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Bringing the Outside In: Examining the Impacts That Climate, Exchange, and Identity Processes Have on Organizationally-beneficial Employee Green Behavior

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BRINGING THE OUTSIDE IN: EXAMINING THE IMPACTS THAT CLIMATE, EXCHANGE, AND IDENTITY PROCESSES HAVE ON ORGANIZATIONALLY-BENEFICIAL EMPLOYEE GREEN BEHAVIOR

by

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ABSTRACT

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BEHAVIOR

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My dissertation contributes to growing practitioner and researcher interest in the
corporate social responsibility topic of employee green behavior, a key strategic input to
organizational environmental sustainability efforts. While it has been recognized that
employee behavior can significantly impact sustainability efforts (Daily, Bishop, and
Govindarajulu, 2009; Ones and Dilchert, 2012), the psychological mechanisms through
which this occurs and the precise nature of these behaviors have not been rigorously
examined. To address the gaps, my research investigates the interrelationship between
organizational and individual factors in motivating organizational citizenship behavior
directed toward the natural environment (OCB-E). The model, which derives from social
exchange and identity perspectives, considers whether perceptions of organizational
climate (psychological climate of care for the natural environment (PCCE)) directly and/or
indirectly contribute to OCB-E. Indirectly, I predict that when employees experience a

strong PCCE, they experience organizational support (POS), which motivates individuals to undertake OCB-Es. Further, I consider whether identity processes, in the form of employee environmental identity (EEI) and organizational identification (OI), interact with PCCE and/or POS to predict OCB-E. Overall, my proposition is that employees react positively to their organization when its climate reflects a pro-environmental stance. This leads employees via social exchange and/or identity processes to initiate pro-environmental behaviors at work for the benefit of the environment and organization. Bootstrap-adjusted factor analysis using AMOS (v.23) and bias-adjusted hierarchical multiple regression using SPSS (v.22) with the PROCESS plugin (Hayes, 2013) were used to test the hypotheses. Results indicated that a three-dimensional conceptualization of PCCE provided a better fit to the data than a four-dimensional conceptualization. Further, support for a direct relationship between PCCE and OCB-E was found, but not for an indirect relationship through POS. Lastly, the interaction between PCCE and each identity process (EEI and OI) was found to influence OCB-E, and partial support was found for the second-stage moderated mediation of PCCE on OCB-E through the interaction of POS and EEI.

ACKNOWLEDGMENTS AND DEDICATION

This dissertation is dedicated to my trailblazing parents, Chandra and Saraswathi Sekhar. When they immigrated to the United States from India, they were one of the first families to do so. And when my brothers and I were born, we became the first children amongst our relatives to be raised in another country. With tremendous strength and courage, they left the comforts of their families and communities to come to an unfamiliar place with few resources to provide my brothers and me with opportunities to pursue our dreams. It is because of their sacrifices that I have been fortunate to have been able to pursue my research at an exceptional business school and university; the Sheldon B. Lubar School of Business at University of Wisconsin-Milwaukee. My parents have patiently waited for their only daughter to earn the first doctorate degree in our family. I am so happy that they will see me graduate. I hope I have made them proud.

I want to acknowledge and share my dissertation with my husband, Doug. Without his understanding and support, I would not have been able to finish the work. During the years when I was staying in Milwaukee to attend classes and meet with my advisor, he managed to balance the demands of his career and the responsibilities of our home as effectively as he could. As I did my graduate work, he also did his. This was difficult for both of us. On the positive side, our dog and cat "children" loved the extra attention he provided them while I was away at school.

I want to give my whole-hearted thanks and appreciation to Dr. Sarah Freeman, my committee chair, for persevering with me in the time it took me to complete this research and write the dissertation. From the start, Sarah supported my desire to study a less

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CHAPTER 1: INTRODUCTION

Introduction

"The success of a business depends on its relationships with the external world ...Decisions made at all levels of the business, from the boardroom to the shop floor, affect that relationship"
(Brown and Nuttall, The McKinsey Quarterly, March 2013, pg. 4)

"The natural environment has no direct influence; it is only socially constructed."
(Etzion, 2007; pg. 650)

Taken together, these messages convey the need for organizations to recognize their external world, specifically the natural environment, as a key organizational stakeholder, and acknowledge that how humans identify with and interpret the environment influences the way it is addressed. Managers are increasingly paying attention to these messages and finding sustainability initiatives directed toward the natural environment pay off. In a 2013 sustainability and innovation research report, *MIT Sloan Management Review* and The Boston Consulting Group found that, since 2010, nearly 50% of the companies tracked had changed their business models significantly as a result of sustainability opportunities. In conjunction, the proportion of those companies reporting profits from sustainability went from 23% to 37% of the total (*MIT Sloan Management Review*, Winter, 2013, pg. 4). The results highlight the positive outcomes that occur when organizations take deliberate, proactive steps to address environmental sustainability concerns.

Companies began taking proactive steps to address the needs of the natural environment in the mid-1980s when a number of leading-edge firms started to change their corporate postures from ignoring or resisting environmental pressures to trying to embrace, incorporate, and profit from them (Starik and Marcus, 2000). The urgency for

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organizations, leading-edge or not, to put greater effort into environmental sustainability measures continued in the 1990s due to mounting stakeholder pressures. These pressures continue today and contribute to increasing positive trends in corporate environmental sustainability efforts currently being reported (Daily, Bishop, and Govindarajulu, 2009; Hoffman and Ventresca, 2002; Starik and Marcus, 2000).

By the late 1980s, a growing number of scholars had begun studying environmental sustainability in organizations by developing and conducting first conceptual and then empirical research on various facets of the topic. This growing body of work has led researchers to begin making the case as to why the natural environment should be viewed as an important stakeholder for organizations (Clayton and Myers, 2009; Hart, 1995; Hoffman and Ventresca, 2002; Pfeffer, 2009; Shivastrava, 1995; Starik and Marcus, 2000). Findings from these studies are preliminary, but they generally show that organizations, employees, and stakeholders can benefit in various ways when organizations address the natural environment in a proactive manner (Hoffman and Ventresca, 2002).

Despite progress on academic and business fronts, organizations continue to face significant human resource challenges in implementing environmental sustainability initiatives (Daily et al., 2009; Daily and Huang, 2001; Denton, 1999; Govindarajulu and Daily, 2004). McKinsey and Company (*The business of sustainability: McKinsey Global Survey results, October, 2011*) noted that, while organizations have done more over the years to integrate environmental sustainability efforts across a larger number of processes such as company mission and values and supply chain activities, they have not done enough to support employee engagement in environmental activities needed to support such efforts.

Thus, researchers recognize that to succeed, involvement in sustainability needs to occur at various organizational levels, especially the employee-level (Starik and Rands, 1995), and initiatives should go beyond addressing only organizational instrumental concerns to also consider individuals' value-laden concerns (Ramus and Oppegaard, 2006). Ones and Dilchert (2012) highlighted that "What organizations do is a function of decisions, behaviors, and performance of their members. Organizational initiatives stem from employees....Therefore, understanding, promoting, influencing, and changing environmental behaviors of employees are keys to environmental sustainability of organizations" (pg. 463).

In light of growing interest in environmental sustainability issues, research in areas such as corporate social responsibility (CSR), corporate citizenship (CC), environmental management (EM), human resources management (HRM), organizational behavior (OB), and industrial/organizational (I/O) psychology has begun to address the interrelationships among employees, organizations, and the natural environment (e.g., Daily et al., 2009; Jackson, Ones, and Dilchert, 2012; Lamm, Tosti-Kharas, and Williams, 2013; Paillé, Boiral, and Chen, 2013; Ramus and Killmer, 2007).

Research Purpose

Unfortunately, a limited number of studies have looked into these connections, and extant research focuses primarily on organizational-level processes and outcomes. Work has tended to focus on formalized and managerial aspects of strategic decision-making relating to organizations and the environment (Bansal and Roth, 2000; Christmann, 2000; Ronnenberg, Graham, and Mahmoodi, 2011; Sharma, 2000). Research into the potential impact of individual-level processes and outcomes, which tend to reflect less strategic, more value-laden motivations and discretionary extra-role behaviors, has received far less attention. However, there is practical and research evidence to suggest that these types of individual processes and outcomes can significantly contribute to or detract from organizational environmental sustainability efforts. Hence, many scholars have called for much more work at the individual level (e.g., Bansal, 2003; Boiral, 2009; Dilchert and Ones, 2012; Etzion, 2007; Gond, El-Akremi, Igalens, and Swaen, 2010).

In this regard, my dissertation research contributes to the growing interest in determinants of organizational environmental sustainability efforts. Applying an individual-level of analysis, I examine the psychological mechanisms through which individual (i.e., employee) and organizational factors interact to influence employee environmental or green behavior. Specifically, I investigate an outcome that is increasingly associated with organizational environmental sustainability efforts; discretionary extra-role behaviors taken by employees with the intent to benefit the natural environment and the organization (e.g., Boiral, 2009; Daily et al., 2009; Lamm et al., 2013; Ones and Dilchert, 2012; Ramus, 2003, Robertson and Barling, 2013).

The outcome, which I label *organizational citizenship behavior toward the natural environment (OCB-E),* has foundations in the organizational citizenship behavior (OCB) and individual environmental behavior literatures. Figure 1 below depicts the proposed dissertation model, which is based on social exchange and identity perspectives. Three categories of antecedents that have been found to be significant predictors of OCB are addressed: organizational context, individual differences, and individual work cognitions. The model includes variables that are both general (i.e., organizational identification, perceived organizational support) and specific to the natural environment (i.e., employee environmental identity, psychological climate of care for the natural environment).

Figure 1: Dissertation Research Model
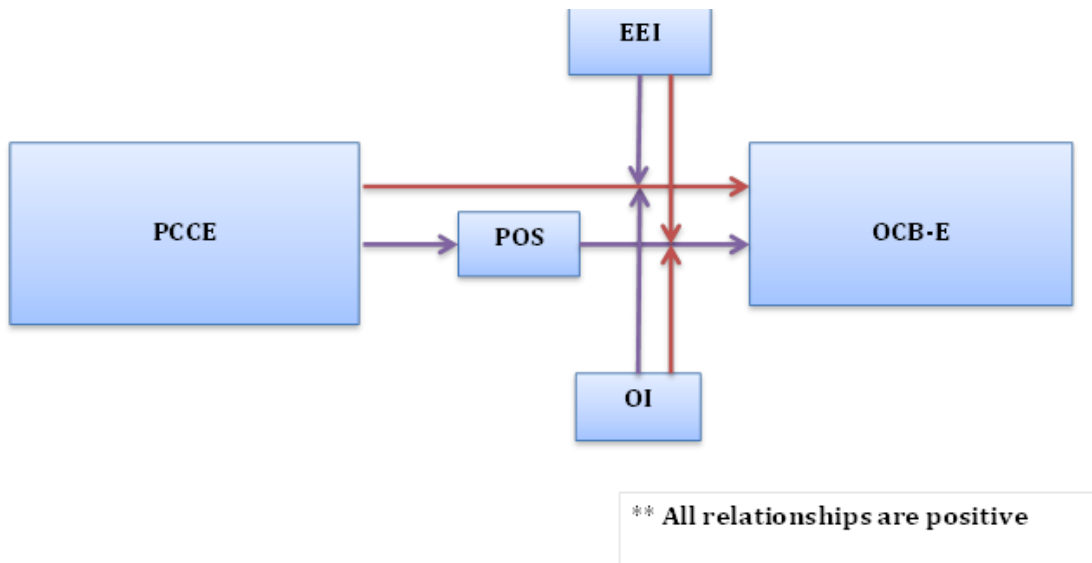
For organizational context, I examine a construct that has received increasing attention from scholars doing research on employee environmental behavior: climate perceptions (Biga, Ones, Dilchert, and Gibby, 2010; Dilchert and Ones, 2012; Norton, Zacher, and Ashkanasy, 2012). I focus on psychological climate by introducing a new form, *psychological climate of care for the natural environment (PCCE)*, which is based on established climate frameworks (e.g., Jones and James, 1979; Parker, Baltes, Young, Huff, Altmann, Lacost, and Roberts, 2003). I propose PCCE should reflect whether employees feel psychologically safe to take meaningful actions for the environment on behalf of the organization; whether they have opportunities and the flexibility to do so based on management support; whether they feel the organization is genuinely concerned about the environment; and whether they feel the organization is open and supportive of new and potentially innovative environmental ideas and actions.

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For individual differences, I propose that consideration be given to the potential role of an individual's personal identity in influencing his/her discretionary environmental behaviors in the workplace. Specifically, Stets and Biga (2003) recently introduced a form of personal identity that captures the value-laden relationship that individuals have with the natural environment. They labeled their construct *environmental identity* (Stets and Biga, 2003). I suggest this form of identity can influence employees' discretionary environmental behaviors in the workplace, especially in cases where it is perceived that the climate supports such efforts.

For individual work cognitions, I use established findings from the OCB and climate literatures to suggest that consideration be given to the influence that perceived organizational support (POS) has on OCB-E. Also, attention will be given to whether employee organizational identification (OI) influences OCB-E.

Research Questions and Assumptions

The broad line of inquiry driving this research is whether OCB-Es are influenced by psychological processes associated with organizational context, individual differences, and individual work cognitions. The overall research question is: *Do employees' perceptions of their organization's psychological climate of care for the natural environment (PCCE) directly and/or indirectly motivate them to voluntarily undertake organizational citizenship behaviors toward the natural environment (OCB-E)?*

Some assumptions underlie the model. First, I maintain a target-specific view of citizenship behavior similar to Williams and Anderson (1991) by suggesting that OCB-Es are aimed at directly benefiting the natural environment and indirectly through this means contribute

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to the organization. Second, similar to others (e.g., Boiral and Paillé, 2012; Daily et al., 2009; Lamm et al., 2013), I assume that individual OCB-Es in aggregate contribute to improved organizational sustainability efforts. Additionally, OCB-Es can occur across a variety of workplace and industry settings. Thus, sampling is not limited to "green" occupations or industries. Further, I view sustainability efforts as best supported when organizations value the natural environment for more than just instrumental reasons. Lastly, I assume that individuals do not simply check their environmental identities at the door when they come to work. On the contrary, they seek ways to apply these identities in the workplace for self-verification and self-evaluation enhancement purposes. If contexts support these processes, individual and organizational benefits can be realized.

To date, there has been limited research on OCB-E, but increased efforts are addressing the construct in systematic ways (e.g., Bansal, 2003; Boiral, 2009, 2012; Daily et al., 2009; Graves, Sarkis, and Zhu, 2011; Lamm et al., 2013; Ones and Dilchert, 2012; Paillé and Boiral, 2013; Ramus, 2003; Ramus and Killmer, 2007). The broader management literature has long recognized the importance of discretionary work behavior, of which OCB-E is a type, in facilitating organizational effectiveness, efficiency, and success. These behaviors free up scarce resources, allow managers to devote more time to productive activities, promote innovativeness, and enhance coworker productivity (Podsakoff and MacKenzie, 1994). From a practitioner perspective, a good amount of anecdotal evidence suggests employees are increasingly taking such voluntary environmental initiatives, and companies increasingly desire them. In all, there is a significant need to advance research on employee pro-environmental or green behavior, whether voluntary or required,

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because of its potential to contribute to advancing organizational efforts to manage environmental sustainability efforts more effectively.

Contributions

The dissertation aims to contribute to theory and practice. First, I add to the nascent literature on antecedents of pro-environmental or green behavior in the workplace (Boiral, 2009; Boiral and Paillé, 2012; Daily et al., 2009; Lamm et al., 2013; Ramus and Killmer, 2007; Sarkis et al., 2010). I build on what others have done by assessing employee environmental behavior as a type of organizational citizenship behavior directed toward the environment (OCB-E). In existing OCB-E studies, researchers have primarily applied social exchange theory to assess the effects of perceptions of organizational support on behavior. I take a step forward by not only considering the impact of exchange processes, but also the effects of psychological climate and identity processes on OCB-E. In particular, I examine social and personal identity perspectives, which have not received adequate attention.

Further, as far as I am aware, this is one of the first studies to assess the effects of psychological climate (PCCE) on OCB-E. Some work has begun on investigating the relationship between organizational climate and green behavior (Dilchert and Ones, 2012; Norton, et al., 2012; Norton, Zacher, and Ashkanasy, 2014), but few if any have considered psychological climate. It makes senses to consider psychological rather than organizational climate since the outcome is individual in nature. Empirical support from OCB research has noted a strong link between psychological climate and citizenship behaviors (Podsakoff, MacKenzie, Paine, and Bachrach, 2000).

Third, this is one of the first studies to take into consideration the potential influence of personal identity associated with the natural environment (i.e., EEI) on employee green behavior in the workplace (i.e., OCB-E). Up to this point, studies incorporating EEI have focused on individual public/private sphere environmental behavior. In order to effectively investigate OCB-E, we should consider how individuals identify with or relate to the natural environment. Values lie at the core of personal identity. Employees do not necessarily leave their values and identities at home when they come to work. Employees who are committed to environmental identities that are highly central and salient to them may approach environmental issues at work differently than those who are not. I believe that it can be beneficial for organizations to address employees' EEI since it could impact the manner in which individuals contribute to environmental sustainability efforts.

Fourth, my research is novel in that it integrates two prominent theoretical perspectives, social exchange and identity, to explain OCB-E. This approach of applying the two theories has become more prevalent in studying general workplace behaviors, and some have recommended its continued application (Van Knippenberg, 2000; Van Knippenberg, Van Dick, and Tavares, 2007). In conjunction, my work builds on others' findings by examining the roles that both work-related and environmentally-specific variables play in influencing OCB-Es. Specifically, my study begins where prior efforts end by examining whether PCCE is a driver of perceived organizational support (POS) and ultimately OCB-E. Prior work has mainly assessed the relationship between POS and

employee environmental behaviors, but has not considered environmental sustainability-related antecedent conditions to POS that could encourage such behaviors.

Fifth, the study offers practical guidance to organizations on how to design and manage a climate that employees perceive as being supportive to their relationships with the natural environment. In addition, I highlight the role that employee EEI plays in the process and offer suggestions for managing and nurturing environmental identity such that organizational benefits can be realized.

Roadmap

My dissertation is organized as follows. I begin in Chapter 2 by offering a review of the literature on two areas that serve as building blocks for this work: (a) research lenses that examine the connections between organizations, individuals, and the natural environment; and (b) individual pro-environmental or green behavior. Based on findings from the reviews, I introduce the approach I took to address connections among organizations, individuals, and the natural environment. I also highlight how my outcome of interest, employee organizational citizenship behavior toward the natural environment (OCB-E), is derived. In Chapter 3, I develop the dissertation model, which addresses the relationship between psychological climate of care for the environment (PCCE) and OCB-E. In conjunction, the theoretical framework and hypotheses are developed. The research methodology and hypothesis tests are presented in Chapters 4 and 5, respectively. The study concludes with a discussion of the results, research limitations, future directions, and conclusions in Chapter 6.

