier Boiral, Pascal Paillé, and Nicolas Raineri

The main objective of this chapter is to shed light on the nature, scope, and definition of employees' pro-environmental behaviors. Such behaviors are inseparable from corporate greening initiatives and underlie most actions in this area. Many environmental initiatives, such as recycling waste materials or turning off lights and powering electronics down at the end of the day, rely almost entirely on employees' goodwill and individual behaviors. Even formal and organizational-level actions, such as the implementation of the ISO 14001 environmental management system, require employee participation and involvement to be successful (Boiral, 2007a; Kitazawa & Sarkis, 2000; Walley & Stubbs, 2000; Yin & Schmeidler, 2009). Therefore, the ISO 14001 standard can hardly be integrated in daily activities without pro-environmental behaviors in the workplace, which enable employees to identify environmental aspects, apply and update procedures, implement pollution prevention programs, and measure performance. Without employees' engagement in pro-environmental behaviors, organizational practices in this area will be reduced to symbolic, ceremonial, and unsubstantial activities (Boiral, 2007b; Christmann & Taylor, 2006). In this respect, the greening of organizations appears to result to a large extent from the aggregation of a multitude of green behaviors in the workplace (Boiral, 2005; Ruiz-Quintanilla, Bunge, Freeman-Gallant, & Cohen-Rosenthal, 1996; Walley & Stubbs, 2000). Paradoxically, although the importance of employee's pro-environmental behaviors is often emphasized in the literature, their nature and scope are not generally agreed upon and need to be better defined.

Generally speaking, pro-environmental behaviors in the workplace have been analyzed through two main perspectives. The first of those is based on established research in the field of environmental management, which since its beginnings has emphasized the critical role of employees' green behaviors (e.g., Hart, 1995; Schmidheiny, 1992; Shrivastava, 1995; Winter & Ewers, 1988). In this approach, such behaviors are most often considered as part of larger environmental practices and organizational change processes, whose effectiveness to a large extent relies on employee involvement (Boiral, 2005; Hanna, Newman, & Johnson, 2000; Kornbluh, Crowfoot, & Cohen-Rosenthal, 1985; Rothenberg, 2003). The second, more recent

perspective is based on studies rooted in the industrial and organizational psychology literature. This burgeoning research has mostly focused on voluntary and individual initiatives in the workplace, which are generally considered as a new research area (Boiral & Paillé, 2012; Lamm, Tosti-Kharas, & Williams, 2013; Lülfs & Hahn, 2013; Ones & Dilchert, 2012a,b). For example, Ones and Dilchert (2012a) propose a comprehensive taxonomy of employee green behaviors based on five main categories: avoiding harm, conserving, working sustainability, influencing others, and taking initiative.

Although these two streams of literature are complementary and focus on similar phenomena, they have developed quite separately. Furthermore, the definition of what constitutes employees' pro-environmental behaviors remains relatively unclear in the two approaches and the question has rarely been addressed directly (for an exception, see Ones & Dilchert, 2012a,b). As a result, workplace pro-environmental behaviors tend to be considered as something that is obvious, quite monolithic, and not requiring an explanation. Nevertheless, further exploration of this concept reveals its complexity, multifaceted nature, and context dependency. The nature of pro-environmental behaviors in the workplace is indeed eclectic and can depend on many factors, such as the type of organization, employee occupation, procedures in place, production process, clean technology, and so forth. Furthermore, because environmental actions can be socially sensitive, the concrete behaviors inside the workplace in this area are not necessarily transparent and easy to investigate. This difficulty can explain why the literature on environmental management has mostly focused on organizational-level and formal practices through large-scale quantitative studies instead of trying to systematically investigate what pro-environmental behaviors inside the workplace really are.

By exploring the “black box” of pro-environmental behaviors at work, this chapter aims to clarify the meaning of the concept and the reason why it is so essential for corporate greening. It also proposes a definition of employees' pro-environmental behaviors and explores existing taxonomies that have attempted to describe the applications of green initiatives in the workplace. In this, the chapter contributes to the integration of the rather scattered literature. Nevertheless, it is not intended to describe the theoretical basis and determinants of environmental behaviors, which are explored in other chapters.

The remainder of the chapter is organized as follows. First, the literature on corporate greening and pro-environmental behaviors is explored. This exploration sheds more light on the complexity, diversity, and opacity of these behaviors. Second, the definitions and scope of pro-environmental behaviors are analyzed. A new stream

of literature focused on the concept of organizational citizenship behaviors for the environment, which covers the majority of pro-environmental behaviors in organizational settings (Boiral & Paillé, 2012; Ones & Dilchert, 2012b), is also discussed. Last, the conclusion explores various avenues for further research in this area.

