



# Greening the Workplace Through Practices and Behavioral Intervention

**Abstract** This chapter reviews the current state of knowledge on the choices made by and within organizations to encourage, support, and help staff to incorporate environmental considerations into their daily work routines. The chapter sets out to examine our understanding of the measures implemented to reduce the environmental footprint of organizations. It also assesses the effectiveness of such measures from the perspective of environmental performance indicators.

**Keywords** Environmental performance · Individual latitude · Practices

## 9.1 GREENING THE WORKPLACE: FROM DECISIONS TO PERFORMANCE

### 9.1.1 *The Limits of Individual Action*

In a work context, a person's contribution to environmental performance can be expressed in the form of a wide range of pro-environmental behaviors. Of course, a person's contribution depends on a range of characteristics associated with the type of job performed. Driving a bus, serving a customer, carrying out research to prepare a class, managing a customer account, providing care, delivering an order, and working as an operator on an assembly line are all examples of activities associated

with very different jobs. However, what these activities have in common is that they are all structured around a set of tasks that invariably have an impact on the natural environment. Whether it is more or less direct, more or less intense, or more or less conscious, the environmental impact is very real. In other words, in work settings, zero impact is a chimera, an unachievable goal, simply because it is unrealistic. It is unrealistic because of a whole range of contingency factors that significantly influence the choices made by employees and, consequently, restrict their ability to act. The first factor is the level of decision latitude.

The list of environmental behaviors discussed in this book suggests that, in theory at least, there are many options available to an individual to act in an environmentally friendly way in the workplace. This is only partly true. In Chapter 6, I discussed the close similarity between the pro-environmental behaviors observed in and outside the workplace. I also argued that individuals may act differently toward the environment depending on the context in which they find themselves. Depending on an individual's characteristics, a context will tend to limit or constrain environmental engagement to a greater or lesser extent. Thus, in a private (personal) context, an individual's ability to act relative to the range of possibilities available to them will be potentially greater than in an organizational context. For example, in a private context, a person is free to adopt a course of action or behavior that might involve purchasing eco-responsible products. In fact, an individual's scope for action is best examined by taking into account the role performed by that individual in the workplace—a factor that significantly determines the individual's scope for decision-making, referred to in what follows as decision latitude. To understand an individual's scope for action in the environmental field, we need to consider the individual's degree of decision latitude conferred upon them by the type of job performed. The range of possible actions is closely related to decision latitude. Several factors linked to the context of the job performed act potentially as contingent effects on the range of environmental choices available to an employee. These include the type of role, the nature of the tasks performed, and professional status. Clerical, white-collar, and blue-collar jobs are associated with different levels of decision latitude. Likewise, decision-makers (whether senior managers, middle managers or supervisors), and employees do not have the same degree of decision latitude.

### 9.1.2 *Decision Latitude and Constraints on the Ability of Employees to Act*

#### 9.1.2.1 *Decision latitude*

The concept of decision latitude is generally associated with the literature on work stress. More specifically, decision latitude is one of the dimensions of the demand-control model developed by Karasek during the 1980s and 1990s. Whether high or low, decision latitude determines the ability of an individual to bear the mental load associated with the nature of their tasks. In a context of high mental load, high decision latitude enables an individual to cope with stressful episodes by minimizing the harmful effects on their health, while low decision latitude makes stressful work situations difficult to bear and increases the prevalence of health risks. Overall, what the literature on work stress shows is that, within reason, an individual can adapt to a high mental load provided they are able to maintain significant leeway in how they manage their tasks and to draw on their skills and know-how.

What might decision latitude in terms of eco-friendly choices in a work context look like? Before attempting to answer this question, I propose to start from the idea that decision latitude is “the degree to which the respondent can make decisions at work, express creativity, and use and develop skills” (Gallo, Bogart, Vranceanu, & Walt, 2004, p. 64). This definition provides a useful practical framework for understanding the degree of latitude associated with environmental behaviors and implies an ability to influence. However, it is important to note that decision latitude should be distinguished from environmental leadership. Considered at the individual level, environmental leadership involves encouraging an idea, sharing a skill, or promoting a practice with the aim of encouraging other members of the organization to take an interest in the issues and challenges surrounding the greening of their workplace. The concept of environmental leadership reflects an individual’s ability to shape the actions and behaviors of others, while the concept of decision latitude discussed here refers to the ability of an individual to behave pro-environmentally given the contingencies associated with the job performed. Put differently, it corresponds to any environmental behavior that can be performed independently without requiring or presupposing any action or approval by another person.

Starting from this basic idea, and as suggested above, we may assume that, in theory, the higher the position of an employee in organization

chart, the higher their decision latitude in terms of their ability to act toward the environment. Conversely, an employee in a subordinate position will tend to have a lower degree of decision latitude. Here, decision latitude concerns the extent of behavioral choice rather than any individual willingness to act in an environmentally friendly way in a work context.