CHAPTER 2: LITERATURE REVIEW

Overview of Literature Review

Two areas of research inform the development of the dissertation model. The first section highlights how connections or interrelationship among organizations, individuals, and the natural environment are being studied. The second section focuses more narrowly on how individual environmental behavior is being addressed in the literature. Based on these reviews, I introduce my approach to studying individual/organization/environment interrelationships and the outcome of interest; employee organizational citizenship behavior toward the natural environment (OCB-E).

Literature Review – Connections between Organizations, Individuals, and the Natural Environment

To date, a limited body of work has examined the interrelationships among organizations, individuals, and the natural environment. This is due to the fact that environmental sustainability issues have only recently started receiving substantial organizational attention. Further, the topic's multi-disciplinary and multi-dimensional nature has made it challenging to study (Etzion, 2007; Montiel, 2008; Prasad and Elmes, 2005; Starik and Rands, 1995). Despite the potential challenges, scholar and practitioner interest has increased steadily since the publication of the 1987 World Council on Environment and Development (WCED) Report, *Our Common Future,* by the Brundtland Commission. The WCED brought attention to the issue of climate change and introduced

the concept of *sustainable development,* which it defined as "development which meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987: 43). The definition continues to be used today by practitioners and researchers alike. In examining the potential connections between organizations, individuals, and the environment, the primary research lenses applied include corporate social responsibility (CSR), environmental management (EM), and corporate sustainability (CS), and to a lesser extent, stakeholder and corporate citizenship (CC). More recently, human resource management (HRM), I/O psychology (I/O), and organizational behavior (OB) lenses have gained traction.

Corporate Social Responsibility

Organization/individual/natural environment studies that apply a CSR lens have a more established history than works using EM or CS lenses (Montiel, 2008). CSR studies began appearing in the 1970s; this contrasts to other lenses, which only began appearing in the 1990s in conjunction with WCED's report; and the founding of the Organizations and Natural Environment (ONE) division of the Academy of Management; and the publication of special environmental issues in *Academy of Management Review* and *Academy of Management Journal* in 1995 (Montiel, 2008).

Traditionally, the CSR lens has focused on social issues, but it evolved to also incorporate environmental issues (Montiel, 2008). For instance, in their studies of employee organizational commitment and organizational citizenship behavior, Turker (2009) and Newman, Nielson, and Miao (2015) identified the environment as a "non-social" target of CSR efforts. Brammer, Millington, and Rayton (2007) focused on the environment

as a type of "external CSR." In another case, De Roeck and Delobbe (2012) examined employee perceptions of organizational "environmental CSR" initiatives. While the CSR lens provides valuable insights into the organization/individual/natural environment dynamic, critics have argued that the CSR lens does not adequately address the natural environment because it treats the environment as a subset of social issues rather than as a distinct issue in itself (Hoffman and Ventrasca, 2002; Etzion, 2007).

Environmental Management

By comparison, research done using an EM lens focuses on issues related to the natural environment. In EM work, terms such as total environmental quality management, ecological responsibility, corporate greening, corporate environmentalism, and corporate environmental responsiveness are used interchangeably. A common theme in the research is to highlight the production and operational efficiencies that can be gained when organizations effectively address natural environmental issues (Prasad and Elmes, 2005). For instance, Boiral (2005) studied the impact of operator involvement in pollution reduction in the Canadian chemical industry. Ramus and Steger (2000) assessed the relationships of environmental policy and supervisory support behaviors to employee eco-innovative initiatives, which were assessed as a binary outcome (yes/no). In an organizational-level study, Delmas and Pekovic (2013) investigated whether adoption of environmental standards was associated with higher labor productivity. While EM work focuses on the connections between organizations, individuals, and the natural environment, critics argue that the focus is overwhelmingly on instrumental or strategic concerns of the organization (Prasad and Elmes, 2005).

Corporate Sustainability

Organization/individual/natural environment studies that use a corporate sustainability (CS) lens generally incorporate ideas associated with sustainable development that were introduced by the WCED in the 1990s. Terms used in the research include corporate sustainability, ecological sustainability, ecological responsiveness, sustainable development, and corporate sustainable development. CS has been defined as "meeting the needs of the present without compromising the ability of future generations to meet their own needs'' (Brundtland, 1987) and as 'improving the quality of human life while living within the carrying capacity of supporting eco-systems'' (IUCN, 1991). It is also viewed as "meeting the needs of a firm's direct and indirect stakeholders (such as shareholders, employees, clients, pressure groups, communities), without compromising its ability to meet the needs of future stakeholders as well." (Dyllick and Hockerts, 2002: 131). Alternatively, sustainable development takes the position that "for development to be sustainable it must take account of social and ecological factors, as well as economic ones" (IUCN, 1980).

As these definitions suggest, CS emphasizes the organizational challenge to effectively balance long and short term demands of three concerns: the natural environment, society, and the economy. This tripartite perspective of CS is unlike that of EM and CSR, which give priority to organizational concerns over others.

Some CS researchers interpret CS in the broader sense as a function of the three dimensions, while others interpret it in a narrower sense by focusing on the environmental dimension. The latter approach, labeled as *environmental sustainability* or *ecological*

sustainability, gives priority to examining the connections between the natural environment and the organization, but also recognizes to an extent the relevance of the other dimensions (Shrivastava, 1995a; Starik and Rands, 1995). For instance, in their study of the Canadian forestry industry, Sharma and Henriques (2005) assessed whether manager perceptions of different types of stakeholders affected the types of environmental sustainability practices that were adopted. In another case, using employee survey data from one organization, Lamm et al. (2013) investigated predictors of employee citizenship behaviors that contributed to environmental sustainability. Further, in a longitudinal study of Canadian oil and gas firms, Bansal (2005) identified determinants of corporate sustainable development.

The benefit of using a CS lens to examine the connections between organizations, individuals, and the natural environment is that it forces researchers to re-examine the rank ordering of environmental, organizational, and societal priorities (Shrivastava, 1995b). The lens also promotes increased awareness that workplace environmental issues embody both technical (e.g., operational, strategic, efficiency) and social (e.g., employees, community, values) concerns (Hoffman and Ventresca, 2002). On the other hand, critics contend that the complexity and vagueness of what CS represents make it challenging to conceptualize and empirically examine. Also, since CS research emanates from fields (i.e., strategy, organizational behavior, and marketing) that apply different conceptual bases, it can be challenging to integrate and generalize findings (Etzion, 2007).

Stakeholder and Corporate Citizenship

A stakeholder lens is also being used to consider the organization / individual / natural environment relationship. But the lens does not appear to be popular due to debates surrounding whether or not the natural environment should be viewed as a stakeholder. Driscoll and Starik (2004) made the case that the natural environment should be viewed by organizations as a primary and primordial stakeholder distinct from other types of stakeholders. These researchers contend limited conceptions of power dominate the stakeholder salience perspective and bias thinking about the importance of what constitutes a legitimate stakeholder (Laine, 2010). Alternatively, others suggest that identifying the environment as a stakeholder makes it difficult to develop goals and measure outcomes since the natural environment can be affected by multiple and complex factors outside of an organization's control (Gibson, 2000). Also, while it is intuitively appealing to label the natural environment as a stakeholder, some scholars contend organizations gain awareness of environmental issues not through the environment itself, but through other types of stakeholders (e.g., customers, community members, activists).

Studies addressing this last idea include Buysse and Verbeke (2003), who found that when organizations proactively focus on environment strategies, they gain the ability to address a broader range of stakeholders. Additionally, Kolk and Pinkse (2004) applied the theory of stakeholder salience to suggest that the approach taken by organizations to address environmental issues (in this case, climate change) would be influenced by the level of power, urgency, and legitimacy of the stakeholder bringing up the issue. Similarly, Murillo-Luna, Garcés-Ayerbe, and Rivera-Torres (2008) assessed organizations'

environmental response patterns as a function of differences in stakeholder influence patterns.

In addition to using a stakeholder lens, a small volume of work has begun to consider the organization/individual/natural environment relationship within a corporate citizenship (CC) lens. Rego, Leal and e Cunha (2011), for instance, noted that under certain context conditions, individuals (e.g., employees, customers) discern between different targets of organizational discretionary behavior. In particular, they found that individuals pay attention to an organization's discretionary responsibilities toward the natural environment.

Recent Lenses

A commonality in the aforementioned lenses is that they address the connections among organizations, individuals, and the natural environment primarily from an instrumental or strategic perspective. This is also true for works that apply a corporate sustainability (CS) lens, although CS researchers acknowledge studying sustainability requires consideration of both instrumental and non-instrumental factors (Adler and Borys, 1996).

In light of these concerns, recent calls have been made for sustainability researchers to address not only instrumental, organizational concerns, but also non-instrumental, value-laden human concerns (Ramus and Oppegaard, 2006). Ramus and Oppegaard observed that "many employees and potential employees consider themselves environmentalist or socially-minded individuals….As such they value environmental and/or social outcomes like pristine natural places, healthy communities, racial equity, etc.

Nevertheless, many of them may leave those values at the door when they come to work because there is no place for them to express these values in work-related behavior, and no encouragement for them to act as change agents within the company context" (pg.10).

The discussion is noteworthy in that it alludes to two important points framing my dissertation and forming the basis of recent sustainability work from several fields: *(1) that employees have desires to support or connect with the natural environment in the workplace;* and *(2) providing a supportive environment that encourages proactive environmental behavior at work can result in organizationally and individually beneficial outcomes*.

To address these points, scholars from human resource management (HRM), I/O psychology, and organizational behavior (OB) have shown increasing interest in applying their research to investigate the connections between organizations, individuals, and the natural environment.

Human Resource Management

Human resource management (HRM) researchers have begun to integrate their frameworks with those from environmental management (EM) under the label "green HRM" (GHRM) (Jackson, Renwick, Jabbour, and Muller-Camen, 2011; Renwick, Redman, and Maguire, 2013). A primary interest in GHRM is how organizations can simultaneously achieve sustainability goals and support individuals' personal environmental priorities both inside and outside of the workplace (Jackson et al., 2011; Muster and Schrader, 2011; Renwick et al., 2013). Studies also consider what drives employees' environmental sustainability behaviors by evaluating cognitive (e.g., perceptions of organizational green HRM practices) and attitudinal predictors (e.g., organizational commitment) (Renwick et

al., 2013). General themes addressed in GHRM include green leadership, attraction and

selection of green job candidates, green knowledge management, training for green work,

motivating green employees, green work-life balance, and supportive climates and

cultures. Del Brıo, Fernandez, and Junquera (2007), for instance, investigated management

and human resource factors that contribute to competitive advantages gained through

environmental actions. Hostager, Neil, Decker, and Lorentz (1998) examined the effects of

employee intrapreneurial ability, efficacy, motivation, and desirability on seeing

environmental opportunities. In another case, Hanna, Newman, and Johnson (2000)

investigated whether employee involvement was related to operational and environmental

improvements.

I/O Psychology

Similar to HRM, the related field of I/O psychology (I/O) also acknowledges the

need for further investigation into human factors as they relate to organizational and

natural environmental issues. A recent special issue of *Industrial and Organizational*

Psychology (vol. 5, 2012) highlighted topics at the intersection of I/O and sustainability

including managing green cultures, recruitment and selection of employees for supporting

a sustainability culture, pro-environmental behaviors in the workplace, employee training

to support sustainability efforts, green work-life balance and spillover effects, and justice

perceptions and sustainability (Huffman, Watrous-Rodriguez, Henning, and Berry, 2009).

For instance, Rashid and Wahid (2013) assessed the positive spillover effects of pro-

environmental behaviors between employees' home and work domains. Lee and De Young

(1994) examined employee intrinsic satisfaction derived from office recycling behavior in a

Taiwanese company. In another instance, Bauer and Aiman-Smith (1996) assessed whether recruits' perceptions of organizations' ecological stance affected company attractiveness, intentions to pursue employment with the company, and willingness to accept a company's job offer.

Organizational Behavior

In OB, a recent special issue of the *Journal of Organizational Behavior* dedicated to promoting the "greening of OB" (vol. 23, 2013) highlighted the need for increased study into the connections between individuals, the organization, and the natural environment. Similar to HRM and I/O psychology, OB topics include pro-environmental workplace behavior, the role of leadership in sustainability, and green culture, to name a few. For instance, Bissing-Olson, Iyer, Fielding, and Zacher (2013) examined the relationship between daily affect and proactive pro-environmental behavior in the workplace in Australia. Bolderdijk, Steg, and Postmes (2013) considered the use of electronic monitoring technology as a means of measuring and managing workplace pro-environmental behavior. Additionally, Robertson, and Barling (2013) assessed whether transformational leadership behaviors that encourage pro-environmental initiatives positively influenced employee pro-environmental passion and behavior.

Going Forward –Individual-Level-Environmental Sustainability

Across disciplines, convincing arguments has been made as to why sustainability research should go further in examining the connections or interrelationships between organizations, individuals, and the natural environment. This reflects the complex nature of sustainability, which shapes and is shaped by the dynamics associated with multiple

stakeholders, motives, and outcomes (Starik and Kanashiro, 2013; Starik and Rands, 1995). Scholars have also made the case as to why individual-level factors and non-instrumental concerns deserve further examination as research can contribute to a better understanding of sustainability issues, which are seen as holistic in nature (Shrivastava, 1995b; Starik and Kanashiro, 2013; Starik and Rands, 1995).

Regardless of the research lens, up until recently the majority of sustainability-related work has focused on organization-level factors and instrumental outcomes. Far less consideration has been given to individual-level factors and non-instrumental concerns that can support or detract from organizational sustainability efforts. Studies have focused on the profitability of adopting proactive environmental sustainability approaches (e.g., Christmann, 2000; Russo and Fouts, 1997; Sharma and Vredenburg, 1998), but have offered few specifics on the processes that are involved. The relatively small number of individual-level studies have mainly examined leaders and managers (e.g., Anderson and Bateman, 2000; Babiak and Trendafilova, 2011; Banerjee, 2002; Catasús, Lundgren, and Rynnel, 1997; Egri and Hermann, 2000; Marshall, Cordano, and Silverman, 2005; Sharma, 2000). In response, calls have sounded for more research into the potential role that a broader spectrum of employees plays in organizational environmental sustainability efforts (e.g., Bansal, 2003; Boiral, 2009; Ones and Dilchert, 2012).

In an effort to contribute to research on individual-level environmental sustainability concerns, I adopt insights from the aforementioned lenses to examine the potential psychological processes through which both instrumental (i.e., organizational)

and non-instrumental (i.e., individual) factors influence discretionary environmental behavior in the workplace.

For individual factors, I propose to use insights from I/O, HRM, and OB to address the potential effects that individuals' personal identities or self-meanings have on discretionary environmental behaviors in the workplace. In including personal identity in the research, my goal is to promote a more well-rounded approach to explaining discretionary environmental behavior in the workplace. HRM scholars who view organizational environmental sustainability issues as being holistic in nature have recommended this approach (Muster and Schrader, 2011). I also propose to take into consideration the potential relationship between employee work-related cognitions and discretionary environmental behavior. Substantial support exists in the broader management literature for both of these types of individual variables in relation to discretionary extra-role behaviors (Organ and Ryan, 1995; Podsakoff et al., 2000; Rioux and Penner, 2001).

For organizational factors, I apply insights from OB to propose consideration be given to the role an employee's perceptions of his/her organizational climate might play in impacting discretionary environmental behavior in the workplace. As with the proposed individual variables, there is also significant evidence in the broader management literature for the relationship between climate and this type of workplace behavior (Choi, 2007; Moorman, 1991; Parker et al., 2003).

In framing the research, I adopt the Corporate Sustainability (CS) lens by focusing on employee contributions to organizational "environmental sustainability" efforts, which I

define, similar to Dyllick and Hockerts (2002), as *"meeting the needs of a firm's direct and indirect stakeholders (such as shareholders, employees, clients, pressure groups, communities, etc.), without compromising its ability to meet the needs of future stakeholders as well"* (pg. 131). Further, following Driscoll and Starik's (2004) suggestion, I consider the natural environment to be a primary stakeholder. It should be also noted that my definition of environmental sustainability does not directly reference organizational performance goals. This is because the primary interest in the study is on benefits directed to the natural environment and to employees. But I do not ignore benefits to the organization. Instead, I assume, as others have (e.g., Starik and Kanashiro, 2013; Starik and Rands, 1995), that when organizations give priority to the natural environment by proactively addressing environmental concerns of employees, positive performance can result.

Literature Review – Individual Environmental Behavior

The number of studies investigating employee environmental behavior in the workplace is small but growing. Increasing interest comes in part from the realization that, cumulatively, employee behavior can significantly contribute to or distract from organizational environmental sustainability efforts (Bansal, 2003; Boiral, 2009, 2012; Graves, and Sarkis, 2010; Daily et al., 2009; Lamm et al., 2013; Ones and Dilchert, 2012; Paillé and Boiral, 2013; Ramus, 2003; Ramus and Killmer, 2007).

In the following sections, I provide a literature review on how individual pro-environmental behavior has been conceptualized in the public/private sphere and workplace literatures. I do not claim to provide a full review of all studies and conceptualizations that have been offered. Instead, I aim to highlight key insights across

discussions and show how these support my approach to studying discretionary employee

environmental behavior in the workplace. As a reference, Dilchert and Ones (2012) and

Biga (2006) provide relatively comprehensive reviews of the topic.

Public/Private Sphere Individual Environmental Behavior

The earliest conceptualizations of individual environmental behavior have

addressed those taking place in the public and private spheres. These have been offered in

environmental psychology (EP) and ecological psychology (EcP), and in recent years, in

environmental sociology (ES). As ongoing debates in the fields suggest, a primary challenge

in studying environmental behavior has been how to conceptualize it appropriately.

Some researchers differentiate between public and private sphere behavior. Public

sphere behavior is seen as directed more toward influencing societal change (e.g.,

environmental activism; donating to environmental causes). Alternatively, private sphere

behavior is viewed as being directed more toward satisfying personal needs or interests

(e.g., recycling at home; using re-usable shopping bags) (Stern, 2000).

Other researchers apply either broad or narrow conceptualizations to

environmental behavior. Broad conceptualizations include: conservation behavior,

environmentally friendly behavior, pro-environmental behavior, environmental concern,

green behavior, environmental action, pro-ecological behavior, environmentally conscious

behavior, environmentally sustainable behavior, environmentally significant behavior, and

responsible environmental behavior. While the labels of these behaviors are designed

similarly to capture a range of activities that individuals could perform, definitions of the

behaviors can vary. Environmentally significant behavior, for instance, refers to an action

that "changes the availability of materials or energy from the environment or alters the structure and dynamics of ecosystems or the biosphere itself" (Stern, 2000, pg. 408). By contrast, pro-ecological behavior is a purposeful and effective action, which results in national resource conservation (Corral-Verdugo, Frías-Armenta, and García-Cadena, 2010). Narrow conceptualizations focus on specific environmental activities such as: pollution reduction, energy conservation, recycling, environmental policy support, water conservation, and public transportation use. In conjunction to the conceptual variations, a variety of measures for broad and narrow views of environmental behavior have been identified.