Corporate Greening through Pro-Environmental Behaviors

The role of individual behaviors in corporate greening has been highlighted in many environmental studies (e.g., Enander & Pannullo, 1990; Hart, 1995; Kornbluh et al., 1985; May & Flannery, 1995; Ruiz-Quintanilla et al., 1996). Empirical research in this area has demonstrated that the environmental performance of organizations depends, to a large extent, on employee involvement through various behaviors intended to reduce pollution, contribute to eco-innovations, and participate in recycling programs (Boiral, 2005; Bunge, Cohen-Rosenthal, & Ruiz-Quintanilla, 1996; Paillé, Chen, Boiral, & Jin, 2014; Ramus, 2001; Roy, Boiral, & Paillé, 2013). Generally speaking, the role of these pro-environmental behaviors has been associated in the literature with three main issues:

- Pollution prevention
- Internalization of environmental management practices
- Eco-innovations and knowledge management

Exploring these issues, which are interdependent and not mutually exclusive, makes it possible to explore the complex nature of environmental behaviors and the reasons why their definition and taxonomies are far from generally agreed upon.

Employees' Behaviors for Pollution Prevention

Pollution prevention is one of the main approaches aimed at improving the environmental performance of organizations (Boiral, 2005; Boiral & Sala, 1998; Hart, 1995; Kleiner, 1991; Shrivastava, 1995). According to the Environmental Protection Agency (EPA), “pollution prevention is reducing or eliminating waste at the source by modifying production processes, promoting the use of non-toxic or less toxic substances, implementing conservation techniques, and re-using materials rather than putting them into the waste stream” (Munquía, Zavala, Marin, Moure-Eraso, & Velazquez, 2010, p. 325). Contrary to the palliative approach, which is characterized by the implementation of end-of-pipe technologies, pollution prevention most often involves significant changes in the production process and work habits at the source of contaminant discharges (Boiral, 2005; Hart, 1995). As emphasized by Hanna et al.

(2000), this approach is far from new and has been promoted since the 1970s in the United States. Nevertheless, this change in attitude was not always clearly understood and taken into account inside organizations. In fact, until the late 1980s, most programs for pollution prevention focused on cleaner technologies. However, over the last 25 years, the focus has expanded to incorporate changes in working behaviors, which have been considered as essential for the success of pollution prevention programs by governments and organizations alike. As one example, in the early 1990s the EPA required that manufacturers report measures to promote pollution prevention through human resource management (Bunge et al., 1996). Similarly, between 1993 and 1996, the Danish Ministry of Environment developed a program called “Employee Participation in the Introduction of Cleaner Technologies,” which was intended to better understand and promote pollution prevention behaviors in the workplace (Remmen & Lorentzen, 2000). In the same vein, most empirical studies on the implementation of pollution prevention initiatives inside organizations emphasize the role of employee involvement and behavioral changes (e.g., Boiral, 2005; Hanna et al., 2000; Kornbluh et al., 1985; May & Flannery, 1995; Theyel, 2000). For example, based on the EPA *Toxics Release Inventory* (TRI), Bunge, Ruiz-Quintanilla, and colleagues (Bunge et al., 1996; Ruiz-Quintanilla et al., 1996) showed that employee participation is one of the main drivers ensuring the success of pollution prevention and can result in a significant reduction in contaminant emissions. Hanna et al.’s (2000) study focused on 349 employees involved in team projects, and showed that pro-environmental behaviors play a key role in pollution prevention and environmental performance improvement.

Although the role of employee behaviors in pollution prevention is now well established, the specific nature of these behaviors seems to be overlooked in the literature. Most studies in this area are based on quantitative analyses in which employee behaviors tend to appear as quite monolithic and limited to a few specific measurable variables, which can hardly cover the diversity of these behaviors. Nevertheless, the exploration of employees’ behaviors for pollution prevention through qualitative research has shed more light on their complexity, context-dependency, and multifaceted nature. For example, Boiral (2005) conducted 108 interviews on the role of employee involvement in pollution prevention at industrial facilities, and showed that such involvement cannot easily be dissociated from very technical aspects related to the production process, which differ from one facility to another. In one of the facilities studied, the microorganisms at the heart of the purification station were disrupted by the unforeseeable release of specific contaminants (furfural, caustic soda, ammonia) generated by various operations

upstream the production process. The preventive measures implemented in this facility required various technical and human changes that cannot be classified under a specific type of behavior.

Generally speaking, the analysis of pollution prevention measures in manufacturing firms shows that the nature of pro-environmental behaviors depends on the type of organization (e.g., sector of activity, production process) and the activity of individuals, with the exception of quite simple and standardized behaviors related to deskwork.