To illustrate how employees may or may not be limited in terms of behavioral choices, Fig. 9.1 shows some examples drawn from the list of statements provided by Francoeur et al. (2019). For example, “replacing old appliances by energy-efficient devices” (high decision latitude; direct environmental behaviors) assumes that an individual has a different degree of latitude in terms of decision-making compared to what “encouraging colleagues to recycle” (low decision latitude; indirect environmental behaviors) implies. In combining decision latitude as defined above with the environmental behaviors listed here, we arrive at a wide range of situations. It is beyond the scope of this chapter to list them all.

**Examples.** Employees in jobs associated with low decision latitude will, in all likelihood, find it easier to engage in direct environmental behaviors that fall under the “conservation” category or in indirect environmental behaviors falling under the “influencing others” category.

On the face of it, reusing, reducing, recycling, and repurposing/repairing represent direct ecological behaviors that offer

	Low decision latitude	
Direct behaviors	<ul style="list-style-type: none"> <li>. Taking stairs instead of taking elevators when moving between 2-3 floors</li> <li>. Opening or closing windows rather than turning heating or air conditioning up when it's hot or cold</li> <li>. Turning down heating in own office</li> <li>. Repairing rather than throwing things away</li> </ul>	<ul style="list-style-type: none"> <li>. Turning off lights on behalf of others</li> <li>. Encouraging colleagues to recycle</li> <li>. Helping employees to understand our environmental problems</li> <li>. Encouraging colleagues to adopt more environmentally conscious behavior</li> </ul>
	<ul style="list-style-type: none"> <li>. Implementing paper saving practices</li> <li>. Replacing old appliances by energy-efficient devices</li> <li>. Purchasing eco-friendly products</li> <li>. Choosing suppliers based on environmental criteria</li> <li>. Donating used/old appliances</li> </ul>	<ul style="list-style-type: none"> <li>. Urging suppliers to go green</li> <li>. Offering green seminars to suppliers</li> <li>. Supporting green groups financially</li> <li>. Avoiding purchasing disposable items</li> </ul>
	High decision latitude	Indirect behaviors

**Fig. 9.1** Examples of statements crossing level of latitude and distinction between direct and indirect behaviors

employees the widest range of possibilities for behaving pro-environmentally. Refusing should also be included in the list since refusing to use a specific resource, whether in physical or energy form, may be said to constitute the most pro-environmental of acts—quite simply because refusing is a condition for achieving a zero-carbon footprint. However, because the organization of work activities has attained such a high degree of integration in the use of resources of all kinds, refusal is not a realistic option for many employees.

The greatest latitude concerns the range of actions and behaviors involved in energy conservation. Switching off one's computer or the lights when leaving the office at the end of the day or, by extension, unplugging any device or appliance requiring a supply of electricity stems from an individual and independent decision that does not require another person's approval. Environmental behaviors relating to energy use offer the greatest room for maneuver, though without involving a completely free rein. For example, the use of air conditioning or heating may be impacted according to how the workspace is organized. In the case of an individual premises, low latitude does not influence the ability to open or close windows rather than turning the heating or air conditioning up in warm or cold weather. In the case of a shared premises, low latitude can easily constrain an individual's room for maneuver. In this case, the need to seek approval from colleagues can constrain the degree of individual decision latitude.

Individuals in jobs involving high decision latitude will probably find it easier to engage, in addition to conservation behaviors, in behaviors associated with the "transforming" category. A more nuanced perspective may be needed here. Returning to the example given above of eco-responsible purchasing, something that can be done without difficulty or hindrance in a private context may be possible in an organizational context provided the individual has a sufficient degree of delegation in the decision-making process involved in purchasing eco-responsible products or supplies. However, the range of ecologically responsible alternatives at work is heavily conditioned by the ability of individuals to act freely. Choosing a supplier based on environmental criteria (To, Lam, & Lai 2015) is not the same as choosing an organic meal in the company canteen (Blok, Wesselink, Studynka, & Kemp 2015). Lastly, some findings appear to suggest that decision latitude is not always associated with the role, rank or position held by an employee. As noted below, Cordano and Frieze (2000) reported that three in four environmental managers

experienced difficulties in their ability to make the best possible choices to prevent pollution by their organization simply because the choices that seemed most viable to them ran up against the need for approval by decision-making committees.

## 9.2 MANAGING ENVIRONMENTAL PERFORMANCE: CONNECTING THEORY TO PRACTICE THROUGH RESEARCH

### 9.2.1 *Greening the Workplace: A Shared Responsibility*

Greening the workplace is above all a matter of shared responsibility. One of its goals is to provide practical solutions in terms of social responsibility to protect future generations from the long-term burden associated with the deterioration of the natural environment caused, in the short term, by the carbon footprint of the industrial, commercial and administrative activities carried out by organizations. This shared responsibility lies at the heart of the conditions required for achieving high environmental performance.