Over time, this lack of clarity and consistency has slowed empirical efforts, but it has encouraged efforts to identify potential commonalities across conceptualizations (Biga, 2006; Dilchert and Ones, 2012). Stern (2000) was one of the first to suggest that an overarching feature of any type of environmental behavior is its ability to challenge the status quo and promote changes for of the benefit the natural environment. The idea was that, regardless of whether a behavior was in the public versus private sphere, or characterized as broad versus narrow, the intention of individual environmental behavior is to cumulatively challenge and change existing societal systems and social norms for the betterment of the environment. In proposing this "intent-oriented" conceptualization, Stern (2000) titled his construct *environmentally-significant individual behavior* (ESIB) and defined it as behavior undertaken by individuals, groups, or society with the intention to change and benefit the environment. Stern (2000) also offered an "impact-oriented" perspective of environmental behavior as "the extent to which it changes the availability of materials or energy from the environment or alters the structure and dynamics of

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ecosystems or the biosphere itself" (pg. 408). Both of Stern's perspectives have proven to be enduring. They have focused much public/private sphere research attention on the change-oriented nature of environmental behavior and its potential to challenge and disrupt existing systems and social norms for the benefit of the natural environment. In effect, these perspectives identify *"change"* as a primary purpose of environmental behaviors.

In addition to this interpretation, alterative perspectives on environmental behavior have been offered. In particular, it has been proposed that environmental behavior, while perhaps ultimately leading to beneficial changes, may be done primarily for affiliative purposes aimed at supporting existing social norms and societal systems (Bamberg and Möser, 2007). This is evident when considering the most popular theories that have been applied in explaining environmental behavior.

These include the theory of reasoned action (TRA) and theory of planned behavior (TPB). The essence of TRA and TPB is that 1) one's intention to engage in behavior leads to behavior; and 2) intention is influenced by two factors: one's positive or negative attitude toward performing the behavior; and social norms that encourage one to perform or refrain from behavior (Ajzen 1991; Ajzen and Fishbein 1980; Fishbein and Ajzen 1975). TPB is identical to TRA, with the addition of perceived behavior control as a component influencing behavioral intention. Perceived behavior control refers to one's belief in one's ability to enact a specific behavior (Ajzen and Madden, 1986). Both TRA and TPB describe environmental behavior as a volitional act, and more importantly, they highlight the social

nature of such behaviors by recognizing the potential of social norms in influencing intention and behavior.

Another popular theory that has been applied to explain environmental behavior is the norm-activation model (NAM) (Schwartz, 1977). This theory from social psychology suggests that social moral norms, which are internalized as individuals' personal norms, along with individuals' pro-social interests drive environmental behavior. Further, the perspective suggests that behaviors must have an effect on the lives of others in order to be legitimate. In effect, NAM focuses only on those environmental behaviors that are pro-social in nature and have social implications. Another perspective recognizing the role of social factors on environmental behavior is values-beliefs-norms (VBN) (Stern, Dietz, Guagnano, and Kalof, 1999). It proposes that individuals maintain attitudes and behave in certain ways toward the environment in accordance with how the environment affects what they value. These value aspects are identified in VBN as value- or environmental-concern orientations and are categorized as: social-altruistic (primary concern for the welfare of others), biospheric (primary concern for the welfare of nonhuman species), and egoism (primary concern for the welfare of self). Together, these three theories (i.e., VBN, TRA, and TPB) bring attention to the idea that an individual's desires for affiliation can serve as motivators for environmental behavior.

Summary – Public/Private Sphere Environmental Behavior

As the theories reviewed above suggest, pro-environmental or green behavior is generally viewed as a mixture of individuals' self-interest and concern for others. Behaviors

are also seen as being performed not only for environmental benefits, but also for social benefits (Bamberg and Möser, 2007).

Though conceptualizations vary, this review of the literature on public/private sphere environmental behavior highlights some commonalities. First, environmental behaviors are recognized as being volitional and as associated with two broad purposes. One is that environmental behavior is performed to challenge existing social norms to promote positive changes for the environment with indirect benefits to society. In this view, immediate social norms and societal systems are likely to be disrupted, but long term prospects are improved. Another is that environmental behavior is performed to promote and support social affiliations within existing systems with the secondary goal of bettering the environment.

Another observation gleaned from the literature review is that environmental behaviors can be explained by a combination of individual and contextual factors. Theories applied in examining public/private sphere behaviors derive from psychology, social psychology, and sociology, where variables such as values, beliefs, identity, and social norms have been found to play a role in influencing environmental behavior.

Going forward, I contend that these public/private sphere insights can be applied in studying individual environmental behavior in the workplace.

Work Sphere Individual Environmental Behavior

Research into individual environmental behavior in the workplace is more recent and less developed than work on public/private sphere behavior. Much of it has been done within environmental management (EM) and industrial/organizational psychology (I/O).

At present, conceptualizations are being offered, and progress continues in establishing constructs, measures, and theoretical foundations. Unlike public/private sphere studies, which focus on individual and non-work influences, research into work sphere environmental behavior has attempted to address individual factors along with organizational conditions that are likely to affect the types of environmental behaviors that are performed (Lo, Peters, and Kok, 2012).

Environmental Management Conceptualizations

Some of the earliest and most enduring perspectives have been offered in EM (e.g., Anderson and Bateman, 2000; Boiral, 2009; Boiral and Paillé, 2012; Daily et al., 2009; Ramus, 2003; Ramus and Killmer, 2007; Ramus and Steger, 2000). The EM field focuses on the challenges associated with implementing formal environmental management systems within operational processes to support strategic and performance goals of organizations. In studying these systems, EM researchers view employee behavior that supports contextual performance (i.e., performance that indirectly contributes to work performance) (Borman and Motowidlo, 1993), as a necessary component for the success of organizational environmental sustainability initiatives (Anderson and Bateman, 2000; Boiral and Paillé, 2012; Daily et al., 2009; Ramus, 2003; Ramus and Killmer, 2007). For instance, Boiral (2005) found that a level involvement from machine operators was needed in order to reduce pollution output at facilities in the Canadian chemical industry. In another case, Daily, Bishop, and Steiner (2007) provided evidence that environmental management system (EMS) success depended, in part, on human resources factors such as employee engagement in EMS, appropriate EMS training, and management support for

EMS. To describe context-supportive environmental behavior, EM has adapted

frameworks from the organizational citizenship behavior (OCB), pro-social organizational

behavior (POB), and creativity and innovation literatures.

Environmental Behavior – POB and Creativity/Innovation Lenses

Those using POB and creativity/innovation frameworks in EM contend that in order

to support organizational environmental sustainability efforts, behaviors need to be

innovative and creative (Ramus and Steger, 2000). They also view environmental

behaviors as being either role-prescribed or extra-role (but more often extra-role) and as

promoting the welfare of individuals or groups to which they are directed (Ramus and

Killmer, 2007). Implicit in these views is the notion that, although employee behavioral

motivations are positive, behaviors may be perceived less favorably by supervisors, or they

may have actual negative implications for the organization.

These ideas parallel those offered in the POB (e.g., Brief and Motowidlo, 1986) and

creativity/innovation (e.g., Amabile, Conti, Coon, Lazenby, and Herron, 1996) literatures.

Ramus and Steger (2000), for example, applied insights from POB and

creativity/innovation to introduce *individual eco-initiative* as "any action taken by an

employee that s/he thought would improve the environmental performance of the

company" (pg. 6). They further specified eco-initiatives as a form of non-rewarded, change-

oriented, innovation-type behavior aimed at promoting the welfare of and creating value

for the organization and society as a whole.

Ramus and Killmer (2007) went a step further to develop *corporate greening*

behavior as a discretionary "*take-charge*" type of *pro-social* organizational behavior

intended to benefit the welfare of the individual, group or organization toward which it is directed. In a slightly different vein, Anderson and Bateman (2000) portrayed employee environmental behavior as *championing or intrapreneurial behavior*, aimed at changing organizational environmental sustainability practices. They describe behaviors as being in-role or extra-role and consisting of interrelated processes associated with issue recognition, issue packaging, and issue selling.

Overall, conceptualizations that apply POB and creativity/innovation lenses are notable for a number of reasons. POB and creativity/innovation perspectives put more emphasis on describing work sphere environmental behaviors as being change-oriented, targeted toward the environment and others, pro-social, and discretionary in nature. This implies that the behavior depends on individuals who possess environmentally proactive qualities and on organizational contexts that are supportive of the environment and employees who want to promote change.

Environmental Behavior – OCB Lenses

Other EM conceptualizations of work sphere environmental behavior apply OCB, which is often defined as "individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and in the aggregate promotes the efficient and effective functioning of the organization" (Organ, Podsakoff, and MacKenzie, 2006: 3). Although they are often used interchangeably (Podsakoff et al., 2000), OCB differs to an extent from POB in that OCB focuses only on behaviors that are positive and extra-role in nature (Borman and Motowidlo, 1997).

Daily et al. (2009), for instance, introduced *organizational citizenship behavior toward the environment* as "environmental efforts that are discretionary acts done within the organizational setting and that are not rewarded or required from the organization" (pg. 243). Building on Daily et al.'s work, Boiral (2009) proposed that environmental behavior refers to "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" (pg. 223). He also identified three preliminary OCB-E dimensions as *eco-helping, eco-civic engagement,* and *eco-initiative.* In addition, the term *organizational citizenship behavior toward the environment* was labeled as *OCBE* (referred to *OCB-E* in my work) *(*Boiral, 2009). This is similar to Williams and Anderson's (1991) target-specific view on OCB as OCBO (OCB directly targeted to the organization) and OCBI (OCB directly targeted to individuals associated with the organization).

In subsequent efforts, the dimensions were further defined and a three-dimensional OCB-E scale was developed and validated (e.g., Boiral and Paillé, 2012; Paillé, Boiral, and Chen, 2013). Eco-helping is defined as "voluntary and unrewarded behaviors aimed at helping colleagues to better integrate environmental concerns in the workplace" (Boiral and Paillé, 2012: 439). Eco-initiative consists of "discretionary behaviors or suggestions that are not recognized by the formal reward system and that cumulatively help to improve the organization's environmental practices or performance" (Boiral and Paillé, 2012: 438). Eco-civic engagement is defined as, "voluntary and unrewarded participation in environmental activities (events, initiatives or projects) that have been instituted by the

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organization and that contribute to improving its image or practices" (Boiral and Paillé, 2012: 438).

Overall, OCB perspectives focus on the discretionary, non-rewarded, and extra-role qualities of OCB-E. Boiral and colleagues' representation of environmental behavior as a multi-dimensional construct suggests that various types of OCB-E could be performed voluntarily by employees (e.g., eco-helping, eco-initiative). It also suggests that each type of behavior may be useful and more importantly, necessary within organizations in order to advance environmental sustainability agendas. Additionally, it is notable based on how they are conceptualized and measured (for operationalizations, refer to Boiral and Paillé, 2012) that certain categories of OCB-E, such as eco-helping and eco-civic engagement, seem to represent affiliative-oriented behaviors, while, the other OCB-E category - eco-initiative - appears to represent a change-oriented behavior.

When one considers the OCB, POB and innovation/creativity work sphere environmental behavior interpretations together, two general conclusions can be drawn. First, this type of behavior can be viewed as a form of discretionary, extra-role, and positive behavior that is targeted to benefit the environment and the organization. Second, the behavior could be associated with two broad purposes; *promoting organizational changes* that benefit the environment directly and the organization indirectly; and *promoting social affiliations* in the organization that indirectly benefit the environment.

I/O Psychology Conceptualizations

More recent conceptualizations of work sphere employee environment behavior have come from I/O psychology (I/O) researchers, who apply insights from job

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performance, a central construct in the field. This differs from environmental management (EM) researchers who apply OCB, pro-social, and innovation/creativity lenses.

In describing work sphere individual environmental behavior, I/O incorporates three types of behavior that have been found to contribute to general job performance: task performance, citizenship behavior, and counterproductive behavior (Rotundo and Sackett, 2002; Viswesvaran and Ones, 2000). For example, Ones and Dilchert (2012) described *employee green behaviors* as "scalable actions and behaviors that employees engage in that are linked with and contribute to or detract from environmental sustainability" (pg. 452). They describe behaviors as being related to task performance, organizational citizenship behavior, or counterproductive work behaviors. Further, they categorize behaviors as: *working sustainably* (e.g., creating sustainable product and processes), *avoiding harm* (e.g., preventing pollution), *conserving* (e.g., reusing), *influencing others* (e.g., educating and training for sustainability) and *taking initiative* (e.g., lobbying and activism).

In a slightly different vein, Bissing-Olson et al. (2013) separated in-role and extra-role behaviors by identifying *task-related pro-environmental behavior* as "the extent to which employees complete required work tasks in environmentally friendly ways" (pg. 156), and *daily proactive pro-environmental behavior* as "the extent to which employees show personal initiative when acting in environmentally friendly ways at work (pg. 156).

Overall, conceptualizations from I/O embody a wide range of potential work sphere employee environmental behaviors: in-role and extra-role; positive and negative; targeted toward the organization or toward others; and change-oriented or affiliative in nature. This

is unlike conceptualizations derived from OCB, which focus on positive, discretionary, extra-role behavior.

Summary - Work Sphere Individual Environmental Behavior

A summary of the conceptualizations and definitions of work sphere individual environmental or green behavior is presented in Table 1 at the end of this section. Although conceptualizations vary, perspectives on work sphere individual environmental behavior from EM and I/O encompass a number of themes. These include the degree to which the behavior: (1) is performed within one's job role (in-role, non-discretionary) or outside of one's job role (extra-role, discretionary); (2) promotes the welfare of the environment along with that of the individual, group, or organization to which it is directed; (3) is oriented toward changing the organization (e.g., voicing concerns to management about organizational environmental problems; introducing eco-innovations) or toward supporting existing social relations and systems (e.g., participating in organizationally-sponsored environmental activities; helping co-workers learn about environmental issues); (4) is viewed as being contextually supportive (e.g., participation in an environmental committee; donating money to an environmental cause) or contextually counterproductive (e.g., whistle-blowing; destructive environmental actions; lack of participation in organizationally-sponsored environmental activities); (5) is descriptively specific (e.g., recycling, shutting off lights) or general (e.g., advocating for environmental causes, helping others in environmental activities); and (6) has lower organizational impact (e.g., using non-disposable water bottle, riding bike to work) or higher impact (e.g.,

developing an eco-innovation, promoting organization's pro-environmental stance to customers).

In addition, two other observations are noteworthy. First, newer conceptualizations (e.g., Ones and Dilchert, 2012; Bissing-Olson et al., 2013) address a wide range of possible environmental behaviors, but their application is more consistent with what are termed "green" companies or "born green" industries, where a level of pro-environmental behavior is required as part of employee job responsibilities (Ones and Dilchert, 2012; Paillé and Boiral, 2013). This point is relevant because pro-environmental behavior in "green" companies can be associated with both task and extra-role performance (Ones and Dilchert, 2012; Paillé and Boiral, 2013). By contrast, in companies and industries labeled as "traditional" where pro-environmental behaviors are not necessarily required as part of job responsibilities, behaviors may more likely be seen as discretionary and outside of the job description (Boiral, 2002; Paillé and Boiral, 2013; Fernandez, Junquera, and Ordiz, 2003). Regardless of this distinction, demands for research into *discretionary, extra-role environmental behavior* have increased as organizations recognize that preventative approaches to environmental sustainability require a significant degree of voluntary and cooperative effort from individuals (Boiral, 2009; Hanna et al., 2000). Also, environmental sustainability efforts require a complex array of organizational initiatives, which are not entirely addressed within job descriptions (Boiral, 2005; Hart, 1995). Second, it is notable that the work sphere and private/public sphere literatures share some commonalities. For one, both recognize environmental behavior to be volitional and positively-oriented toward benefitting the environment and others. Additionally, both suggest that individual

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and contextual factors play a role in explaining such behaviors. Lastly, both allude to the idea that environmental behaviors can be performed with two broad purposes in mind: (1) to promote changes to existing systems; and (2) to support social relations and norms of existing systems. This dual view of environmental behavior (i.e., simultaneously promoting change and stability) is similar to established conceptualizations offered by OCB scholars (e.g., change- and affiliative-oriented OCB) (Choi, 2007; Van Dyne et al., 1995; Van Dyne and LePine, 1998).

Table 1: Work Sphere Individual Environmental Behavior

Conceptualization	Definition	Derivation	Author(s)
Environmental Management (EM)			
Individual eco-initiative	"any action taken by an employee that s/he thought would improve the environmental performance of the company" (pg. 6)	Pro-social behavior Creativity Innovation	Ramus and Steger (2000)
Corporate greening behavior	A discretionary "take-charge" type of pro-social organizational behavior intended to benefit the welfare of the individual, group or organization toward which is directed.	Pro-social behavior	Ramus and Kilmer (2007)
Employee environmental behavior	A championing or intrapreneurial behavior, aimed at changing organizational environmental sustainability practices. Behavior can be in-role or extra-role and can consist of interrelated processes associated with issue recognition, issue packaging, and issue selling	Creativity Innovation	Anderson and Bateman (2000)
Environmental behavior	"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" (pg. 223). Three dimensions (eco-helping, eco-initiative, eco-compliance)	OCB	Boiral (2009)
Organizational citizenship behavior toward the environment	"environmental efforts that are discretionary acts done within the organizational setting and that are not rewarded or required from the organization" (pg. 243)	OCB	Daily et al. (2009)
Industrial Organizational Psychology (I/O Psych)			
Employee green behaviors	"scalable actions and behaviors that employees engage in that are linked with and contribute to or detract from environmental sustainability" (pg. 452)	Job performance	Ones and Dilchert (2012)
Daily proactive pro-environmental behavior	"the extent to which employees show personal initiative when acting in environmentally friendly ways at work" (pg. 156)	Job performance	Bissing-Olson et al. (2013)
Task-related pro-environmental behavior	"the extent to which employees complete required work tasks in environmentally friendly ways" (pg. 156)	Job performance	Bissing-Olson et al. (2013)

Going Forward – Work Sphere Environmental Behavior as OCB-E

Based on the above review of the environmental behavior literature, I propose that for my dissertation research, *work sphere individual environmental behavior is best conceived of as a special type of "organizational citizenship behavior."* As was highlighted in the previous section, demand has increased for work on environmental behavior that is discretionary and extra-role in nature, but despite this demand, only a handful of studies have begun to examine this environmental sustainability relevant outcome (e.g., Boiral and Paillé, 2012; Daily et al., 2009; Lamm et al., 2013; Paillé, Boiral, and Chen, 2013; Ramus and Killmer, 2007).