Internalization of Environmental Management Practices

The role of pro-environmental behaviors has also been associated with the internalization of environmental management practices. Thus, the success of various managerial initiatives, such as the implementation of environmental policies, codes of conduct, and industrial ecology actions, largely depends on employees' pro-environmental behaviors (Boiral, 2007a; Shrivastava, 1995; Walley & Stubbs, 2000; Winter & Ewers, 1988). Since environmental management systems, such as the ISO 14001 standard was developed and launched in 1996, many studies have shown the importance of employee involvement in this area (e.g., Boiral & Sala, 1998; Christmann & Taylor, 2006; Yin & Schmeidler, 2009). These studies are often based on a neo-institutional perspective, according to which organizations face increasing institutional pressures to integrate environmental issues in their management practices. To respond to these pressures in implementing environmental management practices such as the ISO 14001 standard, organizations are mostly driven by the desire to improve their social legitimacy, rather than their environmental performance. As a result, these practices are often superficial, ceremonial, and do not necessarily translate into concrete pro-environmental behaviors in the workplace (Boiral, 2007b; Boiral & Henri, 2012; Christmann & Taylor, 2006). For example, in his case study among facilities certified to ISO 14001, Boiral (2007b) illustrated how the integration and implementation of this standard inside certified organizations is superficial, and what role of employees' behaviors play in improving its effectiveness. The ceremonial nature of the ISO standard integration in certain organizations was revealed by the employees' lack of knowledge of the standard and the superficial preparation for the certification audit, which tended to look like a school exam: last minute preparation, memorization of a few ISO procedures just before the audit, anticipation of questions raised by auditors, focus on documentation rather than substance, concealing non-conformity issues, and celebrations after certification (Boiral, 2007, 2012).

According to this stream of literature, it is generally the employees' pro-environmental behaviors that are responsible for either a ceremonial or a more substantial integration of environmental practices in daily activities. Nevertheless, the nature of such behaviors is rarely clearly defined and they appear to be identified with a variety of actions, such as the application of procedures, the involvement in environmental committees, and the initiatives for pollution prevention. Moreover, this literature highlights the opacity of environmental behaviors inside organizations by shedding light on the differences between the official rhetoric on this issue and actual practices (Boiral, 2007b; Jiang & Bansal, 2003). As a result, the study of pro-environmental behaviors in the workplace tends to be obscured by the social legitimacy and desirability bias associated with these issues.

Eco-Innovations and Knowledge Management

Employees' pro-environmental behaviors have also been analyzed in parallel with the development of innovations and knowledge management. Because of their complex, diverse, and interdisciplinary nature, environmental issues cannot be managed only through formal management systems and practices (Boiral, 2002, 2009; Lane & Robinson, 2009; Ramus & Killmer, 2007). They also require the active involvement of employees in problem solving, innovation development, and knowledge sharing. According to Ramus (2001), corporate greening depends on employees coming up with creative ideas and innovations. These eco-initiatives or eco-innovations (Ramus, 2001; Ramus & Killmer, 2007; Ramus & Steger, 2000) can be based, for instance, on behaviors intended to reduce environmental impacts, solve environmental problems, or develop more eco-efficient products or services. The study by Ramus (2001) sheds light on various employee-led environmental innovations such as the development of a new waste management program and innovative cleaner diesel fuel. Theyel (2000) also highlighted the role of employee suggestions and innovations in improving environmental practices and performance. These eco-innovations depend on the discretionary initiatives of environmental champions in the workplace (Andersson & Bateman, 2000; Gattiker & Carter, 2010; Zibarras & Ballinger, 2011). Those champions are able to challenge the status quo and inspire other employees through transformational leadership and environmental initiatives, which tend to be emulated inside the organization (Drumwright, 1994; Walley & Stubbs, 2000). Employee participation is necessary not only to develop innovations based on personal suggestions and initiatives. It is also vital for implementing cleaner technologies, which require changes in working behaviors and development of new knowledge (Remmen & Lorentzen, 2000).

In general, technical and human changes are inextricably linked and, consequently, corporate greening cannot be achieved without employee participation, which is not limited to environmental issues. This participation is intimately linked to knowledge management practices. Corporate greening thus encourages the development of specific skills and capabilities that can also improve the competitive advantage of the firm (Darnall & Edwards, 2006; Hart, 1995; Rothenberg, 2003). In a case study of industrial organizations, Boiral (2002) shows that these skills are largely based on employees' tacit knowledge, whose creation, transfer, and retention is largely discretionary. Employees can use this knowledge, resulting in particular from the close contact with the industrial processes and operations at the source of contaminants, to identify pollution sources, react quickly in emergency situations, or propose preventive solutions. As a result, some workplace pro-environmental behaviors are socially complex and causally ambiguous, and their actual impact is difficult to identify, measure, and foresee (Boiral, 2005). Nonetheless, their specificity makes them an intangible asset that is difficult to replicate for the competition, thereby contributing to the strategic capability of an organization (Hart, 1995).