Senior management employees are responsible for defining the environmental vision of an organization (Milliman & Clair, 1996) and for promoting that vision in a top-down way at all levels of the organization. The role of employees down the reporting line is to translate this vision into strategic objectives. Depending on their position along that line, they may be responsible for converting those strategic objectives into operational objectives (Dubois, Astakhova, & Dubois, 2013). The process of conversion applies down to the execution of the most basic tasks. The idea starts from the premise that the vision is clearly defined, that it fits in with the organization's overall mission, that the translation of this vision into strategic and operational objectives is achieved without loss of meaning, that each individual, regardless of their role within the organization, has a perfect understanding of the content of that environmental vision, and, moreover, that each individual is capable of using the resources made available to them in order to act in accordance with that vision. It is only on this condition that the greening of the organization can, in theory, be fully achieved. It seems to me that, in order to be as complete as possible, the measurement of environmental performance should also take into account all these aspects, from the assessment of the

vision proposed by top management to what each member of the organization actually does in their day-to-day work in terms of greening by way of realizing that vision.

This also presupposes that individuals at all levels of decision-making have a full and unambiguous understanding of the expectations articulated at higher echelons of the organization, but also of what needs to be done as part of the tasks associated with their job. Having understood the environmental issues and objectives at stake, a requirement such as this also presupposes that each individual incorporates into their work routines the habits that will enable them to act in accordance with the expectations defined at the organizational level. However, individuals may not necessarily have the level of environmental awareness needed to act in accordance with their employer's expectations. Therefore, it is the responsibility of management within organizations to put in place the necessary tools and resources to align the environmental vision with the environmental attitudes expected of employees (Jackson, 2012), to instill an organizational culture centered on the preservation of the environment as a core value (Fernández, Junquera, & Ordiz, 2003), and to promote an environmental culture in the workplace that is conducive to engagement by the greatest possible number of employees (Norton, Parker, Zacher, & Ashkanasy 2015).

### *9.2.1.1 Organizational environmental performance*

The idea of shared responsibility for greening the workplace leads on to the question of environmental performance, a matter that also concerns employees at all levels of the organization. Here, a good starting-point is the definition provided by Simpson (2012), according to whom environmental performance may be defined as “a firm’s capacity to improve in three main areas: prevention of waste before it occurs, recycling or reducing waste that arises from end-processes, and more efficiently using its material resources” (p. 35). In broad outline, environmental performance refers to objective criteria indicating how an organization seeks to prevent or reduce its environmental impact in terms of ordinary pollution, i.e., the pollution stemming from its routine industrial, commercial and administrative activities and differing from a one-off pollution event occurring as a result of an industrial accident (consider the example of the Lubrizol plant in France in September 2019). Simpson’s definition introduces the notion of efficiency, a key term requiring closer examination. An overview of the literature on environmental issues shows that definitions

which make a distinction between levels of environmental performance in terms of effectiveness or efficiency are relatively rare. However, the distinction matters.

Effectiveness and efficiency are not the same, referring, as they do, to related but distinct concepts. Wherein lies the difference between effectiveness and efficiency? An answer to this question can be found in Davis and Pett (2002), who proposed to define efficiency as “the amount of output obtained from a given input” (p. 87) and effectiveness as “the resource-getting ability of an organization” (p. 87), implying a distinction between means and results. If we apply the same idea to the environmental domain, we may say that environmental effectiveness views performance more in terms of the means deployed rather than the results achieved, while environmental efficiency involves viewing performance in terms of the means used in relation to the results achieved. This subtle distinction allows for a better understanding of the concept of environmental performance.

Environmental efficiency is reflected in the use and implementation of environmental practices that help to determine the scale and extent of the means devoted by an organization to preventing its industrial and commercial activities from impacting the environment. We find this idea in various forms and with varying degrees of detail in a number of proposals. For example, Boiral and Henri (2012) proposed the idea of “process and product improvements resulting from the integration of environmental considerations in the operational decisions of the firm” (p. 86), while Husted and de Sousa-Filho (2017) emphasized “the use of good environmental practices, such as implementing pollution control measures, making environmental investments, and setting environmental policies” (p. 94).

In this case, efficiency focuses environmental performance on the question of the environmental consequences arising from the introduction of environmental practices. This approach is reflected, for example, by Blechinger and Shah (2011), who proposed to define environmental performance as “the overall contribution of the policy instrument to direct reduction of GHG-emissions and other indirect environmental impacts such as saved kWhs” (p. 6336). A similar idea can be found in Smeets, Lewandowski, and Faaij (2009), who examined environmental performance in terms of “the greenhouse gas (GHG) emissions, the primary fossil energy use and [...] the impact on fresh water reserves, soil erosion and biodiversity” (p. 1230). The two definitions differ in terms



of intention from definitions that only consider the environmental consequences attributable to organizational activities without really specifying what is meant by “organizational activities.” This position is illustrated, for example, by Li and Lu (2016), according to whom environmental performance corresponds to “the outcomes of the firm’s environmental commitments” (p. 463), by Langfield-Smith et al. (2009), who emphasized “the impact of an organisation’s activities on the environment, including the natural systems such as land, air and water as well as on people and living organisms” (p. 859), and by Burgos-Jiménez, Vázquez-Brust, Plaza-Úbeda, and Dijkshoorn (2013), who drew attention to “the actual outcomes of environmental efforts in terms of protecting the environment” (p. 984).