Specifically, I propose to label the behavior as *organizational citizenship behavior toward the natural environment (OCB-E)* and define it comparably to others (e.g., Boiral, 2009; Boiral and Paillé, 2012; Daily et al., 2009; Lamm et al., 2013) as *a discretionary individual behavior that:; (1) is generally not specified in the job description; (2) may not be explicitly recognized by formal reward systems; (3) consists of affiliative- or change-oriented behaviors; and (4) contributes through individual and/or combined effort to the betterment of the natural environment in some way and to the organization's environmental sustainability efforts.*

Some aspects of the conceptualization should be highlighted. First, I label my construct "OCB-E" instead of "OCBE" as some have done (e.g., Boiral, 2009; Boiral and Paillé, 2012; Daily et al., 2009). Hyphenating the "E" provides greater clarity to the acronym by making the target (the environment) more visible to the reader. In conjunction, I incorporate Williams and Anderson's (1991) target-specific view of OCB into my construct.

That is, I propose that OCB-E immediately benefits the natural environment and indirectly

through this means contributes to the organization (Boiral, 2009; Lamm et al., 2013).

Further, similar to others (e.g., Boiral and Paillé, 2012; Daily et al., 2009; Lamm et al.,

2013), I assume that individual OCB-E's in aggregate can contribute to improved

organizational environmental sustainability efforts. This logic parallels that of OCB, which

assumes that, in aggregate, discretionary extra-role behaviors enhance overall

organizational effectiveness (Organ et al., 2006; Podsakoff et al., 2000). Also, I follow others

(e.g., Boiral and Paillé, 2012; Lamm et al., 2013) to suggest that OCB-Es can occur across a

variety of workplace settings (e.g., non-profit, for-profit, civic, production, service).

My conceptualization also incorporates points common to both the public/private

sphere and work sphere environmental behavior research. First, I position OCB-E as a

positive individual behavior that benefits the environment and the organization, albeit in

varying degrees. I also view OCB-E as serving the broad purposes of: (1) promoting

changes to existing systems (labeled as *change-oriented*); and (2) supporting social

relations and norms of existing systems (labeled as *affiliative-oriented*). Specifically, in

defining *affiliative-oriented OCB-E*, I applied Van Dyne et al.'s (1995) logic to specify it as a

behavior that is interpersonal and cooperative and directed toward supporting the natural

environment and existing environmental sustainability efforts of the organization. In effect,

affiliative-oriented OCB-E maintains the status quo of the organization's norms associated

with environmental sustainability. In the OCB literature, forms of affiliative behaviors that

have been examined include helping, compliance, sportsmanship, organizational loyalty,

civic virtue, and self-development (MacKenzie, Podsakoff, and Podsakoff, 2011; Podsakoff

et al., 2000; Van Dyne et al., 1995). Adapting these types of activities for environmental participation, affiliative-oriented OCB-E could involve actions such as promoting the organization's environmental efforts to outsiders, defending its environmental actions to others, participating in environmental programs sponsored by the company, complying with environmental initiatives such as recycling or using fewer resources, helping co-workers on environmental initiatives, and learning about environmental issues that could benefit the organization. Further, similar to others (e.g., Choi, 2007; Seppala, Lipponen, Bardi, and Pirttilä-Backman, 2012), I define *change-oriented OCB-E as behavior that is constructive and directed toward supporting the natural environment by questioning, identifying, and/or implementing changes to organizational processes to improve the organization's environmental sustainability efforts.* In effect, change-oriented OCB-E focuses on issues and ideas and challenges the status quo of the organization's norms associated with environmental sustainability. Since it has the potential to shift existing norms, in the short term change-oriented OCB-E could potentially disrupt social relations and be viewed in a less favorable light. But in the long run, it can be viewed favorably. In the OCB literature, forms of change or challenge behaviors that have been examined include voicing concerns (Van Dyne and LePine, 1998), selling issues (Ashford, Rothbard, Piderit, and Dutton, 1998), individual initiative (Choi, 2007; Podsakoff et al., 2000), and taking charge to implement constructive changes (Morrison and Phelps, 1999). Adapting these types of activities for environmental participation, change-oriented OCB-E could involve actions such as voicing concerns to one's supervisor about an environmental problem that the organization is involved in, taking the lead in asking co-workers to be more

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environmentally conscientious, establishing a workplace committee that addresses environmental issues, and coming up with an innovative idea that addresses one of the company's environmental challenges.

Lastly, I focus on OCB-E that occurs in traditional organizations. Environmental sustainability efforts in these types of organizations, which are common across industries, are likely to vary considerably. Efforts could range from well-integrated to piecemeal to virtually non-existent. I anticipate that in these contexts, employees are more likely initiate discretionary, extra-role green behaviors over task-related behaviors since fewer opportunities exist to perform the latter actions. This is unlike green organizations, where sustainability efforts are typically well-integrated into strategies and organizational systems, so employees have more opportunities to perform task-related green behaviors. In traditional organizations, I also expect that even though both affiliative- and change-oriented OCB-Es could occur, a greater number of change type behaviors will be performed by employees. This is because, on average, traditional organizations have fewer formal environmental sustainability strategies in place. This would mean that there would be fewer opportunities for employees to pursue affiliative types of OCB-E and more incentives for individuals to initiate change types of OCB-E. In a scenario where a workplace offers employees the chance to volunteer for environmental clean-up projects, individuals could be exhibiting OCB-E that is affiliative in nature by participating in the projects. Other organizations may encourage the use of recycling bins or paperless delivery. If employees voluntarily comply, this can indicate OCB-E that is affiliative. Alternatively, in cases where organizations have fewer environmental measures in place, employees may "take charge"

or "voice" their concerns by offering a green idea or letting their supervisor know about an environmental concern. These OCB-Es could be motivated by employees' desires for changes in how the environment is addressed.

CHAPTER 3: THEORY AND HYPOTHESES DEVELOPMENT

Model Theoretical Framework and Hypotheses

In this chapter I build on the ideas and findings from the literature reviews in Chapter 2 to introduce my individual-level environmental sustainability model of determinants of OCB-E.

Model Overview

The dissertation study examines the potential psychological mechanisms through which organizational and individual factors impact employees' OCB-Es. Figure 2 describes the proposed model and the hypotheses, which are derived from management and environmental sustainability literature streams and based on social exchange and identity perspectives. The model specifies direct and/or indirect associations between perceptions of organizational context (i.e., psychological climate of care for the natural environment (PCCE)) and OCB-E. For the indirect relationship, the social exchange variable, perceived organizational support (POS), is examined as a mediator in the relationship between PCCE and OCB-E. The model also assesses whether two forms of identity, environmental identity and organizational identification, interact with POS to predict OCB-E.

Figure 2: Proposed Dissertation Research Model with Hypotheses
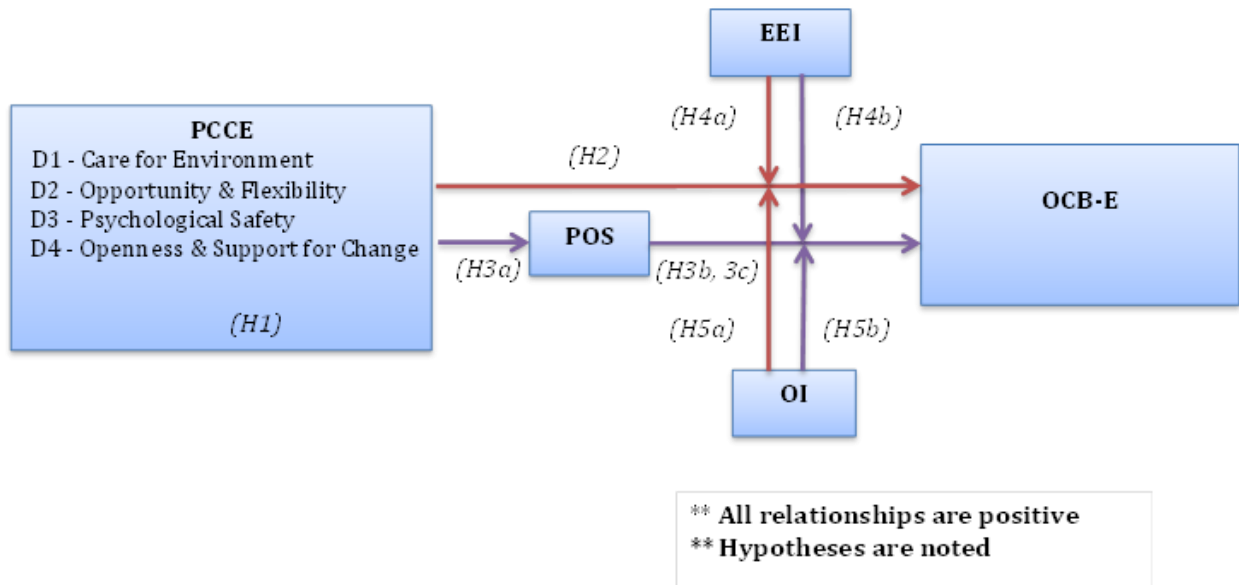
I begin the Chapter by introducing relevant research that has been done on determinants of discretionary, extra-role pro-environmental or green behavior. Work on the topic is limited as only a handful of conceptual and empirical studies have been conducted. In particular, I focus on social exchange-based explanations because my study uses this perspective. I also consider relevant work on antecedents of OCB, which I apply to my study. After this, the theoretical framework and hypotheses are derived. I first discuss the direct effect of psychological climate on OCB-E. Next, I assess the indirect effect of PCCE on OCB-E by considering whether a social exchange process occurs between psychological climate and OCB-E. Lastly, I examine whether interactive effects based on social exchange and identity processes occur between psychological climate and OCB-E.

Existing Research on Antecedents of OCB-E

Conceptual and empirical work on OCB-E determinants is limited, but growing. A few conceptual models from environmental management (EM) and industrial organizational psychology (I/O) have provided much of the basis for the handful of empirical studies. In EM, these include Daily et al. (2009), Boiral (2009), and Ramus and Killmer (2007) who did comprehensive reviews of the environmental and management literatures in deriving their conceptual models of OCB-E antecedents.

Daily et al. (2009) took into consideration perspectives from public/private sphere environmental behavior on individual value orientations (e.g., Schultz, 2000; Stern et al., 1999) along with social exchange and field theories. They identified environmental behavior using an OCB lens as "environmental efforts that are discretionary acts, within the organizational setting, not rewarded or required from the organization" (Daily et al., 2009: 243). They proposed OCB-E is a function of individual and contextual factors consisting of: employee environmental concern; organizational commitment; perceptions of supervisory support for environmental efforts; and perceptions of corporate social performance. In applying social exchange logic (Blau, 1964; Gouldner, 1960), Daily et al. emphasized the potential role of supervisor support for environmental efforts in influencing OCB-E. They also put forth the importance of individual attitudes and value-based cognitions as predictors of such behaviors. Similarly, Boiral (2009) suggested that influencers of OCB-E include the degree of environmental leadership, managerial commitment to environmental behavior, availability of voluntary environmental programs, appropriate support structures, training, access to information, and recruitment policies.

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In contrast, Ramus and Killmer (2007) derived antecedents from learning and the motivational perspectives of theory of reasoned action (Fishbein and Ajzen, 1975) and expectancy theory (Vroom, 1964). Instead of applying an OCB lens, they applied pro-social and creativity/innovation lenses to identify environmental behavior (i.e., eco-initiatives or corporate greening behavior) as a "take-charge" (Morrison and Phelps, 1999) or change type of discretionary, extra-role pro-social behavior. Their model proposed the following individual and organizational antecedents:

"(a) support from the direct supervisor, or another second party responsible for overseeing a task; (b) one's perception of an organization's related norms; (c) personal predisposition toward the behavior (e.g., creative initiatives or protecting the natural environment in the case of eco-initiatives) and (d) one's belief in one's own ability to successfully perform the action" (pg. 557).

In taking a change-oriented view of environmental behavior, Ramus and Killmer (2007) noted the potential roles of organizational norm perceptions and individual self-efficacy in influencing behaviors. Additionally, they concurred with Daily et al. (2009) and Boiral (2009) in suggesting the potential influences of supervisory support perceptions and individual attitudes and value-based cognitions as predictors of such behaviors.

Lastly, although its focus is not specifically on the OCB-E construct, I/O has given some consideration to discretionary, extra-role pro-environmental behavior and its potential antecedents. These include supervisor support, individual attitudes and value-based cognitions, and aggregate organizational context features such as organizational

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climate. With regard to climate, early attention has been given to both Victor and Cullen's

(1987; 1988) ethical climate (Biga et al., 2010; Ones and Dilchert, 2012; Ones, Dilchert, and

Biga, 2010) and a new type of organizational climate labeled "green work climate" (Norton

et al., 2012; 2014).

Outside of the conceptualizations, some empirical work has begun to develop the

nomological network of OCB-E. Studies based on Daily et al.'s (2009) model have applied

social exchange theory (SET) to examine OCB-E determinants. Paillé, Boiral, and Chen

(2013) used SET and a human resource framework to investigate the underlying

psychological processes by which employee perceptions of organizational environmental

management practices affected OCB-E through perceived organizational support, perceived

supervisor support, and affective commitment. Based on a Canadian sample utilizing a

unidimensional OCB-E scale, evidence was found for a direct relationship between

environmental management practices and affective commitment, OCB-E, perceived

organizational support, and perceived supervisor support, but not for the indirect

relationship between environmental management practices and OCB-E through affective

commitment or the direct relationship between perceived supervisory support and OCB-E.

Lamm et al. (2013) examined the extent to which employee perceptions of

organizational support (POS) and affective commitment, along with individual beliefs about

sustainability would be associated with OCB-E. Lamm et al. collected data from over 700

employees in a variety of occupations and found support for the mediated relationship of

POS to OCB-E through affective commitment. They also found a positive relationship

between OCB-E and individual beliefs about sustainability. Lamm et al. did not use Boiral

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and Paillé's (2012) three-dimensional OCB-E scale. Instead, a one-dimensional scale that assessed low-impact, resource-reducing behaviors (e.g., turning off lights, re-using drinking cups) was used.

In another study, Paillé and Boiral (2013) analyzed a sample of about 180 medical technicians and found a direct effect between affective commitment and OCB-E, and indirect effects between POS and OCB-E and job satisfaction and OCB-E via affective commitment. Further, based on a matched sample of approximately 150 Chinese top management team members, chief executive officers, and front line workers, Paillé, Chen, Boiral, and Jin (2013) found OCB-E to be associated with strategic human resource management (SHRM). They also found employee perceptions of the company's internal environmental concern (Banerjee, Iyer, and Kashyup, 2003) to moderate the effect of SHRM on OCB-E. In this case, a Chinese version of the three-dimensional OCB-E scale (e.g., Boiral and Paillé, 2012) was used. More recently, Paillé & Mejía-Morelos (2014) used a Spanish version of the OCB-E scales developed in Boiral and Paillé (2012) to assess the relationship between perceived organizational support and OCB-E via commitment and job satisfaction in a Mexican university alumni sample. They also took into consideration whether psychological contract breach moderated the relationship.

In a slightly different direction, Temminck, Mearns, and Fruhen (2013) focused on environmentally specific context (i.e., POS-E) as a predictor of OCB-E along with individual environmental concern. In analyzing data from two organizations (N=547), they found evidence for the following relationships: (a) employees' concern for their environment and OCB-E; (b) perceived organizational support for environment efforts (POS-E) and OCB-E;

and (c) organizational commitment, and OCB-E. In addition, organizational commitment

was found to mediate the relationship between POS-E and OCB-E, but not that between

individual environmental concern and OCB-E. Lastly, in an example more in line with

Ramus and Killmer (2007), Ramus and Steger (2000) applied creativity and learning

perspectives and collected longitudinal, multi-country data from over 1500 respondents

from environmentally progressive firms to assess determinants of discretionary eco-

initiatives. Their research found eco-initiatives to be linked to engaging contexts where the

organization and management signal a strong commitment to the environment via

published environmental policies and supervisory support behaviors (e.g., encouragement

of environmental innovation, competence building, communication, rewards and

recognition, and management of goals and responsibilities). Figure 3 and its legend

highlight the main empirical findings on OCB-E that were summarized in this section.

Figure 3	**LEGEND**
Abbreviation	Name
AC	Affective Commitment
EMP	Environmental Management Practices
JS	Job Satisfaction
OCB-E	Organizational Citizenship for the Natural Environment
POS	Perceived Organizational Support
POS-E	Perceived Organizational Support for the Environment
PSS	Perceived Supervisory Support
TMT	Top Management Team

Figure 3: Empirical Findings - Antecedents of OCB-E

Overall, the handful of studies on determinants of OCB-E is embryonic, despite the importance of these behaviors for supporting organizational sustainability efforts. In spite of this, a number of notable propositions are worthy of further consideration.

First, empirical work has begun to address recommendations implied in conceptual models (e.g., Boiral, 2009; Daily et al., 2009; Ramus and Killmer, 2007, Ones and Dilchert, 2010) to examine the potential impacts of both individual and organizational variables on OCB-E. In doing so, the studies examine a small group of variables and offer initial evidence that both variable types are associated with OCB-E. The idea that individual and organizational variables relate to OCB-E parallels findings on OCB (e.g., Podsakoff et al., 2000). Other variables, though, deserve further consideration as they would contribute to establishing the nomological network of OCB-E. In particular, personal identity, which reflects value-based cognitions; social identity, which reflects group membership; and climate, which reflects perceptions of organizational norms, deserve examination.

Second, a number of the studies hypothesize general workplace cognitions (e.g., perceived organization support, psychological contract breach, and affective commitment) as main predictors of OCB-E. The exception is Paillé, Boiral, and Chen (2013), which goes a step further by addressing the influence of an environmentally-relevant contextual variable (e.g., environmental management practice) on both general workplace cognitions (i.e., perceived organizational support and perceived supervisor support) and OCB-E. This implies an organization's context as it relates to the environment can positively impact general workplace cognitions, which in turn can promote environmental citizenship behaviors. This is an interesting finding, one which I pursue in my model by taking into

consideration the potential impact of psychological climate of care for the natural

environment on perceptions of organizational support and in turn OCB-E.