Overall, studies on eco-innovations and knowledge management like those described in the preceding have shown that employee pro-environmental behaviors do not only depend on predictable routines and easy-to-describe actions, but also on tacit skills, creative ideas, and personal knowledge, which can be difficult to delineate.

Definition and Scope of Pro-Environmental Behaviors

Although environmental behaviors are considered essential for corporate greening, these behaviors are rarely clearly defined in the literature on environmental prevention, internalization of management practices, and eco-innovations (for exceptions, see Ramus, 2001; Ramus & Steger, 2000). Nevertheless, some recent studies have attempted to provide the definition and explain their nature and scope.

Defining an Umbrella and Multifaceted Concept

Pro-environmental behavior appears to be an umbrella concept describing a variety of actions directed toward the environment. This concept is by no means the only one used for describing environmental behaviors in the workplace. Similar concepts have been used in the literature, such as eco-initiatives (Ramus & Killmer, 2007; Ramus & Steger, 2000); eco-innovations (Ramus, 2001); individual environmental initiatives (Andersson & Bateman, 2000); environmental/pro-environmental behaviors (Boiral, 2009; Cantor, Morrow, & Montabon, 2012; Lülfs & Hahn, 2013; Mesmer-Magnus,

Viswesvaran, & Wiernik, 2012; Zibarras & Ballinger, 2011); behaviors directed toward the environment (Boiral & Paillé, 2012; Daily, Bishop, & Govindarajulu, 2009; Lamm et al., 2013); green behaviors (Han, Hsu, & Lee, 2009; Ones & Dilchert, 2009, 2012a); eco-friendly behaviors (Rangarajan & Rahm, 2011); employees' environmental commitment/involvement (Boiral, 2005; Orecchini, 2000; Perez, Amichai-Hamburger, & Shterental, 2009); environmental sustainability at work (Muros, 2012; Ones & Dilchert, 2012b); behaviors toward sustainability in the workplace (Crosbie & Houghton, 2011); and environmentally responsible behaviors (Lee, Jan, & Yang, 2013; Rojšek, 2001; Smith & O'Sullivan, 2012; Tilley, 2000). In their study of the way in which psychological research contributes to a better understanding of environmental behaviors, Ones and Dilchert (2012b) identified more than a dozen similar concepts used in the literature, some of them different from those listed in the preceding, such as conservation behaviors and environmentally significant behaviors. Although all these concepts have been used by different studies and in different contexts, they all describe basically the same phenomenon.

The proliferation of concepts certainly illustrates the dynamic nature of research in this area, but also the absence of a clearly established definition of what a pro-environmental behavior within organizational settings is or should be. It confirms the lack of consensus in the research on employees' pro-environmental behaviors, and the emerging studies in this area tend to overlook established literature to claim ownership over a fairly old concept.

Only a few authors, notably Ones and Dilchert (2012a), Mesmer-Magnus et al. (2012), and Ramus and Steger (2000) have proposed a definition of environmental behaviors inside organizations. Although these definitions are not without limitations, they shed light on different aspects of a multifaceted concept. According to Ones and Dilchert (2012a, p. 87), "employee green behaviors are defined as scalable actions and behaviors that employees engage in that are linked with and contribute to or detract from environmental sustainability." Their study highlights four features associated with the definition: the focus on employees only, actions under their control, measurable actions, and the integration of both beneficial and harmful behaviors. As such, green behaviors can fall under both in-role and extra-role behaviors, including counterproductive ones (Ones & Dilchert, 2012b). Notwithstanding the value of the definition, such features both restrict and expand the nature and scope of these behaviors.

On the one hand, they only seem to account for behaviors that can be quantified, scaled, and compared at the employee level; on the other, they encompass behaviors that cause environmental harm. Many pro-environmental behaviors, such as

participation in recycling programs or green committees, are subsumed in collective actions whose contribution to corporate greening cannot necessarily be traced back to individual actions and assessed at the individual level. Furthermore, many behaviors, such as the sharing of tacit knowledge are, socially complex and causally ambiguous, and cannot be easily measured. Similarly, mundane discretionary green behaviors, such as turning off the light when leaving a room, are by definition volitional and decentralized, and their contribution to the corporate environmental performance is best construed at the aggregate—group or organizational—level (Boiral, 2009; Lamm et al., 2013; Paillé et al., 2014). Last, although the inclusion of harmful behaviors is an interesting perspective to which attention should be drawn, it somehow contradicts the meaning of the concept of “green behavior.” In fact, “employee ‘ungreen’ (or environmentally irresponsible) behaviors constitute a specific form of counterproductive work behaviors” (Ones & Dilchert, 2012b, p. 453), which need to be inhibited, and they can introduce further confusion in the definition of employees’ pro-environmental behaviors and in fact create a conceptual oxymoron (i.e., employees’ “contra-environmental behaviors” refer to a separate definitional framework).