Ordinary pollution is regulated by implementing environmental practices, including, for example, certifications such as ISO 14000, alongside a wide range of administrative and industrial procedures. These tools provide solutions designed to enable organizations to develop environmental performance strategies (Daily & Huang, 2001). However, it is surprising to find that, behind the range of available definitions, there lies an often implicit reality largely neglected in research: human intervention. While the introduction of an environmental standard or the use of an environmental management system may be viewed as necessary conditions for achieving environmental performance, they are not sufficient in themselves insofar as their introduction and implementation often require daily corrections and remedies that are only possible through human intervention. For the present purposes, the implication is that environmental performance cannot really be conceived without taking the human factor into account. In other words, regardless of whether the study of environmental performance focuses on effectiveness or efficiency, the assumption is that the starting-point should always involve an approach that places the question of human intervention at the heart of its analysis.

### 9.2.1.2 *Environmental performance at the individual level*

It is sometimes argued that environmental performance at the global level starts with the achievement of environmental performance at the individual level (Ciocirlan, 2017; Gregory-Smith, Wells, Manika, & Graham 2015). More recently, Ones et al. (2018) examined the performative nature of environmental behaviors in the following terms: Are green behavior an entirely new dimension of job performance, or do they fit into one or more broader performance constructs? To fully understand

them, we need to reexamine the foundations underlying the notion of the inclusion of environmental concerns in job tasks discussed in Chapter 3.

In the mid-60s, Katz (1964) examined the theoretical foundations of organizational functioning based on an individual-centered approach. Katz argued that three conditions must be satisfied to enable an organizational system to function effectively. The three conditions set out at the beginning of his paper (p. 132) are: (1) People must be induced to enter and remain within the system; (2) They must carry out their role assignments in a dependable fashion; and (3) There must be innovative and spontaneous activity in achieving organizational objectives which go beyond the specifications of the role. For my purposes, inclusion in job tasks concerns the latter two conditions, which determine what an employer explicitly expects and what they implicitly want from their employee. An organization can legitimately expect its employees to perform the role assigned to them, which broadly involves adhering to various constraints associated with the performance of their work, which is itself assessed in terms of productivity and quality. An organization also expects its staff to engage in other behaviors that not are clearly or explicitly defined. The range of these behaviors is left to the discretion of employees—Katz (1964) speaks of spontaneous innovative behaviors. It is important to note here that Katz presents implicitly desired behaviors as an inherent paradox of any social system. This is because the implication is that management must negotiate between the requirement to comply with instructions and the degree of autonomy granted to employees to enable them to carry out their work.

Examining work behaviors in in-role/extra-role terms helps to further our understanding of the scope of action of employees. At the point beyond which we leave the domain of prescribed tasks that are assumed to be capable of being measured, controlled and assessed to venture into the gray area of real behaviors at work, what people actually do in their work activities has, for several decades, been a research topic that many disciplines in the humanities have sought to understand by using terminologies drawn from different methods or theories. Over time, and following Katz (1964), researchers have found that this gray area provides vital room for maneuver not only for organizations, but also for their members. It is vital for organizations since, very often and without ever really being aware of it, they would not be able to achieve their own performance standards. Indeed, studies have shown that the introduction

of environmental standards in an organizational environment presupposes that employees are able to act independently on a day-to-day basis to prevent or correct any instance of poor performance or malfunction (Boiral, 2002).

### *9.2.1.3 Carbon footprint as an indicator of environmental performance*

The study of environmental performance in terms of individual subjectivity requires objective criteria on the basis of which a genuine monitoring tool can be developed to compare the comparable. Any serious analysis of the question of performance in general and of environmental performance in particular must be based on measurable, manipulable and usable criteria fit for assessment purposes. The notion of carbon footprint provides a means of meeting the need for quantification. A good starting-point might be to provide some brief explanations to facilitate understanding of the concept.

Ever since the Kyoto Protocol, the main aim of which was to reduce greenhouse gases, the notion of a ton of carbon dioxide equivalent has become the unit of account generally used to quantify the impact of human activities on the natural environment. CO<sub>2</sub> is a greenhouse gas. Since CO<sub>2</sub> is not the only gas responsible for the greenhouse effect, the term carbon equivalent is also used to refer to the various other gases involved in the greenhouse effect process, such as methane and chlorofluorocarbons (to which the destruction of the ozone layer has been attributed). Without going into a detailed explanation that would be beyond both the scope of this book and my own expertise, and in the spirit of simplicity, suffice to say that CO<sub>2</sub> is generally the carbon molecule considered when studying environmental issues.

