
1. Introduction to the *Research Handbook on Employee Pro-Environmental Behaviour*

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It is generally accepted that it is important to study pro-environmental behaviour in various contexts (Steg and Vlek 2009) and the majority of the work in this area has taken place in the home by examining and encouraging sustainable consumption (Reisch and Thøgersen 2017). However, pro-environmental behaviour is also important within organisational environments as highlighted by interest in the field of corporate social responsibility (Aguinis and Glavas 2012), corporate environmental responsibility (CER) and corporate ecological responsiveness (Bansal and Roth 2000). Over the last few years there has also been increasing attention on the pro- or anti-environmental behaviours of employees (Lo et al. 2012; Lamm et al. 2013; Robertson and Barling 2015). It is vital to understand this area as individual employees' behaviour contributes significantly to an organisation's environmental performance and employees spend a considerable amount of their day at work. However, in 2009 Davis and Challenger calculated that only about 2 per cent of studies on pro-environmental behaviour were based in the workplace, and of these, most focused on waste and few were theoretically based. The field has grown and developed significantly since 2009 with work on employee pro-environmental behaviour often using a range of theories and models, either developed in general social psychology or specifically from broad pro-environmental studies to assess employee environmental behaviour, often by adapting them to the organisational context. This *Handbook* provides a snapshot in time of a now rapidly developing field.

Recent advances in the examination of employee environmental behaviour have more carefully delineated and categorised the many types of pro- and anti-environmental behaviours that employees can enact in an organisational context (see Chapter 2 in particular). However, there still remains much debate about the terminology used and the focus of these studies. Even within this *Handbook* many different terms for employee pro-environmental behaviour are used, including employee green behav-

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aviours (EGB), employee environmental commitment, voluntary pro-environmental behaviour of employees (VPBE), organisational citizenship behaviours for the environment (OCBE) and green workplace behaviour. These different terminologies reflect the different disciplines from which they come (many of which are represented here) and whether they focus on voluntary behaviour or those prescribed as part of a job role or both. They also highlight the current discussion about direct (direct gestures to enhance the environment – e.g., conserving water) or indirect (motivating other staff to engage in direct gestures) (Homburg and Stolberg 2006) pro-environmental behaviours. These discussions are still ongoing and are reflected throughout the chapters included in this *Handbook*.

Over the last ten years, there has been increasing interest in the area of employee pro-environmental behaviour, which has largely focused on the antecedents and consequences of employee pro-environmental behaviour. This work is highlighted in Part II of the *Handbook*. However, increasingly, research is also utilising technological approaches to gain a greater understanding of employees' behaviour and produce effective interventions and campaigns with real-world significance (see Parts III and IV of the *Handbook*).

The *Handbook* contains a mix of empirical, theoretical and discussion chapters from a range of backgrounds including organisational psychology, human resource management (HRM) and social marketing. The chapters provide a range of different methods, from interviews and focus groups, to longitudinal surveys and diary methods. The *Handbook* also contains work from across the globe, with studies from the USA and Europe as well as Asia and Australia highlighting the global reach and appeal of this area of study.

The *Handbook* chapters are split into six parts covering a broad range of topics. The first part (What is employee pro-environmental behaviour?) includes two chapters. Both chapters attempt to clarify what green behaviour in organisations is and what it looks like, first from the employee perspective and second from the HRM perspective.

The first chapter (Chapter 2) presents and discusses the Green Five taxonomy. This chapter builds on the recurring theme, already discussed above, regarding the problem of multiple definitions and taxonomies of green or pro-environmental behaviours in the workplace. The chapter proposes that many definitions currently utilised in the area are too narrow, and too focused on the three Rs (reduce, reuse, recycle). To overcome this, the chapter develops the Green Five taxonomy to demonstrate the full range of behaviours. As the authors note, this can include all dimensions of job performance, including core technical performance (e.g., mutual fund managers choosing investments based on companies'

environmental performance, tractor operators driving more slowly to reduce fuel usage), counterproductive work behaviours (ignoring sustainably purchasing policies), communication (writing sustainability reports), effort/initiative (going out of one's way to act sustainably), hierarchical leadership (supporting subordinates' green ideas), and others. They also highlight Campbell and Wiernik's (2015) study, which described EGB as a compound performance domain – a collection of performance behaviours spanning multiple substantive performance dimensions which are united by a common goal – rather than a separate performance dimension into by themselves. The taxonomy contains 17 behavioural categories with five meta-categories, each with similar functional goals and common psychological underpinnings. They also highlight the cross-cultural validity of the taxonomy, at least across Europe and the USA. The chapter finishes by presenting implications for HRM practice.