Mesmer-Magnus et al. (2012) also propose a definition of workplace pro-environmental behaviors, which they describe as “all individual behaviors that contribute to environmental sustainability. Such behaviors are volitional, intentional, and entirely under the control of individual[s] ” (p. 169). Although the first part of this definition seems inclusive, the focus in its second part is on behaviors that are intentional and under the full control of individuals is quite restrictive. Many environmental behaviors are not necessarily discretionary, as they depend on organizational practices and procedures. Mesmer-Magnus et al.’s (2012) definition tends to ignore the various prescribed and task-related environmental actions. With the development of environmental procedures, codes of conduct, and management systems, such as the ISO 14001 standard, an increasing number of environmental behaviors are prescribed by organizations, and employees’ green behaviors should, therefore, not be limited only to individual and voluntary actions (Boiral, 2009; Ones & Dilchert, 2012b; Paillé & Boiral, 2013).

Another category of employees’ green behaviors is highlighted in the concept of eco-initiatives. According to Ramus and Steger (2000), eco-initiative is a proxy for eco-innovation, which is defined as “any action taken by an employee that she or he thought would improve the environmental performance of the company” (p. 606). Interestingly, eco-innovations can occur at any organizational level, which suggests that all employees, from top management to line workers, can be eco-innovators.

Ramus and Steger (2000) provide various examples, such as recycling, pollution prevention, reducing the need for hazardous waste disposal, and improving ecological efficiency to illustrate this definition. Although Ramus and Steger are among the pioneers in this area, the focus of their definition on the improvement of environmental performance of the company seems too restrictive. First, the concept of environmental performance is both vague and controversial (Boiral & Henri, 2012). Second, pro-environmental behaviors can have a nonmeasurable impact or may concern issues not directly related to the company activities, such as riding a bicycle to work instead of taking the car. Third, environmental behaviors can apply to individual actions that are not directly connected with performance, for example, representing the company at a conference or participating in an external meeting on environmental issues (Boiral & Paillé, 2012; Smith & O’Sullivan, 2012).

Drawing on these definitions and their limitations, we offer a definition of employees’ pro-environmental behaviors that includes all types of voluntary or prescribed activity undertaken by individuals at work that aim to protect the natural environment or improve organizational practices in this area. This definition, which is relatively close to the one proposed by Ramus and Steger (2000), addresses the main limitations discussed in this section, as it avoids too narrow a view of a multifaceted concept and sheds light on two essential aspects of pro-environmental behaviors in work settings:

- **Scope and diversity:** Environmental behaviors are not necessarily restricted to employees’ actions that are under their full control and can be measured or produce measurable results, and they can include various pro-environmental actions taken by employees and managers alike and focused on organizational practices or more informal initiatives.
- **Voluntary or prescribed nature:** Environmental behaviors can be based on discretionary, individual, and nonrewarded initiatives (organizational citizenship behaviors) or, conversely, on prescribed tasks and procedures.

Mapping the Diversity of Pro-Environmental Behaviors

Various taxonomies and models have been proposed to reflect the multifaceted nature of pro-environmental behaviors, and empirical studies have been conducted to describe them. The most comprehensive is probably the “green five taxonomy” by Ones and Dilchert (2012a). The development of this taxonomy was initially based on the analysis of 1,299 critical incidents related to various jobs, organizations, and industries. This analysis led to proposing various categories of behaviors with a

negative or positive impact on the environment, which were then subjected to confirmation and cross-cultural generalizability analysis. Overall, this taxonomy is based on five main categories and 16 subcategories (Figure 2.1).

For most of these categories, Ones and Dilchert (2012a) provide examples of positive and negative behaviors. For example, a positive behavior for initiating programs and policies may consist in starting a new recycling program. Conversely, a negative behavior in this area may be discontinuing such a program for economic reasons. In our view, refraining from engaging in harmful behaviors does not belong to the same definitional framework as refraining from engaging in helpful behaviors. Nevertheless, this typology, which seems more broad than the definition of employee green behaviors proposed by the same authors (as it goes beyond scalable actions that can be measured and compared at the employee level), helps to better understand the broad scope and the elastic meaning of these behaviors.