A ton of carbon is measured as the level of concentration of CO<sub>2</sub> contained in the atmosphere and corresponds to the ratio of the number of greenhouse gas molecules to the number of air molecules, counted as the number of parts-per-million of particles (source: Actu-Environnement). The level of concentration, measured in parts-per-million (ppm), provides a means of representing as an indicator the changes over time observed in the degree of constraint exerted on the natural environment by the emission of greenhouse gases. A concentration of 400 ppm is defined as a critical threshold. Measured at sea level at a temperature of 25 degrees Celsius, one ton of carbon corresponds to a

volume of around 535 cubic meters (source: Figaro.fr, SN Davideau, 05 September 2009).

However, the notion of ton of carbon equivalent may also be thought of as a unit of account. Like any unit of account, it operates as a standardized unit of measurement. In the same way as currencies, it is now used by major industrial and national emitters on trading markets to pursue their potentially harmful activities without fear of retribution. Beyond its economic applications, this standardized unit of account may be viewed as a pedagogical tool that provides a means of translating the effects of human actions into mentally manipulable representations. Standardization enables the notion of ton of carbon equivalent to be used as a helpful point of reference for comparing two things that may be difficult to compare and to estimate the real impact and significance of an individual act.

By way of illustration, one ton of carbon equivalent is equivalent to the amount of energy consumed by three employees over the course of a year in carrying out their work (source: GreenIT.fr). It is estimated that one email generates 19 grams of CO<sub>2</sub>, while one online search generates 7 grams (source: Ademe.fr). One ton of carbon equivalent therefore represents 50,000 emails or 142,000 online searches.

Other comparisons have been drawn in research on the choice of mode of transport. According to Bernet (2018), a car “produces 300 kg of CO<sub>2</sub> over the course of a 1000 km return trip. In this case, a car is more polluting than a plane. But people only go on vacation occasionally. With a passenger, emissions are halved, and decrease fourfold when four people travel together. In these cases, driving is far less polluting than flying. However, air travel is at a disadvantage in the case of short trips. Since it uses a significant amount of fuel on takeoff, a plane’s carbon footprint is greater over short distances. In the case of Paris, it emits 330 grams per kilometer, but only 189 grams when flying to Beijing.” While Bernet compares road and air travel in a vacation context, it seems to me that the same assessment can easily be transferred to a work context. This example provides further evidence of the benefits of carpooling for business travel (for example, when several people from the same firm are required to travel in order to carry out the same assignment).

Another interesting example is provided by Gregory-Smith et al. (2015) in a study devoted to the use of internal social marketing techniques in reducing the use of paper in a work context. The improvement in environmental performance was assessed in terms of CO<sub>2</sub> emissions.

Thus, the reduction in the quantity of printed paper over the course of a year corresponds to an improvement amounting to 690 kilograms of CO<sub>2</sub>.

## 9.2.2 *Greening the Workplace Through Practices*

### 9.2.2.1 *Resources and costs*

The decoupling or dissociation of resource consumption and the associated economic costs is another phenomenon sometimes invoked to explain why people behave differently depending on the environment in which they find themselves. The dissociation has been emphasized in various ways in research on energy consumption (Carrico & Rimmer, 2011; Lo, Peters, & Kok, 2012). One possible explanation is that, in a private setting, energy consumption is a direct domestic cost borne financially by the individual, whereas energy consumption in a workplace setting is a resource made available to the individual to perform a job, the economic cost of which is borne by the organization. The effect of this dissociation may be a form of environmental de-responsibilization among people with little awareness of, or concern for, environmental matters.

When environmental performance is an objective to be pursued, excessive resource consumption can be a legitimate concern when considered at the organizational level. Therefore, it is important for management to provide employees with the means to develop their environmental awareness. To do so, organizations may exploit the potential for individual behavioral plasticity. Here, behavioral plasticity should be understood to mean the way in which an individual's behavior is modified in response to stimuli in their reference environment. Several definitions of the concept have been proposed in a wide range of research fields. In a managerial context, behavioral plasticity is defined by Brockner (1988) as "the extent to which individuals' actions are susceptible to influence by external, and, particularly, social cues" (p. 27). In an organizational environment, though operating at different levels, two types of practices may be used: behavioral intervention practices and green human resource practices.