The second chapter in this part (Chapter 3) concentrates on Green HRM (GHRM) and distinguishes it from sustainable HRM. The chapter comments that many organisations have a haphazard approach to environmental management, and engage in 'random acts of greenness', or a set of disparate green initiatives, with mixed effects (Makower and Pike 2008). By contrast, a coherent, strategic approach to sustainability via GHRM being performed in a consistent and integrative fashion is necessary. GHRM elements such as recruitment, job design, training and development, performance measurement and green orientation and onboarding are presented and discussed. The chapter also discusses how green education in firms is delivered. Overall the chapter seeks to show what GHRM does and does not look like and concludes by highlighting the importance of encouraging participation in green issues and making links to corporate social responsibility (CSR) programmes.

The second part of the *Handbook* contains chapters that focus on a diverse range of antecedents and consequences of green employee behaviour. This part contains nine chapters and is by far the biggest section in the *Handbook*. This reflects the breadth of literature in the broad area of employee environmental behaviour, with a particular focus on antecedents of green employee behaviour.

The first chapter in this part (Chapter 4) examines a range of individual factors that can promote or inhibit environmentally relevant employee behaviours. The chapter examines the influence of attitudes, knowledge, demographics and stable individual differences via meta-analyses and their relationship with employee green behaviours. They highlight the importance of intentions, habits and motives as well as the values of conscientiousness, openness and agreeableness on employee green behaviours. From these, the authors make suggestions for HRM practice

and suggestions for interventions. They also note the need to align these interventions with broader organisational environmental goals.

The second chapter in this part (Chapter 5) concentrates on the voluntary pro-environmental behaviour of employees (VPBE) and their role in corporate greening. It discusses the characteristics of VPBEs and examines their theoretical determinants via the Theory of Planned Behaviour (TPB) and Norm Activation Model (NAM). In doing so, this chapter highlights the role of attitudes, social and personal norms, perceived organisational support and affective commitment. It also assesses a range of different interventions including one on one conversations, interventions via e-mail and also via newsletters. Overall, the chapter also draws attention to the often-neglected role of habit (also noted in Chapter 3) in establishing a pro-environmental organisational climate.

The third chapter in this part (Chapter 6) highlights the role of values and context as antecedents of pro-environmental behaviour at the workplace. Situated in the domain of CER, the chapter highlights the need to engage employees in multiple pro-environmental behaviours. It highlights the extent to which employees are focused on the environment as an important determinant of pro-environmental behaviour and why employees would be willing and likely to behave pro-environmentally at work, even though it may be somewhat costly, effortful or inconvenient. Additionally, they note the role of values (in particular biospheric values) identity and norms via the values–identity–personal norms (VIP) model. They suggest that values provide a stable basis for, and determine the strength of, people's focus on benefiting the environment while contextual factors may further strengthen people's focus on benefiting the environment by making these values accessible or by additionally steering people's focus towards environmental aspects. They note that while values are important, without an enabling context where employees can act upon their values, they will not change their behaviour for the better. The results of their empirical studies highlight that contextual factors may particularly encourage pro-environmental actions amongst those with relatively weak biospheric values.

The fourth chapter in this part (Chapter 7) examines individual differences in the performance of behaviour and, in particular, it focuses on within-person variability of behaviour and change over time. In this way, it examines the temporal patterns in behaviour and how an individual's behaviour may change, or be inconsistent, across a day, a week, a month, a year and so on. In particular, the chapter focuses on the role of positive affect as an antecedent of this temporal variability and presents a conceptual framework to guide future research. The chapter additionally highlights daily diary studies as a useful methodology for conducting research with an extensive longitudinal design.

The fifth chapter in this part (Chapter 8) examines employee pro-environmental behaviour and its determinates in Hong Kong. In particular, it focuses on, via an empirical study, three factors affecting employees' engagement in green behaviours. These factors are job characteristics (especially autonomy at work), management involvement (in particular management expectations) and employee intrinsic motivation. The authors highlight that, in the Hong Kong context, intrinsic motivation is the most important determinant but management expectations are also key. Overall, they suggest that developing environmental education of employees is crucial to encouraging engagement with environmental practices.