Third, these studies show that OCB-E may depend not only on individuals'

environmentally-specific perceptions and attitudes, but also on their general views of the

organization. That is, general work variables such as job satisfaction, organizational

commitment, and perceived organizational and supervisor support may be needed in

addition to environment-specific variables (e.g., company environmental orientation) in

order to explain why employees perform OCB-Es. This is an interesting point worthy of

further consideration. OCB-E is a voluntary pro-organizational form of workplace behavior

directed to a specific cause. Hence it is reasonable to suggest that both general work and

specific environmentally-relevant variables are required for such behaviors. Also of note is

that in the OCB literature, solid evidence exists for the positive relationship between

general work variables (e.g., POS) and extra-role behavior (Organ et al., 2006; Podsakoff et

al., 2000).

Fourth, in the aforementioned studies, a variety of approaches have been taken in

operationalizing and measuring OCB-E. Most have developed unique scales that assess a

wide variety of behaviors. Some consider low-impact behaviors such as shutting off lights

(e.g., Lamm et al., 2013); others assess larger change-oriented initiatives such as eco-

initiatives (e.g., Ramus and Steger, 2000). Some studies consider OCB-E to be

unidimensional (e.g., Lamm et al., 2013), while others consider it be multi-dimensional

(e.g., Paillé, Boiral, and Chen, 2013). All in all, this makes it challenging to draw

generalizable conclusions. But as discussed in Chapter 2, it would be useful for this

dissertation to examine OCB-E as a one-dimensional construct that considers non-specific forms of change- and affiliative-oriented behavior. This design would capture many of the types of behaviors addressed in the existing research and make it plausible to apply established work from OCB on change and affiliative behaviors (e.g., Van Dyne et al., 1995).

In summary, research on OCB-E antecedents indicates that although these behaviors are voluntary and thus difficult to control, contexts can be established that support their emergence when organizations take into consideration both employees' psychological relationships with the natural environment and their own corporate position on the subject. Conceptual models (e.g., Boiral, 2009; Daily et al., 2009; Ones and Dilchert, 2010; Ramus and Killmer, 2007) propose a variety of variables that are in need of further consideration. In particular, as highlighted above, it would be worthwhile to examine some that are under-explored such as personal identity and perceptions of organizational climate linked to the natural environment. I also noted that in explaining OCB-E, consideration should be given to the potential impacts of both general and environment-specific workplace variables. Lastly, social exchange theory is an appealing perspective to apply in explaining OCB-E. The theory is well supported in OCB research, which has shown exchange-based variables (e.g., job attitudes, task variables, and leader behavior) to be strongly associated with OCB (Podsakoff et al., 2000).

Next, I discuss the theoretical underpinnings and hypotheses of the dissertation model. I will suggest that there is benefit to studying motivations of OCB-E using not only social exchange-based logic, but also identity-based logic.

Theoretical Framework

My dissertation model extends prior efforts on OCB-E determinants by incorporating insights from social psychology research, applying social exchange and identity perspectives to explain work-related attitudes and behaviors (e.g., Van Knippenberg, 2000; Van Knippenberg and Sleebos, 2006; Van Knippenberg, Van Dick, and Tavares, 2007). The main reasoning in this research is that

> "the magnitude of individuals' attachment to the organization and the evaluation they make of the relationship that the organization develops with them may exert an important influence on job-related attitudes and behavior, such as…extra-role behavior" (Van Knippenberg et al., 2007: 457).

Empirical evidence from this line of research highlights the contributions of both social exchange and identity perspectives to explaining the effects of psychological relationships between employees and organizations on workplace behaviors (Van Knippenberg et al., 2007). Using this body of work as a basis for my study, I contend there is value in applying both social exchange and identity perspectives to examining OCB-E antecedents. Support for this position also comes from studies on environmental and pro-social behavior in the public/private sphere, which have found individual identity to be a significant predictor of this type of behavior beyond attitudinal and past behavior explanations (Biga, 2006; Burke 1991; Charng, Piliavin, and Callero 1988; Sparks and Shepherd 1992). That is, in addition to attitudes and past behavioral patterns, identity can be an important predictor of behavior because people act in ways to verify their identity meanings (Biga, 2006; Chang et al., 1988; Stets and Burke, 2000).

Thus the proposed model, which is depicted in Figure 1 at the beginning of this chapter, suggests that in order to understand the emergence of citizenship behavior toward the natural environment, exchange- and identity-based reasons need to be examined. The model integrates social exchange theory (SET) (Blau, 1964; Cropanzano and Mitchell, 2005; Eisenberger, Huntington, Hutchison, and Sowa, 1986; Rhoades and Eisenberger, 2002) with identity perspectives (e.g., Ashforth and Mael, 1989; Biga, 2006; Burke and Stets, 2009; Stets and Biga, 2003; Stets and Burke, 2000; Stryker and Burke, 2000).

First, I examine whether a direct relationship exists between climate perceptions (PCCE) and OCB-E. Then based on SET, I consider whether PCCE influences OCB-E via perceived organizational support (POS). Finally, I consider whether POS and identities (i.e., employee environmental identity and organizational identification) interact to predict OCB-E. Overall, when organizational contexts encourage positive social exchange and identity experiences, individuals are more likely to feel supported and more apt to reciprocate with perceptions of organizational support and discretionary citizenship behavior. Table 2, which is at the end of Chapter 3, provides a summary of the five hypotheses that are developed in the study.

Direct Effects of PCCE on OCB-E

With regard to organizational context and its potential to directly and indirectly influence pro-environmental or green behavior at work, researchers have called for investigation into whether variables such as organizational climate play a role. Specifically, I/O scholars were among the first to suggest that contexts such as ethical climate (Biga et al., 2010) and green work climate (Norton et al., 2012; 2014) have impacts.

Overview of Climate

The initiative to examine the link between climate perceptions and pro-environmental behavior parallels work done on OCB where considerable support exists for the relationship between employee climate perceptions and general citizenship behavior in the workplace (e.g., Choi, 2007; Ehrhart, 2004; Kuenzi and Schminke, 2009; Liao and Rupp, 2005; Parker et al., 2003; Scott and Bruce, 1994; Walumbwa, Hartnell, and Oke, 2010). Overall, climate research examines the perceptions of individuals regarding characteristics of their work environment, and how these perceptions drive their attitudes and subsequent behaviors (Parker et al., 2003; Schneider, 2000).

Theoretically, psychological climate reflects a "process of valuation" whereby individuals interpret features of their environment in light of their values or needs and in term of its significance to their personal well-being (James et al., 1990; Parker et al., 2003). From an expectancy perspective, climate perceptions bring to mind expectancies for outcomes, as well as instrumentalities and valuations that directly influence behavioral motivation (Parker et al., 2003). Ultimately, climate has implications for employee behavior because it reflects employees' perceptions of relatively enduring features of the

organization that determine how they should operate within it in order to realize positive

self-evaluation consequences (Bandura, 1988; Schneider and Reichers, 1983).

The I/O studies mentioned above (e.g., Biga et al., 2010; Norton et al., 2012) propose

that consideration be given to "organizational climate" in relation to employee

environmental behavior. The literature makes a distinction between this form and another

psychological climate (Parker et al., 2003). Psychological climate is a molar construct that

represents an individual's perceptions and interpretations of his/her organizational

environment (James, Hater, Gent, and Bruni, 1978; James and James, 1989; James et al.,

1990). Organizational climate, on the other hand, represents shared perceptions among

organization employees regarding their work environment (Kuenzi and Schminke, 2009).

In effect, organizational climate exists when psychological climate perceptions are shared

among workers within a particular work unit. Only when agreement exists can an

aggregate measure of organizational climate be computed and employed as an

organizational level measure of climate (Glisson and James, 2002). Psychological climate

has been associated with the individual level in terms of theory, measurement, and analysis

(James and Jones, 1974). Organizational climate is typically used for research where the

appropriate level of theory and analysis is the work group, organization, or some other

social collective (Parker et al., 2003). Psychological climate perceptions have been found to

be a better predictor of individual outcomes (e.g., OCB, job satisfaction, behavior), while

organizational climate has been found to better predict unit-level outcomes (e.g., unit-level

OCB, accident rates, reputation) (Reichers and Schneider, 1990).

Associating Psychological Climate with OCB-E

While there is merit to examining organizational climate as some suggest, I propose that attention be given to the potential impact of *psychological climate* on OCB-E. A primary reason is that my outcome is individual-level, not unit-level. Additionally, the aim of my study is to identify antecedents of OCB-E that are general in nature and not specific to any particular work-unit or group within an organization. Lastly, it makes sense to account for the role of psychological climate because an individual's willingness to voluntarily undertake positive extra-role behaviors on behalf of the organization (i.e., OCB-Es) is in part a function of how that person uniquely perceives and interprets his or her organizational context (Choi, 2007; Podsakoff et al., 2000). In the end, I advocate using psychological climate to study OCB-E because it is individuals' subjective perceptions and evaluations of context that allow them to ''see'' what the organization is doing and then reciprocate (Brown and Leigh, 1996; Choi, 2007; James and Sells, 1981).

Psychological Climate of Care for the Natural Environment

Climate can be conceptualized as "facet-specific" (Kuenzi and Schminke, 2009, pg. 636), which relates to a particular aspect of an organization's context. Examples include climates for psychological safety (Brown and Leigh, 1996; Edmondson, 1999), justice (Naumann and Bennett, 2000), safety (Zohar, 2000), initiative and innovation (Anderson and West, 1998; Baer and Frese, 2003; Scott and Bruce, 1994), ethics (Victor and Cullen, 1987; 1988), voice (Frazier and Fainshmidt, 2012), service (Schneider, White, and Paul, 1998), and diversity (McKay, Avery, and Morris, 2008). These facets reflect specific

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outcomes (i.e., safety, service, innovation) and/or processes (i.e., psychological safety, justice, voice) (refer to Parker et al. (2003) and Kuenzi and Schminke (2009) for reviews).

For the dissertation, I suggest that in explaining what motivates OCB-E, attention be given to a new facet-specific psychological climate, which I introduce as "*psychological climate of care for the natural environment*" or *PCCE.* The construct reflects my overall assumption that organizational environmental sustainability efforts are best supported when OCB-E is encouraged. It also reflects my position that employees are motivated to take such actions in part because they value the natural environment beyond the environment's utilitarian benefits. Thus, PCCE is interpreted as an employee's *sense that the organization values the natural environment beyond its instrumental benefit and supports employees in their environmental organizational citizenship efforts.* It addresses the "care" an organization gives to two outcomes (i.e., natural environment and employee) and their associated processes. It also indicates an organization's values toward the natural environment and its norms regarding how fairly employees will be treated when it comes to OCB-Es. Next, four dimensions of PCCE are introduced.

Operationalizing PCCE

Psychological climate is multidimensional in nature. Established climate frameworks point to a limited number of higher order dimensions that account for the possible variations in contextual features of organizational environments (James and James, 1989; James and Sells, 1981; Parker et al., 2003). To determine which dimensions are applicable to PCCE, I consulted the climate literature on psychological safety and meaning (e.g., Brown and Leigh, 1996; Kahn, 1990); innovation, initiative, and voice (e.g.,

Baer and Frese, 2003; Frazier and Fainshmidt, 2012; Scott and Bruce, 1994);

environmental orientation (e.g., Banerjee, 2002; Bannerjee et al., 2003); and work-family

(e.g., Thompson, Beauvais, and Lyness, 1999). I also referenced studies on antecedents of

organizational citizenship behavior (e.g., Choi, 2007, Morrison, 2011; Morrison and Phelps,

1999; Van Dyne et al., 1995). I hoped to identify a set of characteristics that would

differentiate strong versus weak organizations in terms of the two PCCE elements – (1)

care for the natural environment beyond instrumental reasons; and (2) supportiveness for

OCB-E.

Regarding the first PCCE element, limited efforts have been made to conceptualize

an organization's values as they relate to the natural environment. Exceptions are Banerjee

(2002) and Banerjee et al. (2003), who developed the construct *internal environmental*

orientation (IEO) as "a company's internal values, standards of ethical behavior, and

commitment to environmental protection" (Banerjee et al., 2003: 106). IEO reflects a firm's

values on protecting the natural environment based on its willingness to incorporate

environmental issues into its mission, policies, practices, and management behavior

(Banerjee et al., 2003). Recently, in an environmental sustainability study on the link

between strategic human resources management (SHRM) practices and OCB-E, Paillé,

Chen, Boiral, and Jin (2013) found evidence for the moderating effect of employee IEO

perceptions. Since IEO reasonably captures the first element of PCCE, I propose that it be

adopted as one of its dimensions.

The second PCCE element concerns support for OCB-E that could be affiliative- or

change-oriented. OCB research highlights that since citizenship behaviors are voluntary;

undertaken for personally meaningful reasons; require extra effort beyond what is required for daily tasks; and could challenge the status quo and upset organizational members in the short term, employees who undertake OCBs need to feel that what they do is meaningful and likely be effective (Morrison, 2011). In addition, employees need to feel that the risks or potential negative outcomes associated with the behavior are limited (Detert and Burris, 2007; Morrison, 2011; Morrison and Phelps, 1999). Further, these behaviors have been found to be strongly associated with supervisor openness (Choi, 2007; Detert and Burris, 2007), described as the extent to which management is perceived as encouraging and supporting change-type initiatives from lower-level employees (Morrison and Phelps, 1999).

These ideas are encompassed to a large extent within the climate concepts of "psychological safety" and "meaningfulness" (e.g., Brown and Leigh, 1996; Kahn, 1990; Liang, Farh, and Farh, 2012). Psychological safety refers to "employees' feelings that management supports their behaviors without fear of negative consequences to their self-image, status, or career" (Kahn, 1990: 708). Essentially, it represents one's sense of being able to show and employ the self without negative consequences (Kahn, 1992). Meaningfulness refers to "the feeling that one is receiving a return on investments of one's self in a currency of physical, cognitive, or emotional energy" (Kahn, 1990: 704). Essentially, it represents one's sense of making a difference and feeling worthwhile, useful, and valuable in the process. Although they were originally intended to be used in predicting job engagement (Kahn, 1990), psychological safety and meaningfulness have also been associated with predicting citizenship behaviors (e.g., Ashford et al., 1998; Detert

and Burris, 2007; Edmondson, 1999). In addition, OCB studies identify these behaviors, especially change-oriented ones, to be a function of "innovation-oriented" environments - where qualities such as openness and support for new and potentially innovative ideas (Choi, 2007; Scott and Bruce, 1994), initiative (Baer and Frese, 2003), and voice (Frazier and Fainshmidt, 2012) prevail. In a noteworthy environmental sustainability study, Ramus and Steger (2000) found empirical support for the link between "innovation-oriented" environments and employees' willingness to undertake eco-initiatives.

To summarize, the aforementioned conditions (i.e., psychological safety, meaningfulness, and "innovative-oriented" environment) have been found to be significantly associated with organizational citizenship behaviors. Applying these findings to OCB-E, I propose that these conditions can also be used to represent dimensions of PCCE. They should be focused, though, on what PCCE represents. Thus, adapting Kahn's (1990) definitions, psychological safety can be viewed as *an individual's sense that management supports his/her OCB-E efforts without fear of negative consequences to self-image, status, or career.* Meaningfulness can be interpreted as *an employee's sense that his/her OCB-E efforts matter; that he/she is making a difference and feeling worthwhile, useful, and valuable in the process.* Innovation-oriented environment can be seen as *an employee's sense that his/her organization is open and supportive of new and potentially innovative ideas and initiatives that benefit the natural environment and organizational environmental sustainability efforts.*

Overall, I contend that organizations that exhibit these climate conditions are more likely to be open to and supportive of employees who are involved with voluntary change

or affiliative types of green behavior. These organizations may provide more opportunities for employees to voluntarily participate in environmental initiatives such as serving on a workplace greening committee or participating in environmental clean-up events. They may also be more willing to allow employees to voice concerns about environmental problems in the workplace or implement new ways of addressing green workplace objectives.

Lastly, one additional condition is necessary for OCB-E. Climate researchers, especially those studying work-family benefits, note that when employees felt that participation in organizational activities could negatively affect their career progress and social status at work, they were less likely to engage in them (Thompson et al., 1999). In particular, the lack of opportunity, flexibility, and support for such activities because of limited formal support (e.g., policies, initiatives) and informal support (e.g., from supervisor, co-workers) dampened employee participation (Allen, 2001; Anderson, Coffey, and Byerly, 2002; Behson, 2005; Thompson et al., 1999). I extend this logic to explaining OCB-E by proposing that when employees' sense that they or their fellow co-workers have opportunities, flexibility, and informal and formal support to voluntarily undertake affiliative- or change-oriented green actions, they are more likely to do so.

Overall, based on the reviews of OCB and psychological climate findings, I propose that PCCE consists of four dimensions, capturing an employee's sense of whether: (1) the organization cares about the natural environment for more than just instrumental reasons; (2) he/she has opportunities and the flexibility based on formal and/or informal support to pursue OCB-Es at his/her discretion; (3) he/she is "psychologically safe" to undertake OCB-

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Es that are meaningful; and (4) the organization is open to and supportive of new and potentially innovative ideas and initiatives that are intended to benefit the natural environment and organizational environmental sustainability efforts. I also suggest the PCCE dimensions, in composite, should encourage employees to take on OCB-Es.

> *Hypothesis 1:* Psychological climate of care for the natural environment (PCCE) consists of four dimensions.

> *Hypothesis 2:* Employee perceptions of their organization's psychological climate of care for the natural environment (PCCE) will be positively associated with OCB-E.

Social Exchange Process between PCCE and OCB-E

Up to this point, a direct relationship between PCCE and OCB-E has been discussed. I now consider whether an indirect association could also be present in that employees' reactions to PCCE may be governed by reciprocity. I argue, based on social exchange theory (SET), that citizenship behaviors are not immediately performed in response to climate perceptions. On the contrary, climate perceptions spark a variety of attributions, attitudes, and beliefs in people's minds, which set the stage for subsequent behavioral responses such as OCB-E. This sequence has been supported by a number of studies in OCB (see Parker et al. (2003) and Keunzi and Schjinke (2009) for reviews) that identify mediators such as perceived organizational support (Settoon, Bennett, and Liden, 1996; Walumbwa et al., 2010), perceptions of fairness (Ehrhart, 2004; Konovsky and Pugh, 1994; Moorman, 1991; Moorman, Blakely, and Niehoff, 1998), and affective commitment (Peterson, 2004; Settoon et al., 1996; Shore and Wayne, 1993). These mediators are typically described as

"macro-motives" that provide the foundation for social exchanges by setting the *tone of the relationship* between exchange partners (Konovsky and Pugh, 1994). In turn, individuals gauge, based on the relationship's tone, how to respond behaviorally.

My interest is in studying an *"environmentally-oriented" social exchange-based model of organizational citizenship behavior* (i.e., OCB-E), where psychological climate perceptions (i.e., PCCE) are central. I propose that the PCCE and OCB-E relationship is mediated by a particular social exchange variable: *perceived organizational support* (POS). To develop the hypotheses, I begin with an overview of SET.