### 9.2.2.2 *Behavioral change and intervention*

Intervention practices designed to effect behavioral change provide organizations with the means of tending toward the greening of workplaces. The foundations of this field of practice are difficult to dissociate from the studies and interventions developed by Lewin and his colleagues in

the 1940s and 1950s. Lewin's conceptual principles and practical recommendations were reported in his famous chapter entitled "Group Decision and Social Change" published in 1947 in *Readings in Social Psychology*. The general approach broadly underlying Lewin's thought is rooted in his determination to provide psychology with the epistemological, theoretical and methodological tools to become a scientific discipline on a par with physics (see Chapter 7). As an anecdote, it is worth noting that around the same time a similar movement from the physical to the social sciences was being mapped out. For example, the Italian physicist Ettore Majorana, whose long-forgotten work is now gradually being rediscovered and praised for its scale and modernity, proposed a profound reflection on the possibilities of a "formal analogy between the statistical laws observed in physics and in the social sciences" in a posthumous paper (quotation from Mantagna cited in Bontems, 2013).

The conceptual principles developed by Lewin are based on the simple idea that human behavior is the manifestation of a latent force field. This field is the expression, at a given time, of the relationship between opposing forces. This relationship is described as a state of "quasi-stationary equilibrium." The key point in Lewin's approach is that this equilibrium is the result of an ongoing social process (Lewin, 1947). It can be modified, so Lewis argues, by having an effect on the antagonism of forces. The goal of intervention practices is precisely to modify this antagonism in such a way as to tend toward the desired behavior. A practical intervention can help to reconfigure the conditions of the equilibrium of the force field in order, in theory, to encourage individuals subject to intervention to adopt the behaviors targeted by the experimenter. Lewin sought to demonstrate the validity of his approach through experiments reported in his chapter on food choices and habits and on resistance to change in an industrial context.

Lewin's approach has given rise to an important stream of research for the study of behavioral modifications in an environmental context. For example, Staddon et al. (2016) published a systematic review of interventions designed to change behavior and save energy in the workplace. Their review included 22 studies examined and interpreted using the Behaviour Change Wheel (BCW) research framework imported from health research. BWC examines health behavior changes through nine forms of intervention: education (Increasing knowledge or understanding), persuasion (Using communication to induce positive or negative feelings or stimulate action), incentivization (Creating expectation of

reward), coercion (Creating expectation of punishment or cost), training (Imparting skills), restriction (Using rules to reduce the opportunity to engage in the target behavior), environmental restructuring (Changing the physical or social context), modeling (Providing an example for people to aspire to or imitate), and enablement (Increasing means/reducing barriers to increase capability or opportunity). The study by Staddon et al. (2016) has two main benefits for my purposes. The first is that it focuses on pro-environmental behaviors associated with high decision latitude at the individual level. Second, it provides a good illustration of the possible levers for action in terms of greening the workplace, along with empirically-based findings. The main results are as follows:

- Enablement is the form of intervention that offers the greatest potential for encouraging employees to change their behavior and adopt environmental behaviors conducive to energy consumption reduction (e.g., switching off lights, turning off computers). Enablement emphasizes psychological capability, motivations and the opportunities that enable employees to overcome obstacles in the workplace.
- Intervention practices focused on influence and adherence to social norms are considered to be more effective than practices based on modeling, peer education, and social persuasion.
- The effectiveness of these practices is reflected by the energy efficiency gains achieved, which, according to the studies reviewed, range between 4% and 51%.

Overall, the study by Staddon et al. (2016) demonstrates that the findings of studies devoted to the role of intervention practices in modifying environmental behaviors have generally been consistent with the Lewinian tradition. Compared to practices that tend to position individuals in a passive role or mobilize them using constraint, practices that engage employees on a voluntary basis offer the most effective lever for promoting behavioral change.

### 9.2.2.3 *Green Human Resource Management practices*

The need to consider environmental matters in an organizational context has led to the need to review the Human Resource Management approach and to question the role of its most common practices. The focus

of GHRM practices is also to meet the expectations of stakeholders performing their environmental monitoring activity in relation to the actions of organizations. This need has led to the emergence of a new branch of Human Resources Management that has come to be known as Green Human Resource Management (GHRM).

The study by Renwick, Maguire and Redman (2013) was a major contributing factor in the emergence of this new field—a field increasingly structured in recent years around a community of active researchers. According to Amrutha and Geetha (2020), more than half of the papers devoted to GRHM appeared between 2016 and 2019. However, these recent developments should not obscure the earliest thoughts on the subject reported in the volume edited by Whermeyer (1996) and published under the title *Greening the People*, which offers one of the first substantive considerations of the role of human resources in a context of environmental transformation in an organizational setting. GHRM practices play a key role at each stage of the employee life-cycle from attracting newcomers (Pham & Paillé, 2020) to staff retention (Benn, Teo, & Martin 2015).