Figure 2.1 The “green five taxonomy.” (Ones & Dilchert, 2012a, p. 92)

Avoiding Harm	Conserving	Working Sustainably	Influencing others	Taking initiative
Preventing pollution	Reducing use	Changing how work is done	Encouraging and supporting others	Putting environmental interests first
Monitoring environmental impact	Reusing	Choosing responsible alternatives	Educating and training for sustainability	Initiating programs and policies
Strengthening ecosystems	Repurposing	Creating sustainable products and processes		Lobbying and activism
	Recycling	Embracing innovation for sustainability		

Other taxonomies have been proposed based on the impacts, activities, or frequency of pro-environmental behaviors. For example, Smith and O’Sullivan’s

(2012) “classification of environmentally responsible workplace behavior” is based on two main dimensions that classify different types of behavior:

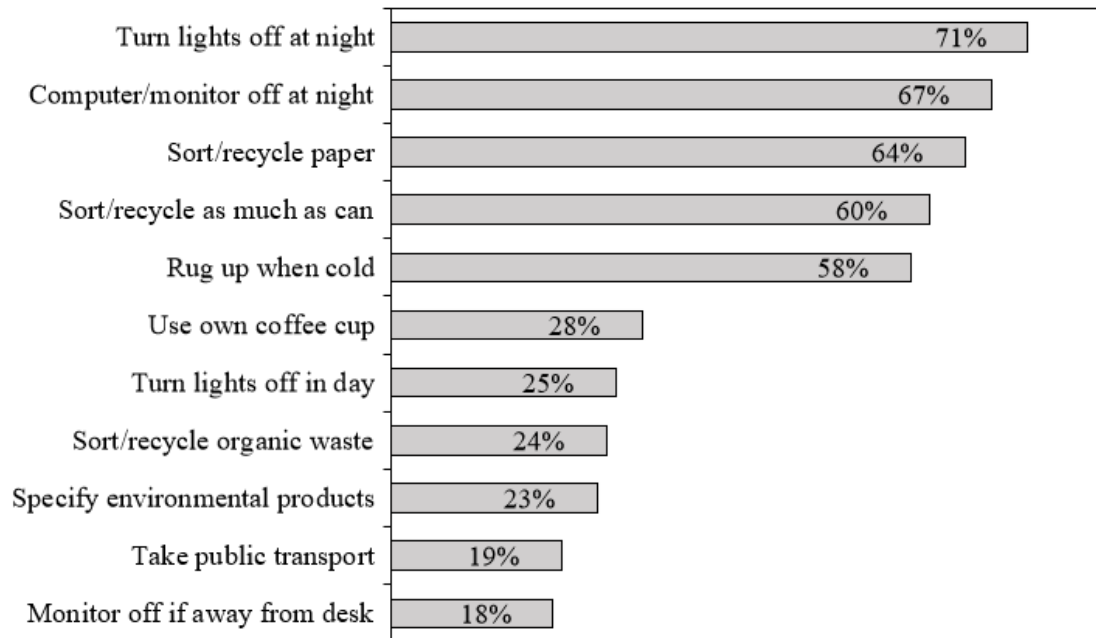
- Direct behavior (based on the individual’s own actions, such as recycling cans) versus indirect behavior (actions to influence others, such as signing an environmental petition)
- Local impact (e.g., extending domestic behavior, such as switching off lights, to the work setting) versus wide impact (such as initiating new environmental management practices)

The model by Andersson and Bateman (2000) describes three types of “individual environmental initiatives” based on the nature of the “championing activity” performed in the workplace by employees who have played a key role in this area:

- Identifying environmental issues: “scanning behaviors” intended to acquire information on environmental issues inside or outside the organization
- Packaging environmental issues: behaviors focused on the framing and presentation of environmental issue to better influence the managers and the whole organization
- Selling environmental issues: behaviors intended to influence decision makers to adopt pro-environmental actions

Insights into environmental behaviors have also based on descriptive studies conducted in the workplace. These studies are interesting in that they portray the relative importance of various types of environmental behaviors. For example, a survey based on a sample of 147 organizations in the United Kingdom (Zibarras & Ballinger, 2011) has shown that the most frequent initiatives are related to recycling and energy saving. Another survey based on a representative sample of 1,043 Australian employees (Crosbie & Houghton, 2011) produced similar results and identified two main categories of behaviors toward sustainability in the workplace. The first category covers behaviors that Australians claim to enact almost invariably, such as turning off the lights at night (71%), turning off computers and monitors at night (67%), and recycling paper (64%). The second category covers less frequent behaviors and areas requiring improvement, such as turning the monitor off when leaving the desk for a period of time, taking public transportation, and specifying environmental products (Figure 2.2). These behaviors are often based on discretionary and nonrewarded initiatives, otherwise known as organizational citizenship behaviors for the environment (Boiral, 2009; Boiral & Paillé, 2012; Daily et al., 2009; Lamm et al., 2013).