The sixth chapter in this part (Chapter 9) examines the role of the 'caring manager' or 'caring leader'. The chapter builds on Gilligan's ethics of care and applies this to the employee environmental behaviour perspective. The chapter examines the role of support from managers in supporting employees to be more environmentally friendly and suggests that employees are more likely to perform responsible environmental behaviour when they are supported by their manager. The authors also highlight the potential for managers to help employees overcome burden, constraints and tensions. Their key message is that managers must support employees if they want to support the environment.

The seventh chapter in this part (Chapter 10) examines further the role of the leader on employees' environmental behaviour. The chapter highlights that leaders facilitate pro-environmental behaviour change within organisations and that the employees' immediate manager is likely to have the most immediate effect on employees' behaviour. The authors examine and discuss the potential effects of a range of leadership styles, including transformational leadership, environmental leadership, green entrepreneurial leadership and spiritual leadership. They also discuss the potential impact of leadership development initiatives.

The eighth chapter in this part (Chapter 11) builds on earlier chapters by focusing on organisations and, particularly, how managers can encourage their employees to be green at work and build a green culture. They utilise the concept of complex adaptive systems (those that adapt to their environment through the interaction of multiple, interdependent elements) to examine the range of methods, interventions and incentives that organisations use to encourage employee pro-environmental behaviour. These include leader modelling (transformational leadership), incentives schemes (financial/non-financial), the organisational environment (infrastructure) and recruitment and training. The authors also examine the consequences or outcomes of employee green behaviours and highlight environmental performance and cost savings as key. In using the complex

systems approach, they highlight the reciprocity cycle of influence between employees and the organisation as a whole and highlight the importance of involving front-line employees in any developments. They also describe this as a dynamic learning process, where there is experiential and vicarious learning resulting in system level cultural change.

The final chapter in this part (Chapter 12) examines symbolic motives of pro-environmental behaviour for both employees and, more broadly, organisations. The chapter highlights that green employee behaviours can be superficial, improvised and symbolic in nature, rather than based on true environmentalism. The framework presented in the chapter highlights that organisations are motivated to engage in PEB due to legitimisation restrictions, the need for competitiveness, stakeholder pressures, and ecological responsibility. Alternatively, employees are motivated to engage in PEB due to normative and symbolic reasons, job requirements and ecological responsibility. The authors highlight three key motivations – appropriateness, competitiveness, and status, that operate at both organisational and employee levels.

The third part of the *Handbook* contains three chapters which, to a greater or lesser extent, focus on interventions that encourage pro-environmental behaviour amongst employees or target organisational green behaviour change. While interventions and their implications have been discussed briefly in some of the previous chapters above, the chapters in this part particularly focus on discussing interventions and their elements in detail.

The first chapter in this part (Chapter 13) looks at the role of self-determination theory (SDT) and participatory action research to raise employees' motivation by concentrating on three elements: relatedness, autonomy and control. To do this, the authors use participatory interventions (PI) as a method of involving employees in the planning and decision process for pro-environmental behaviours, which are implemented in their workplace. As the authors note, participation is the process during which employees gain influence regarding information-processing, decision-making, or problem-solving (Wagner 1994). In this regard, a PI is not done *for or on*, but *with* employees (Heron and Reason 2001). The chapter puts forward a range of tools that can be used to empower employees, which include reflective listening, force field analysis and action planning.

The second chapter in this part (Chapter 14) also looks at a potential way to build up employees' motivation, in this case towards energy-saving behaviour. Via socio-motivational and micro-interactional perspectives, which build on change management research, they propose motivational interviewing to potentially help energy managers (change agents) to discuss energy saving with employees. Motivational interviewing is defined

as a ‘collaborative conversation style for strengthening a person’s own motivation and commitment to change’ (Miller and Rollnick 2013: 12) and originates from clinical psychology.

The final chapter in this part (Chapter 15) highlights the resource-based challenges and structural influences that employees face. Via structuration theory, the ‘Nine Ps’ framework (Brennan et al. 2015) and Life Cycle Analysis (LCA) this chapter seeks ways in which employees’ environmental behaviours can be improved. Structuration is the reciprocal relationship between people, their actions, and the social structures in which they act. The authors use two case studies (Uniting Agewell and eco-design) to illustrate their approach and suggest that with a thoughtful design, both organisations and stakeholders can co-create behavioural infrastructures to provide agency to participants that enhance environmental outcomes.