Overview of Social Exchange Theory (SET)

Reciprocity between the individual and another party lies at the heart of SET (Cropanzano and Mitchell, 2005; Van Knippenberg et al., 2007). In organizational settings, SET addresses the conditions under which employees feel obligated to reciprocate when they sense that they benefit from their company's, group's, or another's actions. In essence, the theory highlights that

"positive, beneficial actions directed at employees by the organization

and/or its representatives contribute to the establishment of high quality

exchange relationships that create obligations for employees to reciprocate

in positive, beneficial ways" (Settoon et al., 1996: 219).

Based on the norm of reciprocity (Gouldner, 1960), employees are more motivated to reciprocate when they perceive the quality of the exchange relationship to be better for themselves.

"Felt obligations" engendered by high quality exchanges generally encourage employees to reciprocate the benefits given by their organization or others (e.g., supervisor, fellow employees) via emotional, attitudinal, and/or behavioral responses that at least equal and often exceed what was given. Examples of responses to felt obligations include happiness, affective commitment, loyalty, job satisfaction, job engagement, job performance, and organizational citizenship behaviors such as helping, civic engagement, and sportsmanship (Rhoades and Eisenberger, 2002). These exchange processes occur regularly and consciously or subconsciously.

In order to gain this sense of felt obligation and motivation to reciprocate, employees first evaluate the *quality of the exchange relationship* and decide whether it is beneficial to them. That is, they cognitively assess whether the benefits received are of personal value and are at the same level or higher than their own input into the relationship. Additionally, in determining if the quality of the exchange is high, employees consider whether actions were discretionary rather than mandated (Rhoades and Eisenberger, 2002).

This exchange evaluation process is at the core of SET and the related perspective, organizational support theory (OS) (Eisenberger et al., 1986). Eisenberger et al. (1986) proposed the concept of *perceived organizational support* (POS) to represent individuals' evaluations of the organization's role in the exchange relationship. As a belief, POS refers to global perceptions of the extent to which the organization values the individual's contribution and cares about his/her well-being (Eisenberger et al., 1986; Rhoades and Eisenberger, 2002; Van Knippenberg et al., 2007).

According to OS, when individuals perceive that the organization or its agents regularly offers them high quality benefits, they feel that these were given because the organization values their contributions and cares about their well-being. This phenomenon occurs because people tend to anthropomorphize organizations by assigning human-like qualities to them (Eisenberger et al., 1986). People also tend to view agents as embodiments of the organization because agents are seen as implementers of its principles (Eisenberger et al., 1986)

Thus, receiving high quality exchanges from the organization or its representatives can lead to perceptions of organizational support (POS). This can engender felt obligations to reciprocate with positive "distal exchange currencies" or behavioral outcomes such as job performance and various types of organizational citizenship behaviors.

The types of exchange currencies employees reciprocate depend on the target (i.e., the organization, supervisor, etc.) and the nature and quality of the benefits given by the target (Cropanzano and Mitchell, 2005; Lambert, 2000; Settoon et al., 1996). My study focuses exclusively on behaviors that are positive; others examine negative outcomes such as role overload, withdrawal, and turnover. Overall, research has found POS to be linked to a number of work-related antecedents and outcomes across a variety of settings (Rhoades and Eisenberger, 2002).

Applying SET to Explain an Indirect Link between PCCE and OCB-E

Based on the review, I now apply SET's main tenets to explain the proposed relationships. I argue that it is logical to link PCCE to OCB-E via a social exchange process because meta-analyses have found strong support for exchange-based explanations of

relationships between various types of climate and OCBs (e.g., Parker et al., 2003; Rhoades and Eisenberger, 2002).

In my model, the antecedent, PCCE, represents the benefit offered by the organization to the employee, and the outcome, OCB-E, is the distal exchange currency given by employees to the organization in return for the valued benefit. Perceived organizational support is proposed as the intermediary exchange currency that sets the tone for the relationship.

OCB-E as the Currency of Reciprocity for PCCE

Psychological climate refers to an employee's perception of the psychological impact of the work environment on his or her own well-being (James and James, 1989). Specifically then, PCCE can be interpreted as a worker's perception of the psychological impact of the organization's stance toward the natural environment on his or her own well-being. I predict that in an organization with a strong PCCE orientation, OCB-Es represent behaviors that are valued and rewarded by the organization. Employees who are offered this type of climate recognize OCB-Es as the most legitimate avenue for reciprocating to their organization for the benefit received. Overall, I contend that it is attractive to reciprocate with OCB-Es since discretionary, extra-role behaviors that support overall system functioning are seen by organizations as desirable, high quality exchange currencies (Konovsky and Pugh, 1994; Lambert, 2000; Organ, 1988). This is because, unlike in-role behaviors, OCB demands less effort and resources on the part of the organization. In addition, I suggest that the exchange currency (i.e., OCB-E) should be directed toward the organization rather than its agents (i.e., supervisors, co-workers)

because PCCE represents perceptions of the overall organization in terms of its supportiveness to the natural environment and employee OCB-E efforts. PCCE is not designed to capture narrower views regarding, for instance, one's supervisor or co-workers. This last point addresses one of the main tenets of SET, which states that the types of exchange currencies employees reciprocate with depend on the target (e.g. the organization or supervisor) (Cropanzano and Mitchell, 2005; Lambert, 2000; Settoon et al., 1996).

PCCE as a Benefit Offered by the Organization

From the perspective of the organization, I argue that PCCE can be modeled as a benefit offered to employees in exchange for OCB-Es. This idea derives from one of the model's fundamental assumptions: *individuals do not simply check their environmental identities at the door when they come to work. On the contrary, they seek ways to apply these identities in the workplace for self-verification and self-evaluation enhancement purposes. If contexts support these processes, individual and organizational benefits can be realized.* Put another way, organizations that maintain a strong PCCE orientation recognize there are significant benefits associated with supporting employees in their OCB-E efforts. So these organizations would view a strong PCCE orientation as a type of workplace benefit offered to employees. Such organizations may also take the position that personal benefits employees gain from this climate translate into organizational benefits such as perceptions of organizational support and improved environmental sustainability performance. My interpretation of PCCE as a company benefit offered to employees is comparable to the way scholars interpret the role of work-family climate in social exchange-based relationships

(e.g. Lambert, 2000; Thompson et al., 1999). Companies such as Whole Foods, REI, Toyota, and Disney exemplify organizations that promote supportiveness of employee-environment initiatives as a "human resource benefit."

PCCE as a High Quality Exchange for Employees

From the perspective of the employee, I argue that PCCE can engender thoughts of a high quality exchange in the minds of employees such that they feel obligations to reciprocate. This idea derives from one of the fundamental assumptions of my model: *organizations can be perceived by employees in a broader sense as procedurally and interaction-wise fair and ethical when the organizational context values the natural environment beyond instrumental reasons and is supportive of OCB-E.* Put another way, I contend that norms of procedural and interactional fairness and ethical treatment are at the core of PCCE, and that these norms encourage high quality exchange relationships since the norms are valued by employees.

In support of this proposition, I refer to the CSR literature. Scholars in the field note that socially responsible contexts are similar to contexts that are organizationally just because both are based on fundamental assumptions of ethical treatment and procedural fairness (Rupp, Ganapathi, Aguilera, and Williams, 2006). In addition, CSR scholars argue that procedural fairness and ethics reflect not only how organizations and agents treat human stakeholders, but also address how the natural environment is treated (Gond et al., 2010; Zellars and Tepper, 2003).

Extending this thinking to my model, I contend that PCCE represents a specific type of socially responsible context, one that focuses on the needs of two stakeholders -

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employees and the natural environment. This is a reasonable conclusion because the proposed dimensions of PCCE represent socially responsible organizational characteristics. In addition, this contention follows from a CSR perspective because I am studying organizational responsibilities to both stakeholders (e.g., Brammer et al., 2007; De Roeck and Delobbe, 2012; Turker, 2009).

Therefore, by association, I predict PCCE will embody norms of procedural fairness and ethical treatment. Going a step further, procedural/interactional fairness and ethics perceptions should play an important role in promoting citizenship behaviors via social exchange processes that include perceptions of organizational support (Organ, 1990). The direct mediation relationship between perceptions of fairness and ethical treatment has received substantial support in the literature (e.g., Konovsky and Pugh, 1994; Masterson, Lewis, Goldman, and Taylor, 2000; Moorman, 1991; Moorman et al., 1998; see Van Dyne et al., 1995 for a review). These norms influence OCB through perceived organizational support because the context creates in employees' minds a "global schema of history of support" (Shore and Shore, 1995: 159) and the general perception that their organization values them (Moorman et al., 1998). For example, Masterson et al. (2000) found empirical evidence that procedural justice operates primarily through the mediation of perceived organizational support. In another case, Valentine, Greller, and Richtermeyer (2006) found some evidence that ethical organizational context influences employee outcomes via perceptions of organizational support. Further, in their meta-review on POS, Rhoades and Eisenberger (2002) identified procedural fairness and supervisor support as having the strongest positive relationships with POS. These findings are relevant to my study because

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PCCE is designed to assess the level of procedural fairness and supervisory support employees experience for their environmental behaviors in the workplace.

Based on this logic, I argue that PCCE serves as a signal to employees regarding how fairly and ethically the organization and its agents treat them and the natural environment when it comes to environmental issues. In turn, employees respond to this signal via social exchange processes. I predict that employees will interpret a strong PCCE orientation as one where they and the environment will be treated highly fairly and ethically. In turn, since employees personally value these qualities, they will consider a strong PCCE orientation to be a high quality exchange. This motivates them to experience perceptions of organizational support and felt obligations to reciprocate to the organization by performing OCB-Es.

A few aspects of these predictions are noteworthy. First, we must consider whether a strong PCCE orientation would be seen as a highly valued exchange by *the majority* of organizational members, not just some. POS scholars contend that an organization's discretionary actions contribute to an individual's perceptions of support only when the actions are directed at that particular individual. That is, an organizational "benefit" offered to all employees (here, a strong PCCE orientation) may not necessarily be associated with perceptions of support for everyone because the benefit may not signal *to everyone* that they are highly valued (Lambert, 2000).

In the model, I have proposed that a majority of employees would interpret a strong PCCE orientation as a high quality exchange and respond accordingly. But one could argue that in some organizations only a select group of employees would care enough about the

natural environment to voluntarily do something for it in an extra-role capacity. For the

rest, environmental issues may not be a priority, and thus the organization's having a

strong PCCE orientation would not really matter. In short, a strong PCCE orientation may

only be seen as a high quality exchange by a fraction of employees, and therefore only a

fraction would reciprocate with OCB-Es.

I counter these arguments by, first, pointing out that, over time, attraction-selection-

attrition processes (Schneider, 1987) can occur where employees who do not personally

value a particular climate may eventually leave the organization, while those who do value

it stay. Coupled with this, social exchange theorists note that a benefit can be personally

valued by individuals for different reasons, but that regardless of the reason, perceptions of

a high quality exchange across individuals can still result. Homans (1958), for instance,

emphasized that an exchange can have a unique symbolic value (e.g., approval, prestige) for

each person. Further, in their resource theory, Foa and Foa (1974; 1980) proposed six

types of resources that could be exchanged: love, money, status, information, goods, and

services. Additionally, in his discussion on philanthropic exchange processes, Blau (1964)

noted that

> "[m]en make charitable donations, not to earn the gratitude of the recipients,
>
> whom they never see, but to earn the approval of their peers who participate
>
> in the philanthropic campaign. Donations are exchanged for social approval,
>
> though the recipients of the donations and the suppliers of the approval are
>
> not identical, and the clarification of the connection between the two
>
> requires an analysis of the complex structures of indirect exchange" (pg. 92).

These insights in combination suggest that the reason one person considers an organizational benefit to be of personal value may not be the same as another person's reason. Regardless, both parties can still feel that they have gained something of personal value and that a high quality exchange has occurred. This can result in both parties experiencing perceptions of support.

My model recognizes that an organization can be made up of employees with varying environmental identities (EEI), from environmentally-friendly (environmentally-attuned) to environmentally-unfriendly (environmentally-indifferent) (Stets and Biga, 2003). Regardless of the person's EEI, I propose that a strong PCCE orientation can be interpreted as a valued exchange by *any* employee, and thus *any* can experience POS. This is because this sort of climate, which embodies norms of procedural fairness and ethical treatment, can potentially satisfy *any* employee in his or her need for self-verification and self-evaluation enhancement. For instance, for employees with a pro-environmental EEI, this type of climate would be highly supportive of individuals' *personal identity (i.e., environmental identity) self-verification processes.* For these employees, the context may be seen as providing resources associated with trust and safety. For others - *who may or may not* have a pro-environmental identity – I envision that this type of climate can support *social identity self-verification processes.* For these employees, the context may have symbolic value in terms of promoting pride and social approval.

In conjunction with this last point, I should point out that I will examine the impact of PCCE on perceived organizational support (POS). This is comparable to what others have done (e.g., Lamm et al, 2013; Ones et al., 2010; Paillé and Boiral, 2013). For instance, based

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on a survey of 733 employees working in a variety of occupations, Lamm et al. (2013) found POS to predict OCB-E through affective commitment.

In sum, the reason I chose to examine POS goes back to what I just discussed; *that a strong PCCE orientation, as an embodiment of procedural fairness and ethical treatment, can be valued by employees for varied reasons.* This implies that PCCE represents to any employee the extent to which the organization cares about his or her overall well-being, regardless of how that well-being is derived. In support of my decision to use POS, I note Rhoades and Eisenberger (2002) found in their meta-analysis that perceptions of organizational fairness and supervisor support have the strongest positive relationship with POS. Based on the arguments above on the potential direct link between PCCE and POS, I propose the following:

> *Hypothesis 3a:* Employees' perceptions of their organization's psychological
> climate of care for the natural environment (PCCE) will be positively
> associated with perceived organizational support (POS).

POS as a Mediator in the PCCE-OCB-E Relationship

In the next set of propositions, I argue that PCCE contributes to OCB-E through POS. SET contends that employees who perceive a high level of organizational support are more likely to feel an obligation to repay the organization with work-related behaviors such as OCB (Blau, 1964; Eisenberger, Fasolo, and Davis-LaMastro, 1990; Eisenberger et al., 1986; Masterson et al., 2000). POS represents an individual's belief that the organization values his or her well-being and contributions (Eisenberger et al., 1990; Settoon et al., 1996; Rhoades, Eisenberger, and Armeli, 2001; Shore and Tetrick, 1991). A primary explanation

for this link is that perceptions of support from the organization fulfill a person's needs for esteem, approval, and affiliation (Armeli, Eisenberger, Fasolo, and Lynch, 1998; Rhoades et al., 2001). In turn, this motivates felt obligations to repay the organization with context-supportive behaviors.

Applied to my model, a strong PCCE orientation is predicted to support employees' self-evaluation enhancement needs. As noted earlier, employees may not all have the same needs. Some may value a strong PCCE orientation because it supports verification of their personal identities, addressing need for authenticity. Others may value this orientation because it supports verification of their social identities, addressing esteem needs. Regardless, a strong PCCE orientation can make employees feel like their self-evaluation enhancement needs are being met. This triggers POS, which in turn is predicted to lead to desired context-supportive behaviors (i.e., OCB-E).

Overall, considerable meta-analytic support exists for these arguments. Studies haves found a significant relationship between POS and OCB (Eisenberger et al., 1990; Rhoades et al., 2001; Rhoades and Eisenberger, 2002; Settoon et al., 1996). Based on the arguments above, I propose the following:

Hypothesis 3b: Perceived organizational support (POS) will be positively associated with OCB-E.

Hypothesis 3c: The relationship between psychological climate of care for the natural environment (PCCE) and OCB-E will be mediated by perceived organizational support (POS).

Identity Processes between PCCE and OCB-E

In the last section, I proposed a purely social exchange-based explanation for the influence of PCCE on OCB-E through POS. I argued that a strong PCCE orientation, which embodies norms of procedural fairness and ethical treatment, should be appealing for employees regardless of their environmental position. Those who are environmentally-attuned may view this climate as supportive of their environmental and organizational identities. Individuals less concerned about the environment may view this climate as fulfilling an evaluative aspect of their organizational identities by triggering feelings of pride. In either case, any employee can experience perceptions of organizational support as a result of a strong PCCE orientation. These beliefs are predicted to translate into felt-obligations to reciprocate with organizationally-beneficial citizenship behaviors directed to the natural environment.

In the final stage of the model, I turn my efforts to examining whether certain identity processes interact with PCCE directly and with the aforementioned social exchange processes in predicting OCB-Es. In this regard, I focus in more depth on the POS-OCB-E relationship by considering the potential interaction effects with individuals' identities. I hope to determine whether employees' motivations to perform OCB-Es are driven not only by perceptions of organizational support and felt obligation to reciprocate, but also by identity verification needs.

Overall, I contend in this section of the proposal that, while perceived organizational support is necessary for OCB-E, it may not be sufficient. This modifies the last set of hypotheses, where I had suggested 1) the direct influence of PCCE on OCB-E, and 2) a

purely exchange-based explanation for OCB-E. Now I propose that different levels of an individual's identity may interact with POS in predicting whether OCB-E is undertaken.

While there is strong evidence that POS is associated with OCB (e.g., Organ and Ryan, 1995; Podsakoff et al., 2000; Rioux and Penner, 2001), there is also growing evidence for the relationship between identity and OCB (e.g., Blader and Tyler, 2009; Kane, Magnusen, and Perrewe, 2012; Van Dick, 2001). Meta-data suggest that POS alone may not be enough to encourage employees to voluntarily take on citizenship behaviors (Podsakoff et al., 2000). This may be the case especially for OCB-E, since this is a voluntary pro-organizational form of extra-role workplace behavior directed to a specific cause. Hence it is reasonable to argue that both general workplace cognitions and environmentally-relevant attributes are likely to be required for such behavior. Some evidence exists for this proposition as studies have identified that environmentally-relevant attributes interact with work-related attitudes to predict workplace environmental behaviors (e.g., Lamm et al., 2013; Paillé and Boiral, 2013; Temminck et al., 2013). In conjunction, OCB researchers have found citizenship behaviors to be associated with individual factors such as dispositional characteristics (e.g., Choi, 2007; Morrison and Phelps, 1999) and social identification (Christ, Van Dick, Wagner, and Stellmacher, 2003; Riketta, 2005).

My approach in utilizing both social exchange and identity perspectives to explain workplace behaviors reflects recent efforts by social psychology researchers (e.g., Meyer, Becker, and van Dick, 2006; Sluss, Klimchak, and Holmes, 2008; Van Knippenberg, 2000; Van Knippenberg and Sleebos, 2006; Van Knippenberg et al., 2007), who note that these two perspectives make predictions about organizational behaviors based on different

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underlying processes. Social exchange theory identifies satisfaction with the exchange relationship as a cause of commitment and felt obligation toward the exchange partner as motivation for citizenship behaviors. By contrast, identity perspectives acknowledge idiosyncratic qualities and salient group classifications, and see desires for self-meaning consistency and self-evaluation enhancement as motivations for citizenship behaviors. In short, the perspectives are not necessarily contradictory (Meyer et al., 2006; Van Dick, 2001), and studies have found evidence for social exchange-identity interaction models (e.g., Sluss et al., 2008; Van Knippenberg et al., 2007).