Figure 2.2 “Sustainable behaviors in the workplace.” (Based on Crosbie and Houghton, 2011, N = 1043.



Exploring Organizational Citizenship Behaviors for the Environment

It is important to distinguish between voluntary and prescribed tasks involved in pro-environmental behaviors. This distinction is echoed in two streams of the literature that seem to otherwise ignore each other. The first of those is focused on environmental management. This more established and broader literature has essentially focused on formal and organizational-level practices, such as the implementation of an environmental management system, the definition of an environmental policy, the promotion of employee awareness and participation in environmental programs (Andersson & Bateman, 2000; Boiral, 2005; Boiral & Henri, 2012; Hart, 1995; Paillé, Boiral, & Chen, 2013; Roy et al., 2013). Although this managerial perspective has also repeatedly emphasized on the importance of individual and voluntary initiatives, it tends to focus more on organizational-level and prescribed environmental behaviors. The second stream of the literature is mostly rooted in the field of industrial and organizational psychology. Generally speaking, this literature is more recent and has given rise to an increasing number of studies on environmental behaviors (Boiral & Paillé, 2012; Lamm et al., 2013; Lülfs & Hahn, 2013; Mesmer-Magnus et al., 2012; Ones & Dilchert, 2009, 2012a; Paillé & Boiral,

2013). These studies mostly focus on individual-level and discretionary behaviors, although they sometimes state that environmental behaviors also can be prescribed.

The concept of organizational citizenship behavior for the environment (OCBE) is mostly rooted in the mentioned second stream of the literature, and has managerial implications. Organizational citizenship behaviors for the environment have been defined variously as “voluntary behaviors not specified in official job descriptions that, through the combined efforts of individual employees, help to make the organization and/or society more sustainable” (Lamm et al., 2013, p. 3), “discretionary acts by employees within the organization, not rewarded or required that are directed toward environmental improvement” (Daily et al., 2009, p. 246), or “individual and discretionary social behaviors that are not explicitly recognized by the formal reward system and that contribute to a more effective environmental management by organizations” (Boiral & Paillé, 2012, p. 431). Overall, all these definitions express the same idea: OCBEs are discretionary behaviors performed by employees whereby they demonstrate their willingness to cooperate with their company and its members by displaying workplace behaviors that benefit the natural environment. Following the classic proposition by Organ (1988), the concept of discretionary behaviors presupposes that individuals are free to act or not to act. Such actions cannot be assured, for example, through the stipulations of contract employment or the threat of punishment. In the particular context of green behavior, the term suggests that employees are able to take decisions at their own level without formal inducements. For employees, OCBEs reflect their willingness to cooperate with the company and its members by performing environmental behaviors in the workplace.

In their study of the main types of environmental behaviors, Ones and Dilchert (2012b, p. 456) suggested that “not all employee green behaviors are discretionary” and that “13-29% of employee green behaviors are required as part of job duties.” If this estimate is correct, it means that a large majority— approximately 70% to 85%— of environmental behaviors can actually be considered as OCBEs. In this perspective, it is important to define more precisely what OCBEs really are. Although the literature in this area is in its infancy, some studies have explored the main types of OCBEs. Based on general research on organizational citizenship behaviors, Boiral (2009) proposed that we distinguish six possible forms of OCBEs: helping (collaboration and encouraging other workers to consider environmental issues), sportsmanship (positive attitude toward the inconveniences associated with environmental practices), organizational loyalty (support to the environmental policies and actions of the organization), organizational compliance (compliance with

Table 2.1 The Main Types of Organizational Citizenship Behavior for the Environment

	Eco-Initiatives	Eco-Civic Engagement	Eco-Helping
Definition	Discretionary behavior and suggestions to improve environmental practices	Voluntary participation in an organization's environmental programs and activities	Voluntarily helping colleagues to better integrate environmental concerns in the workplace
Main focus	Personal and direct initiatives in the workplace	Support for the commitments of the organization	Mutual support among employees, promotion of environmental concern
Relevance and usefulness	Improving internal practices Reducing environmental impacts Promoting green innovation and reducing costs Saving money (saving energy, water, waste disposal, etc.)	Achieving the environmental objectives of the organization Improving the image of the organization Identifying environmental issues	Promoting discussion, cooperation and resolution of complex problems Empowering new employees Influencing behaviors Encouraging and inspiring other employees
Examples	Making suggestions to reduce paper consumption Improving energy efficiency Establishing a ride-sharing program Placing recyclable materials in the proper containers Turning off lights and turning down heating before leaving the office	Participating in a green committee Meeting with stakeholders Becoming involved in the implementation of ISO 14001 Updating environmental procedures Contributing to the annual sustainability report	Helping the environmental service identify sources of pollution Explaining environmental procedures to new employees Asking colleagues to get involved in a new green committee Helping colleagues to clean up an accidental spill

Adapted from Boiral, O., & Paillé, P. (2012). Organizational citizenship behaviour for the environment: Measurement and validation. *Journal of Business Ethics*, 109, 431–445.

environmental practices and procedures), individual initiative (discretionary suggestions and initiatives in the workplace), and self-development (acquisition of environmental knowledge).