Tang et al. (2018) described GHRM practices by drawing on the relevant literature. Only the main propositions are reproduced below:

- *Green recruitment and selection*: “The preference of the organization is to select candidates who are committed and sensitive to environmental issues and willing to contribute through internal or external recruitment”;
- *Green training*: “The organization implements a system of learning practices related to environmental issues to improve employees’ awareness and their environmental management skills”;
- *Green performance management*: Based on “the vision of environmental management, the organization will appraise employees’ environmental results in the [entire] operational process to assess their contribution to organizational goals”;
- *Green rewards*: “Financial and non-financial rewards for organizational members whose attitude or behavior is conducive to environmental management”;
- *Green employee involvement*: “An opportunity is provided for employees to engage in environmental management. The broad types include participation, support culture and tacit knowledge,



which aim to stimulate members' commitment to the environmental management of the organization.”

GHRM practices are generally examined using the Ability-Motivation-Opportunity framework (Amrutha and Geetha, 2020). On this subject, Renwick et al. (2013) posited that “HRM works through increasing employees' *Ability* through attracting and developing high-performing employees; enhancing employees' *Motivation* and commitment through practices such as contingent rewards and effective performance management (PM); and providing employees with the *Opportunity* to engage in knowledge-sharing and problem-solving activities via employee involvement (EI) programmes” (p. 2).

Lastly, Zibarras, and Coan (2015) surveyed a sample of 214 individuals, most of whom were managers (16% of the respondents worked in a nonmanagerial position), focusing on how GHRM practices within the organization relate to the pro-environmental behaviors of employees. The findings highlight two key points. First, the prevalence of green rewards, employee empowerment and various environmental performance indicators tends to be greater in large firms (with more than 250 employees) than in small firms (with fewer than 250 employees). Second, management involvement (more than 35% of the responses), employee empowerment (more than 27% of the responses) and training (more than 17% of the responses), and green rewards (8% of the responses) were referred to as the most effective GRHM practices for encouraging employees to behave in an environmentally responsible way in their day-to-day work.

### **Some Concluding Remarks**

In previous chapters, I emphasized the close similarity between the environmental behaviors performed by an individual when engaging with different spheres or domains of activity. I also suggested that this similarity is no guarantee of behavioral continuity because of obstacles that are inherent to organizational contexts. Lastly, drawing on the notion of decision-making autonomy, several reasons were proposed to explain why individuals are limited in the range of environmental behaviors that they can actually perform in practice. An individual's contribution to environmental performance is thereby limited. The implementation of practices aimed at changing individual attitudes and behaviors is a means of moving toward the greening of workplaces.

## REFERENCES

- Amrutha, V. N., & Geetha, S. N. (2020). A systematic review on green human resource management: Implications for social sustainability. *Journal of Cleaner Production*, *247*, 119131.
- Benn, S., Teo, S. T., & Martin, A. (2015). Employee participation and engagement in working for the environment. *Personnel Review*, *44*, 492–510.
- Bernet, C. (2018). <https://www.24heures.ch/economie/bilan-carbone/story/23861440>.
- Blechinger, P. F. H., & Shah, K. U. (2011). A multi-criteria evaluation of policy instruments for climate change mitigation in the power generation sector of Trinidad and Tobago. *Energy Policy*, *39*(10), 6331–6343.
- Blok, V., Wesseling, R., Studynka, O., & Kemp, R. (2015). Encouraging sustainability in the workplace: A survey on the pro-environmental behaviour of university employees. *Journal of Cleaner Production*, *106*, 55–67.
- Boiral, O. (2002). Tacit knowledge and environmental management. *Long Range Planning*, *35*(3), 291–317.
- Boiral, O., & Henri, J. F. (2012). Modelling the impact of ISO 14001 on environmental performance: A comparative approach. *Journal of Environmental Management*, *99*, 84–97.
- Bontems, V. (2013). L'épistémologie Transversale D'ettore Majorana. *Revue de Synthèse*, *134*(1), 29–51.
- Brockner, J. (1988). *Self-esteem at work: Research, theory, and practice*. Lexington Books/DC Heath and Com.
- Carrico, A. R., & Riemer, M. (2011). Motivating energy conservation in the workplace: An evaluation of the use of group-level feedback and peer education. *Journal of Environmental Psychology*, *31*(1), 1–13.
- Ciocirlan, C. E. (2017). Environmental workplace behaviors: Definition matters. *Organization & Environment*, *30*(1), 51–70.
- Cordano, M., & Frieze, I. H. (2000). Pollution reduction preferences of US environmental managers: Applying Ajzen's theory of planned behavior. *Academy of Management Journal*, *43*(4), 627–641.
- Daily, B. F., & Huang, S. (2001). Achieving sustainability through attention to human resource factors in environmental management. *International Journal of Operations & Production Management*, *21*(12), 1539–1552.
- Davis, P. S., & Pett, T. L. (2002). Measuring organizational efficiency and effectiveness. *Journal of Management Research*, *2*(2), 87–97.
- de Burgos-Jiménez, J., Vázquez-Brust, D., Plaza-Úbeda, J. A., & Dijkshoorn, J. (2013). Environmental protection and financial performance: An empirical analysis in Wales. *International Journal of Operations & Production Management*, *33*(8), 981–1018.