In the following sections, I make the case for two identity moderators for predicting OCB-Es. These include employee environmental identity (EEI) as a form of personal identity, which embodies individuals' values toward the natural environment, and organizational identification (OI), which reflects social identity. In the social psychology research just discussed, attention is given to organizational identification, not to personal identity. However, as I have suggested, there is value in studying environmental identity because OCB-Es are most likely to be a function of general cognitions associated with the organization and specific cognitions associated with the natural environment.

Identity and Behavior

For the proposed moderation relationships, I draw on the large volume of research that provides support for the relationship between organizational behavior and various levels of identity. I also draw on research from social psychology, which examines the combined effects of social exchange and identity perspectives on work-related cognitions and behaviors (e.g., Van Knippenberg et al., 2007). These studies focus not only on how

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individuals' cognitive processes influence behaviors, but also on how individuals' identity

processes enacted within organizational social structures guide behaviors. Both identity

and social exchange perspectives are concerned with the psychological processes that

occur between individuals (Cropanzano and Mitchell, 2005; Rhoades and Eisenberger,

2002). But self-definition lies at the heart of identity perspectives, while reciprocity

between the individual and another party lies at the heart of social exchange theory (Van

Knippenberg et al., 2007). Overall, empirical support has been found for both exchange-

and identity-based reasons for workplace behaviors (e.g., Sluss, Klimchak, and Holmes,

2008; Van Knippenberg and Sleebos; 2006; Van Knippenberg et al., 2007).

Additionally, I consider empirical evidence from public/private sphere studies that

has found individual identity to be a significant predictor of behaviors - including

environmental and pro-social - beyond attitudinal and past behavior explanations (e.g.,

Burke, 1991; Burke and Reitzes, 1981; Clayton and Opotow, 2003; Fielding, McDonald, and

Louis, 2008; Nigbur, Lyons, and Uzzell, 2010; Schultz and Tabanico, 2007; Sparks and

Shepherd, 1992; Whitmarsh and O'Neill, 2010). It has been noted in these studies that

individuals are intrinsically motivated to pursue behaviors in line with self-meanings for

identity verification and self-evaluation enhancement purposes (Burke and Stets, 2009;

Stets and Burke, 2000; 2003). Also, identity plays a role in behavior because when attitudes

and behaviors toward a target (such as the environment) are in line with one's identity, a

positive sense of psychological balance is achieved (Burke, 1991). In short, the research

suggests that in order to understand individuals' motivations for environmental behavior,

identities and the corresponding sets of meanings attributed to these identities should be studied in addition to other variables.

Overview of Identity Processes

Prior to deriving propositions, it is worthwhile to review principles of identity perspectives that address why and how identity processes influence behavior. Research on identity has its roots in psychology and sociology (Deaux and Burke, 2010; Hogg, Terry, and White, 1995; Stets and Burke, 2000). Two of the main theories describing identity processes include social identity theory (SIT) from psychology (Hogg and Abrams, 1988; Tajfel and Turner, 1986) and identity theory (IT) from sociology (Burke, 1980; 1991; McCall and Simmons, 1978; Stryker, 1968; 1980). Overall, identity perspectives are concerned with the psychological processes that occur between individuals and organizations. More specifically, they attempt to explain the processes and outcomes associated with individuals' efforts to manage their self-concepts, which embody the self-reflective question "Who am I?" (Deaux and Burke, 2010).

An individual's self-concept comprises multiple parts known as identities, which are sets of meanings (i.e., self-meanings) one holds as a unique person, as a role holder, and as a group member. These are labeled *personal, role, and social* identity. They are cognitively arranged in a hierarchical fashion, consciously or subconsciously, based on their levels of prominence and salience (Stryker, 1980; Stryker and Burke, 2000).

Role identity, which derives from identity theory (IT), refers to a set of meanings a person maintains (i.e., self-meanings) based on the roles he or she holds within social structures in society. Examples include one's identity as a parent, employee, and

environmental activist. Social identity, which derives from social identity theory (SIT), represents self-meanings that are tied to the groups that a person is associated with or actively participates in. Examples include one's identity associated with a work organization, a project team, or a non-profit environmental organization to which one donates money. Lastly, personal identity, which has roots in psychology and is referenced in both IT and SIT, refers to self-meanings that are tied to individuals' idiosyncratic qualities such as values, abilities, and personality traits (Deaux, 1992; 1993; Deaux and Burke, 2010).

Identities contribute in unique and combined ways to individuals' affective, attitudinal, and behavioral responses, and self-evaluations in terms of worth, esteem, efficacy, and authenticity (Brewer and Gardner, 1996; Deaux and Burke, 2010). In effect, individuals' responses and self-evaluations are a function of both social (i.e., social and role identities) and individual (i.e., personal identity) processes (Deaux and Burke, 2010; Stets and Burke, 2000).

The main cognitive mechanism underlying these identity processes is the need for *self-verification*. Self-verification represents affective, attitudinal, evaluative, and behavioral efforts by individuals to continually affirm their "identity standards" (i.e., self-meanings attached to their various identities) across situations and contexts in order to enhance their self-evaluations (i.e., sense of self-worth, self-esteem, self-efficacy, and authenticity) (Ashforth, Harrison, and Corley, 2008; Deaux and Burke, 2010). Within the self-verification process, identities that are more prominent and more salient within the hierarchy are thought to guide behaviors to a greater extent than those that are less prominent and

salient within the hierarchy (Brewer and Gardner, 1996; McCall, and Simmons, 1978; Stets and Burke, 2000). Prominence reflects how important an identity is to a person (McCall and Simmons, 1978), while salience reflects the probability that a person will actually invoke and enact an identity in a particular situation (Stryker, 1980).

To summarize, a *self-verification process* underlies the three levels of identity – role, social, and personal (Deaux and Burke, 2010; Stets and Burke, 2000). Regardless of the identity level, individuals attempt to behave in ways that validate their self-meanings for self-evaluation enhancement purposes. Further, identities that are more prominent and salient in one's cognitive hierarchy and those that a person is more committed to are more likely to be behaviorally enacted. Studies have found that when individuals are free to behave in ways that verify identity standards associated with their personal identities, they are more likely to feel an increased sense of authenticity (Deaux and Burke, 2010). Also, when individuals behave in ways that verify identity standards associated with their identities as organizational members, they are more likely to feel an increased sense of self-esteem (Deaux and Burke, 2010). Comparably, self-verification of role identity has been linked to improved self-efficacy (Deaux and Burke, 2010). In turn, improved self-evaluations driven by identity self-verification processes have been found to contribute significantly to improved individual and organizational performance across a variety of settings.

The review above highlights the merit in examining the link between identity and individual work place behavior – ultimately individual and organizational benefits can accrue due to improved self-evaluations. In the following sections, I describe the potential

moderation effects of environmental identity and organizational identification on the PCCE-OCB-E relationship. Work role identity will not be evaluated because I argue that this type of identity is less influential in predicting workplace behaviors with discretionary, extra-role qualities (i.e., OCB-E).

Environmental Identity as a Moderator in the PCCE - OCB-E Relationship

Efforts are increasingly being taken to examine the impact of environmental beliefs and values on general workplace behaviors (e.g., Ashforth and Humphrey, 1993; Brewer, 1991; Ellemers, Spears, and Doosje, 2002; Haslam, Eggins, and Reynolds, 2003; Kreiner, Hollensbe, and Sheep, 2006; Reid and Deaux, 1996; Swann, Johnson, and Bosson, 2009; Watson, 2008). A primary assumption underlying organizational studies involving identity is that employees continually negotiate or manage multiple, often overlapping identities based on the circumstances, and that these processes influence individual and organizational outcomes (Brewer and Gardner, 1996; Roccas and Brewer, 2002). Another assumption is that personal identities operate at a higher level than the others. That is, they have a tendency to operate across work roles and situations depending on their level of prominence and salience, and individuals' level of commitment to them (Gecas, 2000).

Up until recently, studies have focused primarily on the negative side of identity management - where tensions and sub-optimal outcomes result because employees struggle to manage conflicting identities while at work. Positive organizational scholars have called, though, for examination of the potential organizational benefits of supporting less stressful identity management processes. They contend that psychological and organizational benefits can accrue when workplaces utilize proactive policies and practices

to consciously support individuals' personal identities along with their work role identities and organizational identities (Dutton, Roberts, and Bednar, 2010). They assert that people do not simply check their non-work identities at their company's front door, but instead bring them into the workplace, where situational cues or contexts can activate or de-activate salient identities. Further, when self-meanings tied to various identities overlap and opportunities are available to enact identities, individuals are more likely to experience positive self-evaluations, and exhibit affect, attitudes and behaviors that benefit the workplace (Rothbard and Ramarajan, 2009).

I contend that a specific form of personal identity, which relates to individuals' values toward the natural environment, could influence OCB-E. This form of personal identity, *individual environmental identity* (EI), was developed in environmental psychology by Stets and Biga (2003) based on an "ecologically informed" symbolic interactionism perspective (Biga, 2006). Its basis was Weigert's (1997) premise that environmental identity is an "experienced social understanding of who we are in relation to, and how we interact with, the natural environment" (pg. 159). In essence, EI represents an individual's self-meanings in relation to the environment. These meanings develop over time through both *social* (i.e., self-meanings linked to the natural environment as a function of one's social relations within the environment) and *a-social* (i.e., self-meanings as a function of one's relationship with the environment in and of itself) processes (Stets and Biga, 2003).

At the heart of EI is the organization and structure of an individual's values toward the natural environment (Stets and Biga, 2003; Stets, 2006). Values represent enduring beliefs about behaviors that go beyond particular situations and serve as evaluation

standards for past and future behaviors (Rokeach 1973). They are higher-order

abstractions than identity and self-concept. The value continuum that underlies EI –

ecocentrism versus anthropocentism - encompasses the range of relationships individuals

have with the natural environment. Ecocentrism represents humans' inter-connectedness

with the natural environment such that people do not dominate. Anthropocentrism, on the

other hand, concerns people's independence from the natural environment such that

people dominate (Thompson, and Barton, 1994). Based on these underlying values, Stets

and Biga (2003) operationalized EI as

> "self-meanings ranging from non-exploitative and supportive to exploitative and
>
> non-supportive of the environment. One's self-perception is along the dimension of
>
> an environmentally-friendly/environmentally-unfriendly continuum…a high score
>
> on the environment-identity measure represents environmentally-friendly self-
>
> meanings" (pg. 406).

Through identity self-verification processes, values guide and motivate behaviors

(Gecas, 2000). The benefit of using environmental identity to examine workplace behavior

(such as OCB-E) rather than its underlying value structure is that identity processes

account for the social structures that people are part of. Up until recently, few efforts have

been made to study EI in relation to environmental behavior with the exception of Stets

and Biga (2003) and Stets (2006), who found significant direct and indirect relationships

between EI and environmental behaviors in the public/private sphere. Similar findings

have been noted in the related literature on place identity (Proshansky, Fabian, and

Kaminoff, 1983), where scholars are studying associations between individuals'

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identifications with physical spaces (e.g., their community, national parks, oceans) and their initiatives to protect those places from ecological damage and take pro-environmental actions (e.g., Bonaiuto, Bilotta, Bonnes, Ceccarelli, Martorella, and Carrus, 2008; Davis, Green, and Reed, 2009; Devine-Wright, 2009).

I apply these findings to the organizational setting. In the model, I conceptualize the meanings that an employee attributes to the self as he/she relates to the environment as *employee environment identity* or EEI, and suggest that EEI could directly influence OCB-Es. For the EEI continuum, I will use the terms "environmentally-attuned employee identity" and "environmentally-indifferent employee identity" in place of "environmentally-friendly" and "environmentally unfriendly" as Stets and Biga (2003) had done in order to alleviate the potential for stereotyping. In assessing EEI, a high score would represent an environmentally-attuned EEI. A low EEI score would represent an environmentally-indifferent EEI. A low EEI score is predicted to lead to either unfriendly behavior or indifferent behavior toward the environment. A high score is predicted to lead to friendly behavior toward the environment.

To explain the interaction mechanism through which EEI and context affect behavior, Stets and Biga (2003) applied identity control theory (ICT) (Stets and Burke, 2005) to suggest that self-meaning consistency and self-evaluation enhancement, especially as they relate to authenticity, serve as motivators. ICT, which derives from identity theory, assumes that people choose behaviors that are similar in meaning to the meanings of their identities (Burke and Reitzes, 1981). Stets and Biga (2003) argued that when EEI is activated in a particular situation, a feedback loop occurs where individuals

compare their identity standard against perceived meanings of the situation. When the situation matches the standard, identity verification occurs. The resulting behavior is a function of both the situation and internal self-meanings or identity-standards. Any discrepancy between the two results in a lack of self-verification and sets in process system responses to resolve the discrepancy.

Based on this logic, I contend that individuals in organizations compare their EEI identity standard with the organization's PCCE. If an individual perceives that the PCCE matches his or her standard, identity verification occurs and the resulting behavior should be a function of both the situation and the person's identity standard. Any reasonable discrepancy between the two could result in a lack of self-verification. In this case, fewer OCB-Es would be undertaken. Hence:

> ***Hypothesis 4a:*** The relationship between psychological climate of care for
>
> the natural environment (PCCE) and OCB-E will be moderated by employee
>
> environmental identity (EEI) such that the relationship between PCCE and
>
> OCB-E will be stronger when EEI is high rather than when EEI is low.

Further, a strong PCCE orientation should allow employees with a higher EEI score (i.e., environmentally-attuned environmental identity) to experience greater self-meaning consistency and self-evaluation enhancement. This identity verification process, along with positive cognitions of the organization (i.e., POS) experienced as a result of a strong PCCE orientation, should motivate employees to perform OCB-Es. Thus,

> ***Hypothesis 4b:*** The relationship between perceived organizational support
>
> (POS) and OCB-E will be moderated by employee environmental identity

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(EEI) such that the relationship between POS and OCB-E will be stronger

when EEI is high rather than when EEI is low.

Organizational Identification as a Moderator in PCCE - OCB-E Relationship

Lastly, I turn attention to the potential moderation effect of organizational

identification (OI). A well-regarded interpretation of OI is based on social identity theory

(SIT) (Hogg and Abrams, 1988; Tajfel and Turner, 1986) (e.g., Ashforth and Mael, 1989,

Mael and Ashforth, 1992). The theory focuses on how individual self-concept is influenced

not only by the idiosyncratic qualities of personal identity, but importantly by membership

in social groups, and how these "social identifications" guide individuals in terms of their

values, beliefs, perceptions, evaluations, attitudes, affect, goals, and behaviors (Tajfel and

Turner, 1986; Turner, Hogg, Oakes, Reicher, and Wetherell, 1987). Thus, it is said that

"through social identification, individuals perceive themselves as

psychologically intertwined with the fate of the group, as sharing a common

destiny and experiencing its successes and failures" (Mael and Ashforth,

1992: 104-105).

As a specific form of social identification, organizational identification refers to

perceptions of "oneness with or belongingness to an organization, where the individual

defines him or herself in terms of the organization(s) in which he or she is a member"

(Mael and Ashforth, 1992: 104). In effect, OI represents a psychological oneness with the

organization such that it is included in one's self-concept. When individuals identify

strongly with their organization, they define themselves by its attributes or characteristics.

This leads them to experience the organization's interest as their own, and it motivates

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them to put forth effort on its behalf (Ashforth and Mael, 1989; Mael and Ashforth, 1992). Individuals who experience stronger OI are more likely to take the organization's perspective and act in a manner that conforms to its norms, values, and attitudes (Ashforth and Mael, 1989; Hogg and Abrams, 1988). Two forms of OI are recognized: situation-specific and deep-structure (Rousseau, 1988). Situation-specific identification occurs when interest-based or context-specific cues temporarily signal that an individual shares interests with the collective (Rousseau, 1988). Alternatively, deep-structure OI is generally more stable and enduring because it involves the internalization of characteristics and values of the collective into the self-concept (Rousseau, 1988). Unlike situated identity, it evolves over time due to a variety of factors and experiences (Meyer et al., 2006; Rousseau, 1988). Thus, deep-structure identification is not the result of any one element such as, for instance, the organization's position on environmental sustainability or its climate of care for the natural environment. On the contrary, employees develop a deep identification with the organization based on their cumulative salient experiences associated with the firm. This level of OI then serves to guide evaluations made of the organization and behaviors directed toward it (Van Dick, 2004).

Studies done in organizational settings generally tap into deep-structure OI, which has been linked to various organizational behavioral outcomes (Riketta, 2005). Of interest in this study, OI has been found to be associated both affiliative-oriented OCB (e.g., Christ et al., 2006; Kane et al., 2012; Mael and Ashforth, 1992; O'Reilly and Chatman, 1986; Riketta, 2005) and change-oriented OCB (e.g., Fuller, Hester, Barnett, Frey, Relyea, and Beu,

2006; Hirst, Van Dick, and Van Knippenberg, 2009; Lipponen et al., 2008; Seppala et al., 2012; Tangirala and Ramanujam, 2008).

To explain the OI-affiliative-oriented OCB link, SIT suggests that when the organization is an essential part of an employee's sense of self, he or she is motivated by the group's needs, norms, and goals instead of personal ones and behaves in ways that enhance the group in terms of its contextual performance (Mael and Ashforth, 1992). For the OI-change-oriented OCB relationship, a few motivations are proposed. One is that employees who identify strongly with their organization have a desire to see their organization (i.e., their in-group) succeed competitively against out-groups such as competitor organizations (Dutton, Dukerich, and Harquail, 1994). Another is that since employees see the organization as an extension of themselves, they take on these types of behaviors based on the desire to succeed personally (Mael and Ashforth, 1992). Based on this line of reasoning, it is feasible that an indirect relationship exists between PCCE and OCB-E, because a strong positive PCCE could support an employee's sense of self or it could fulfill an employee's need to identify with the organization. Hence,

> ***Hypothesis 5a:*** The relationship between psychological climate of care for
> the natural environment (PCCE) and OCB-E will be moderated by
> organizational identity (OI) such that the relationship between PCCE and
> OCB-E will be stronger when OI is high rather than when OI is low.