According to Lamm and colleagues (2013), this type of taxonomy is quite broad, and research needs to focus on more specific eco-initiatives. Therefore, Lamm et al. propose a list of 12 items describing typical OCBEs that includes: recycling bottles, using scrap paper for notes, printing double-sided, and turning off lights when leaving the office. These items are relevant and useful to measure certain types of OCBEs. Nevertheless, they are restrictive, essentially focus on daily deskwork. Therefore, they presuppose that regardless of the organizational and employee profile, OCBEs can be described through a small number of very specific behaviors that essentially seem to be an extension of environmental behaviors at home. Moreover, this list does not take into account important types of environmental behaviors, such as those intended to influence others and to support the environmental commitment of organizations (Andersson & Bateman, 2000; Boiral, 2009; Ones & Dilchert, 2012a; Smith & O'Sullivan, 2012).

Boiral and Paillé (2012) propose a more inclusive measurement scale based on three dimensions: eco-initiatives, eco-civic engagement, and eco-helping. The first dimension, eco-initiatives, is similar to the construct proposed by Lamm et al. (2013) and Smith and O'Sullivan's concept of direct behavior (2012). The eco-civic engagement (voluntary participation in an organization's environmental programs and activities) and eco-helping (voluntarily helping colleagues to better integrate environmental concerns) are essentially identical to the indirect behaviors described by Smith and O'Sullivan (2012) and the "championing activities" analyzed by Andersson and Bateman (2000). Table 2.1 summarizes these three main types of OCBEs and the manners in which they can be translated into practical measures.

Concluding Thoughts

Although research on employees' pro-environmental behaviors is far from new, the management and psychological literatures are still focused on providing a consensual or unified definition of the nature of these behaviors and creating provisional measurement instruments. Nevertheless, some important topics ought to be addressed to further our understanding of corporate greening, such as spillover effects between work and nonwork pro-environmental behaviors to shed more light on their constancy and underlying mechanisms (or lack thereof). Considering the communality between work and nonwork, green behaviors can help organizations, for instance, to implement sensitization campaigns or strategies that draw on the

domestic and allegedly familiar behavioral patterns of the employees. Future research could also examine whether a directional relationship exists between the dual (e.g., specific vs. general; prescribed vs. voluntary) nature of some workplace green behaviors. For example, knowing that employees are motivated to bring their own reusable cups to work after participating in a collective environmental event (e.g., picking up trash in the parking lot of the company), or vice versa, would aid business practitioners to target the relevant category of so-called gateway behaviors.

This also means, in turn, that longitudinal studies are necessary for capturing temporal changes in employees' behaviors. A final promising avenue of research would consist in analyzing more systematically, in line with the suggestions by Ones and Dilchert (2012a,b), environmentally irresponsible behaviors at work about which we know little. Ungreen behaviors, such as the improper disposal of hazardous substances or the unnecessary use of nonrenewable resources are, by definition, detrimental to the organizational environmental performance. As such, they need to be addressed so that we can better understand how to successfully inhibit them and limit their consequences. Ultimately, there is perhaps as much to be learned, theoretically and empirically, from negative behaviors as from positive ones. Valuable contributions still need to be made, and academics from different theoretical streams must continue to support the development of greener organizations.

Future investigations could combine existing measurements of PEBs. Although scales developed by Paillé and Boiral (2013) seek to capture worker motivation concerning providing advice or encouragement to other individuals in the workplace to adopt direct PEBs, those provided by Lamm et al. (2013), focus on concrete gestures toward the environment (e.g., recycling). It would be useful to evaluate to what degree these scales overlap in order to assess if they capture different facets of PEBs. Future research might also examine the manners in which leaders could be a source of inspiration for the staff. Although the key role of leaders is often hypothesized in the environmental literature (e.g., Ramus, 2001), little research has been undertaken to examine to what extent employees are willing to perform PEBs when their leaders set an example by demonstrating their engagement toward the cause of sustainability in organizational context (for a notable exception see Boiral, Talbot, & Paillé, 2014).

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