- DuBois, C. L., Astakhova, M. N., & DuBois, D. A. (2013). Motivating behavior change to support organizational environmental sustainability goals. *Green Organizations: Driving Change with IO Psychology*, 186–207.
- Fernández, E., Junquera, B., & Ordiz, M. (2003). Organizational culture and human resources in the environmental issue: A review of the literature. *International Journal of Human Resource Management*, 14(4), 634–656.
- Francoeur, V., Paillé, P., Yuriev, A., & Boiral, O. (2019). The measurement of green workplace behaviors: A systematic review. *Organization & Environment*. <https://doi.org/10.1177/1086026619837125>.
- Gallo, L. C., Bogart, L. M., Vranceanu, A. M., & Walt, L. C. (2004). Job characteristics, occupational status, and ambulatory cardiovascular activity in women. *Annals of Behavioral Medicine*, 28(1), 62–73.
- Gregory-Smith, D., Wells, V. K., Manika, D., & Graham, S. (2015). An environmental social marketing intervention among employees: Assessing attitude and behaviour change. *Journal of Marketing Management*, 31(3–4), 336–377.
- Husted, B. W., & de Sousa-Filho, J. M. (2017). The impact of sustainability governance, country stakeholder orientation, and country risk on environmental, social, and governance performance. *Journal of Cleaner Production*, 155, 93–102.
- Jackson, S. E. (2012). Building empirical foundations to inform the future practice of environmental sustainability. In S. E. Jackson, D. S. Ones, & S. Dilchert (Eds.), *Managing human resources for environmental sustainability* (pp. 416–432). Wiley.
- Katz, D. (1964). The motivational basis of organizational behavior. *Behavioral Science*, 9(2), 131–146.
- Langfield-Smith, K., Thorne, H., Hilton, R. (2009). *Management accounting: Information for creating and managing value* (5th ed.). Sydney, NSW, Australia: McGraw-Hill.
- Lewin, K. (1947). Group decision and social change. In T. M. Newcomb and E. L. Hartley (Eds.), *Readings in Social Psychology* (pp. 340–44). Henry Holt and Co.
- Li, W., & Lu, X. (2016). Institutional interest, ownership type, and environmental capital expenditures: Evidence from the most polluting Chinese listed firms. *Journal of Business Ethics*, 138(3), 459–476.
- Lo, S. H., Peters, G. J. Y., & Kok, G. (2012). Energy-related behaviors in office buildings: A qualitative study on individual and organisational determinants. *Applied Psychology*, 61(2), 227–249.
- Milliman, J., & Clair, J. (1996). Best environmental HRM practices in the U.S. In W. Wehrmeyer (Ed.), *Greening people: Human resources and environmental management* (pp. 49–73). Greenleaf.

- Norton, T. A., Parker, S. L., Zacher, H., & Ashkanasy, N. M. (2015). Employee green behavior: A theoretical framework, multilevel review, and future research agenda. *Organization & Environment*, 28(1), 103–125.
- Ones, D. S., Wiernik, B. M., Dilchert, S., & Klein, R. M. (2018). Multiple domains and categories of employee green behaviours: More than conservation. In *Research handbook on employee pro-environmental behaviour*. Edward Elgar Publishing.
- Pham, D. D., & Paillé, P. (2020). Green recruitment and selection: An Insight of Green Pattern. *International Journal of Manpower*, 41(3), 258–272.
- Renwick, D. W. S., Redman, T., & Maguire, S. (2013). Green human resource management: A review and research agenda. *International Journal of Management Reviews*, 15(1), 1–14.
- Simpson, D. (2012). Knowledge resources as a mediator of the relationship between recycling pressures and environmental performance. *Journal of Cleaner Production*, 22(1), 32–41.
- Smeets, E. M., Lewandowski, I. M., & Faaij, A. P. (2009). The economical and environmental performance of miscanthus and switchgrass production and supply chains in a European setting. *Renewable and Sustainable Energy Reviews*, 13(6–7), 1230–1245.
- Staddon, S. C., Cycil, C., Goulden, M., Leygue, C., & Spence, A. (2016). Intervening to change behaviour and save energy in the workplace: A systematic review of available evidence. *Energy Research & Social Science*, 17, 30–51.
- Tang, G., Chen, Y., Jiang, Y., Paillé, P., & Jia, J. (2018). Green human resource management practices: Scale development and validity. *Asia Pacific Journal of Human Resources*, 56(1), 31–55.
- To, W. M., Lam, K. H., & Lai, T. M. (2015). Importance-performance ratings for environmental practices among Hong Kong professional-level employees. *Journal of Cleaner Production*, 108, 699–706.
- Zibarras, L. D., & Coan, P. (2015). HRM practices used to promote pro-environmental behavior: A UK survey. *The International Journal of Human Resource Management*, 26(16), 2121–2142.