The fourth part of the book focuses on behavioural feedback through technology, a growing area of interest, and here reflected in two real-world field trials. The first chapter in this part (Chapter 16) seeks to overcome problems of earlier feedback studies (proving monthly feedback, aggregated by building) by providing feedback targeted to the individual and close to the behaviour. For the field trial (supported by focus groups) the researchers installed energy monitoring devices at each work desk to provide individual energy feedback. Additionally, the authors measured attitudes, values and self-identity as well as self-reported behaviour. A clear finding from the field trial is that self-reported behaviour was not related to energy use, before or after the intervention, highlighting that self-reported behaviour is unlikely to be accurate and that actual energy behaviour should be collected where possible. Technological advances make this increasingly feasible and practical for energy behaviours. They also suggest that automation, such as powering down PCs when not used for a period of time, may be more effective than behaviour change (Staddon et al. 2016). The study also highlights potential ethical issues regarding energy surveillance.

The second chapter (Chapter 17) in this part examined energy feedback, in the form of a smart metering intervention alongside the emergence and diffusion of social norms. The authors used an energy footprint tool (MyEcoFootprint) over the course of a 7-month intervention supplemented by the collection of survey data. The authors suggest that after norms emerge, they are then diffused and this in turn translates into behaviour.

The fifth part of the book focuses on contextual issues in employee environmental behaviour or behaviour change in particular contexts. The first of these chapters (Chapter 18) seeks to examine the key characteristics of environmental behaviour change in large organisations where the complexity of the change may be much larger or more significant. The

authors note that given the complex nature of large organisations and the number of influencing factors, organisational change is unlikely to be linear and there will be several challenges which will need to be overcome. These challenges can include the role of managers, organisational culture and identity. The authors highlight a need for a participatory approach (supporting the work in Chapter 13), which seeks to involve staff in the process, explains what is happening and why; this is therefore more likely to engage them. In turn, greater engagement and ownership of the process might lead to a greater chance of success.

The second chapter in this part (Chapter 19) provides an overview of the Sustainability Cultural Indicators Program (SCIP), a multi-year project designed to measure and track the culture of sustainability on the University of Michigan's (U-M) Ann Arbor campus. The chapter focuses on organisational transformation to create and maintain a culture of sustainability in a university context. The chapter contains an analysis of results from 2012 to 2015, providing longitudinal data and highlighting the important role that institutional support plays.

The final part of the *Handbook* contains one chapter. This final chapter (Chapter 20) is focused on spillover behaviour and extends the study of employee environmental behaviour to examine its potential effects on home behaviours and behaviours away from the workplace and vice versa. The authors discuss the concept of 'spillover' and its various conceptualisations in pro-environmental behaviour research, along with a summary of current literature on the spillover of environmentally friendly behaviours in various contexts. Different methodological approaches (quantitative, qualitative and mixed) used in past studies that investigated spillover effects, both between behaviours and between settings, are critically discussed. The chapter concludes with practical implications for social marketing campaigns and behaviour change programmes that promote pro-environmental behaviours in organisations.

Each of the chapters contained within the *Handbook* highlights both practical recommendations for managers and future research directions. It is clear that much empirical work in the area of employee environmental behaviour, with a number of exceptions (some of which can be seen in this *Handbook*), uses quantitative methodologies, cross-sectional, convenience samples, self-reported data, and is conducted in single national contexts. It is well known that self-reported data may not be a reliable indicator of actual behaviour (see Chapter 16) and we encourage researchers in this area to measure actual behaviour change and to embrace the fast-moving technological advancements in this field to allow this. The field would also benefit from embracing the potential inter-disciplinary nature of the area more fully, using more interpretive methods over a longer time span and

analysing cross-cultural differences. This should examine all aspects of this behaviour via a broad multi-level perspective such as that put forward by Norton et al. (2015).

Much of the research in the area is still focused on examining potential antecedents of employee pro-environmental behaviour and the future research directions highlight further advances in this field (in this *Handbook* suggestions include: cognitive abilities, vocational interests, employee assessment systems, contextual factors, values, and effects of different leadership styles for example) as well as suggestions to integrate these and examine potential moderating and mediating effects. This work is being rigorously done but is yet to reveal a clear path of relevance for practitioners who want to know what works, and how to develop environmental behaviour on the ground effectively. So, we encourage researchers to build on the work in Parts III and IV of the *Handbook* to develop real-world interventions and campaigns and to test the effectiveness of interventions so practitioners can be sure that what they are using will actually work.

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