I incorporate these conceptualizations into my model to also argue that OCB-Es are motivated by not only by organizational identification, but also by perceptions of organizational support (POS) resulting from a strong PCCE orientation. In my model, POS is

predicted to result from the employee's assessment of the quality of the exchange as it relates to PCCE perceptions. On the other hand, OI, as a deep-structure form of identification, is assumed to have developed from an employee's overall experiences with the firm, not just his or her experiences with respect to PCCE. Thus, I propose both social exchange and identity processes are at play. When employees strongly identify with their organizations and experience perceptions of organizational support, they will be more likely to engage in OCB-Es.

>   **Hypothesis 5b:** The relationship between POS and OCB-E will be moderated
>   by organizational identification (OI) such that the relationship between POS
>   and OCB-E will be stronger when OI is high rather than when OI is low.

Table 2 summarizes the study hypotheses outlined above. In chapter 4, I detail how the dissertation model constructs are operationalized and measured. I also discuss the methods used to test the hypotheses.

Table 2: Dissertation Hypotheses

DIMENSIONALITY OF CONSTRUCTS	
Hypothesis 1	PCCE will consist of four dimensions.
DIRECT EFFECT	
PCCE on OCB-E	
Hypothesis 2	Employee perceptions of their organization's psychological climate of care for the natural environment (PCCE) will be positively associated with OCB-E.
PCCE on POS	
Hypothesis 3a	Employees' perceptions of their organization's psychological climate of care for the natural environment (PCCE) will be positively associated with perceived organizational support (POS).
POS on OCB-E	
Hypothesis 3b	Perceived organizational support (POS) will be positively associated with OCB-E.
INDIRECT EFFECTS	
Social Exchange Process between PCCE and OCB-E (simple mediation)	
Hypothesis 3c	The relationship between psychological climate of care for the natural environment (PCCE) and OCB-E will be mediated by perceived organizational support (POS).
Interaction between Social Exchange and Identity Processes in Explaining OCB-E	
Hypothesis 4a	The relationship between psychological climate of care for the natural environment (PCCE) and OCB-E will be moderated by employee environmental identity (EEI) such that the relationship between PCCE and OCB-E will be stronger when EEI is high rather than when EEI is low.
Hypothesis 4b *(second stage moderated mediation)*	The relationship between perceived organizational support (POS) and OCB-E will be moderated by employee environmental identity (EEI) such that the relationship between POS and OCB-E will be stronger when EEI is high rather than when EEI is low.
Hypothesis 5a	The relationship between psychological climate of care for the natural environment (PCCE) and OCB-E will be moderated by organizational identification (OI) such that the relationship between PCCE and OCB-E will be stronger when OI is high rather than when OI is low.
Hypothesis 5b *(second stage moderated mediation)*	The relationship between POS and OCB-E will be moderated by organizational identification (OI) such that the relationship between POS and OCB-E will be stronger when OI is high rather than when OI is low.

CHAPTER 4: METHODOLOGY

Introduction

Chapter 4 describes the methodology used in the dissertation. It begins with a discussion of methods employed in comparable studies of voluntary employee environmental behavior in the workplace. Then, an overview of the dissertation research design is provided. Following this, the study sampling design is presented. Next, steps taken to develop the dissertation measures are detailed. The chapter closes with a summary of the dissertation study sample.

In brief, I conducted a cross-sectional investigation using data from a sample of full-time employed individuals living and working in the US in a variety of capacities, organizations, and industries (n=500). Scales, which consisted of previously established or slightly modified measures, were validated prior to testing the hypotheses using two pilot samples (n=243 and n=150). To test the hypotheses, factor analysis using SPSS AMOS, version 23.0 and hierarchical multiple regression with the PROCESS plugin (Hayes, 2013) using SPSS, version 22.0 were used.

Review of Methods in Studies on Voluntary Environmental Behavior at Work

Organizational studies have only recently begun investigating OCB-E and its antecedents, so measures, sampling, and analytic methods are not well-established. This contrasts with the thriving OCB literature (refer to Podsakoff et al., 2000). Regardless, OCB-E methods parallel to an extent those of OCB. Chapter 3 introduced OCB-E antecedent studies. Table 3 below addresses the methodological aspects of these studies.

Methodological criticisms of OCB work are also applicable to OCB-E studies; criticisms target the cross-sectional, single source, single method, and self-report qualities of the research (Cordano and Frieze, 2000; Organ et al., 2006; Podsakoff et al., 2000). These qualities increase the potential for biases including those related to common method, single source, consistency, and social desirability. Podsakoff et al. (2000) and others continue to recommend longitudinal designs and multi-source data in order to more effectively address issues concerning causality and biases.

With regard to the OCB-E studies in Table 3, a number of methodological aspects are noteworthy. Overall, samples consisted of working individuals representing a range of ages, tenures, job positions, companies, and industries. Sample sizes varied from 151 (i.e., Paillé, Chen, Boiral, and Jin, 2013) to 733 (i.e., Lamm et al, 2013). As a whole, with the exception of two works (i.e., Paillé and Boiral, 2013; Paillé, Chen, Boiral, and Jin, 2013), studies had sample sizes over 400, which is reasonable for SEM or regression based on the number of variables or parameters that were tested. None of the studies reported a power analysis or effect size. Further, all used some form of convenience sampling. Surveys were given electronically or on paper. The majority used employee self-report data, with the exception of Paillé, Chen, Boiral, and Jin (2013), which used three data sources: top management team members, executives, and frontline workers. Two of the studies used foreign language versions of the surveys with back translation (e.g., Paillé, Chen, Boiral, and Jin, 2013 (Chinese); Paillé & Mejía-Morelos, 2014 (Spanish)). Country-wise, two studies each used Canadian and US samples. Others collected data from Mexican, European, and Chinese respondents.

Six of the seven studies used a cross-sectional design (i.e., Lamm, Tosti-Kharas, and Williams, 2013; Paillé and Boiral, 2013; Paillé, Boiral, and Chen, 2013; Paillé, Chen, Boiral, and Jin, 2013; Paillé & Mejía-Morelos, 2014; Temminck, Muerns, and Fruhan, 2013). The exception was Ramus and Steger (2000), which used a two-wave longitudinal design. Further, it is notable that Ramus and Steger (2000) and Temminck et al. (2013) collected data from organizations that had relatively strong pro-environmental orientations. Others did so for organizations with varying levels of existing pro-environmentalism. Also, Paillé, Chen, Boiral, and Jin (2013) emphasized manufacturing firms where environmental management strategies were being employed.

Measures-wise, the three studies by Paillé and colleagues listed above used Boiral and Paillé's (2012) three-dimensional scale to assess OCB-E. Others either adapted existing scales or developed original scales (e.g., Lamm et al., 2013; Ramus and Steger, 2000). This point, along with the fact that power analysis was not performed in the studies, is indicative of the nascent nature of the research. Popular organizational constructs such as commitment, perceived organizational support, and job satisfaction were assessed using established measures, but others, which relate to the environment, were developed by the researchers (e.g., Ramus and Steger, 2000).

As others have done, I incorporate some of Boiral and Paillé's (2012) items for my OCB-E scale. These items are supplemented with others that I adapt from established scales from the OCB literature. For organizational identification and perceived organizational support, I utilize well-established scales. For the psychological climate construct, PCCE, which I developed in this study, I adapt items from established climate scales. For EEI, I use

a scale developed by Stets and Biga (2003). Of note is that, up to this point, Stets and Biga's work has been used primarily in studies of public/private sphere environmental behavior.

Regarding data analytics, OCB-E antecedent studies in Table 3 apply a range of tools including SEM, hierarchical linear regression, logit regression, and multiple-regression. Most studies, with the exception of Ramus and Steger (2000), tested for mediation. Paillé & Mejía-Morelos (2014) and Paillé, Chen, Boiral, and Jin (2013) went further by also examining moderation hypotheses.

Table 3: Studies Examining OCB-E Antecedents

Author / Year	Theory/Framework	Hypotheses	OCB-E Measure	Controls	Sampling	Data Analytics
Ramus and Steger (2000)	Psychological empowerment	Relationship between organizational environmental polices (signal of organizational encouragement) and supervisory support behaviors (signal of supervisor encouragement) and OCB-E	Original dichotomous: Have you tried to promote an environmental initiative in your company? Y/N		2-wave longitudinal, 1996–1997, 12 European countries, 6 companies, range of job positions, self-report, convenience (snowball), N=353	Logit Regression and Likelihood Ratio Tests
Lamm, Tosti-Kharas, and Williams (2013)	Social exchange	Relationship between perceived organizational support and OCB-E via commitment; also relationship between employees' feelings on sustainability importance and OCB-E; distinction between OCB-E and OCB	Original 12-item scale assessing low-impact daily behaviors - How often have you recycled cans or bottles? 1(never)…5 (very often)	Checked for social desirability bias using 10 items from Balanced Inventory of Desirable Responding Scale (Paulhus and Reid, 1991) Gender, marital status, age, number of children, tenure, number of hours worked per week, organization size	Cross-sectional, convenience (snowball), US, range of companies and job positions, self-report, N=733	Multiple regression with bootstrapping (Baron and Kenny, 1986) for mediation
Paillé and Boiral (2013)	Social exchange	Relationship between perceived organizational support (POS) and OCB-E via commitment and job satisfaction (JS); where commitment also mediates relationship between POS and JS; distinction between OCB-E and OCB	Boiral and Paillé (2012) three-dimension scale		Cross-sectional, Canada, medical technologists, range of organizations, self-report, N=188	SEM with bias-corrected bootstapping (Cheung and Lau, 2008) for mediation
Paillé, Boiral, and Chen (2013)	Social exchange	Relationship between environmental management practices and OCB-E via exchange process (i.e., perceived supervisor support, perceived organizational support, and commitment)	Based on Boiral's (2009) OCB-E conceptualization, adapted items from Podsakoff and MacKenzie (1994)		Cross-sectional, convenience, Canada, executive MBA program students, range of companies and job positions, self-report, N=407	SEM with mediation tested using Holmbeck (1997)
Paillé, Chen, Boiral, and Jin (2013)	HRM influence to organizational norms and behaviors	Relationship between strategic human resource practices and environmental performance via OCB-E; internal environmental concerns moderates the relationship	Boiral and Paillé (2012) three-dimension scale	Firm age, firm size, ownership structure, and internationalization	Cross-sectional, convenience (snowball), Northern China, TMT, executives, and front-line workers, manufacturing firms, multi-source data, N=151 matched	Hierarchical linear regression (Cohen, Jonsson, and Carpenter, 2003)
Temminck, Muerns, and Fruhan (2013)	Social exchange	Relationship between employee concern for the environment and OCB-E via commitment and perceived organizational support and OCB-E via commitment	Adapted safety citizenship 9-item scale (Mearns and Reader, 2008)	Tenure	Cross-sectional, 2 public organizations (environmental regulator and educational institute), range of job positions, convenience (snowball), self-report, N=547	Hierarchical linear regression with boot-strapping (Preacher and Hayes, 2004) for mediation
Paillé & Mejía-Morelos (2014)	Social exchange	Relationship between perceived organizational support (POS) and OCB-E via commitment and job satisfaction (JS); psychological contract breach moderates relationship between POS and commitment and JS; also direct relationship between POS and OC-E	Boiral and Paillé (2012) three-dimension scale		Cross-sectional, convenience, Mexico, business school university alumni, range of companies and job positions, self-report, N=449	SEM with bias-corrected bootstapping (Cheung and Lau, 2008) for mediation and Ping's (1996) procedure for interaction

Dissertation Research Design

Though OCB-E research is in a formative stage, its methods and findings are contributing to the establishment of a nomological network of the construct. In my dissertation, I follow the precedent of these studies by employing a cross-sectional survey design where self-report data were collected from a sample of US employees. Surveys are appropriate to use when assessing individual beliefs, attitudes, intentions, perceptions, experiences, and demographic data (Schmitt, Klimoswki, Ferris, and Rowland, 1991). In addition, in their recent meta-analysis on OCB methods, Carpenter, Berry, and Houston (2013) found self-reported data to be moderately correlated to ratings done by others, including supervisors and co-workers. While it would have been ideal to collect data on OCB-E from multiple sources, such as supervisor and team members, due to the novelty of the model, the specific nature of the research (green climate and behavior), data quality considerations, and time and budget constraints, I felt the multiple-source option was better suited to future efforts. Realizing journals prefer research using multiple data sources, I also plan to collect additional dataset(s) in the future using a method other than a paid survey service. To compensate for potential design limitations in this dissertation, I included checks for common method and social desirability biases, both of which were non-significant in the collected datasets. These checks are detailed in upcoming sections.

Population of Interest for the Dissertation Research

My intention was to identify relationships between psychological climate and voluntary employee environmental behavior that were generalizable to a broad array of

organizations (i.e., for-profit, not-for-profit) and industries (i.e., traditional, born green, hybrid). I aimed to address a potential limitation in other OCB-E work, which has typically sampled organizations that have an existing level of awareness or activity in environmental initiatives. Additionally, these studies tend to focus on employee environmental behaviors that are more specific in nature (e.g., switching off lights, recycling paper, following environmental protocols).

Since my objective was to examine the robustness of the model in varying individual and contextual organizational conditions, my population of interest consisted of full-time working individuals, who are employed and live in the US, and work for any organization in any industry. At a minimum, individuals should have been over 18 years old and have worked for the organization for at least one year. Since employee perceptions of and identification with the organization take time to develop, a minimum employment term of one year was a realistic specification. I also sought a balance in the number of women and men respondents such that it would reflect current workforce trends.

I made a concerted attempt to ensure the pilot sample reflected the dissertation data, and that both were representative of my population of interest. In the end, all samples were similar in content.

Development of Measures with Pilot Studies

Overview

Prior to administering the dissertation survey to the population of interest, steps were taken to revise the instrument based on expert opinion and validate measures for the new (PCCE) and adapted constructs (EEI and OCB-E).

First, the initial instrument was inspected for face and content validity using a convenience sample (n ~ 20). After this, exploratory factor analysis (EFA) was performed with an initial pilot sample (n = 243) to examine the psychometric adequacy (factor structure and internal consistency reliabilities) of the measures developed for the dissertation constructs (i.e., PCCE and OCB-E) and for EEI, which was originally published in the public/private sphere environmental psychology literature. EFA was also used to verify that all items used in the model, which included PCCE, OCB-E, EEI, POS, and OI items loaded on their appropriate factors.

Confirmatory factor analysis (CFA) was subsequently performed using the dissertation sample (n=500) to verify the factor structures of the new (PCCE) and adapted (EEI and OCB-E) variables by testing the hypothesis that a relationship between the observed variables and their underlying latent construct existed.

Convergent and discriminant validity for PCCE, OCB-E, and EEI were also assessed using data from a second pilot sample (n=150). This sample was also used to confirm the reliabilities of the PCCE, OCB-E, and EEI scales that were established in the first pilot study (DeVellis, 2012).

Based on the results of these procedures, a final set of measures was specified and used in testing the hypotheses. Appendices B and C contain the participation request letters and survey introduction letters for the pilot and dissertation studies, respectively. Appendix D provides the complete list of scale items used in the pilot and dissertation studies. The measures detailed below correspond to the variables that were introduced in the proposed dissertation model (refer to Figure 2).

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Measures

       The measures were either pre-established scales or were adapted from existing scales. Validation and reliability testing procedures were performed on these scales with pilot data. The procedures resulted in modifications to certain measures such that they were either revised or dropped from the study. The resulting measures were then used for the dissertation study.

       Overall, for PCCE, the procedures resulted in items being dropped and a reduction in the dimensionalities of the variables. PCCE was initially proposed as a four-dimensional variable (hypothesis 1), but in the end, a three-dimensional variable was used in hypothesis testing. In the case of EEI and OCB-E, which were specified as having one dimension each, the procedures resulted in a reduction in the number of scale items. Tables containing these modifications (initial and revised scales) can be found in the *Exploratory Factor Analysis* section and in Appendix D, section (5).

       The following section describes the initial measures of the proposed model. Unless otherwise noted, each item utilized a five-point Likert-type scale (1= strongly disagree to 5 = strongly agree).

Psychological climate of care for the natural environment (PCCE) (IV) (NEW) **–** I developed a four-dimensional scale based on the construct's definition as: "An employee's sense that the organization supports and values the natural environment beyond instrumental benefit and supports employees in their environmental organizational citizenship efforts." The initial dimensional specification was: (1) the organization cares about the natural environment for more than just instrumental reasons; (2) the employee

has opportunities and the flexibility based on formal or/and informal support to pursue OCB-Es at his/her discretion; (3) the employee is "psychologically safe" to undertake OCB-Es that are meaningful; and (4) the organization is open to and supportive of new and potentially innovative ideas and initiatives that are intended to benefit the natural environment and organizational environmental sustainability efforts.

An extensive literature review was used to develop the dimensions and items, which came from existing measures. For the environmental care dimension, the four-item *Internal Environmental Orientation* scale (Banerjee et al. (2002; 2003)) was applied. Sample items are: "At our firm, we make a concerted effort to let every employee understand the importance of environmental preservation," and "Preserving the environment is a central corporate value in my company" ($\propto = 0.77$). For the opportunity and flexibility dimension, eight items from the *managerial support* dimension of Thompson et al.'s (1999) work-family climate scale were adapted. A sample item is: "In general, my supervisor is quite accommodating of me if I want to pursue environmental initiatives at work." For the psychological safety dimension, six items were adapted from Baer and Frese (2003), Brown and Leigh (1996), and Edmundson (1999). Example items include: "In my company, employees can be rejected for being different when it comes to addressing environmental issues in the workplace" and "My boss is flexible about allowing me to participate in environmental initiatives at work even though they are not a part of my job." Lastly, for the support for new ideas dimension, five items were adapted from Baer and Frese (2003). An example is: "This organization is open and responsive to changes in how they deal with issues relating to the environment."

Perceived organizational support (POS) (mediator) (ESTABLISHED)*.* Eisenberger,

Cummings, Armeli, and Lynch's (1997) short version of the Survey of Perceived

Organizational Support (SPOS) scale developed by Eisenberger et al. (1986) was used. The

short form consists of eight items of the 36-item SPOS scale that loaded most highly on the

main POS factor (Eisenberger et al., 1986). Respondents indicated the extent of agreement

with each statement using a 7-point Likert-type scale (1= strongly disagree to 7 = strongly

agree). A sample item is "My organization strongly considers my goals and values." The

internal reliability or coefficient alpha of the scale is .90 (Eisenberger et al., 1997).

Employee environmental identity (EEI) (moderator) (ADAPTED)*.* Following Stets and

Biga (2003) and Biga (2006), I assessed employees' interpretations of EEI using Stets and

Biga's (2003) EEI meaning scale. Respondents were given eleven bipolar statements. For

each, they were asked to think about how they view themselves in relationship to the

environment, and identify where they would place themselves between each bipolar

statement referencing the natural environment. Examples of questions include: "I view

myself as an advocate of the natural environment... dis-interested in the natural

environment," and "I view myself as very concerned about the natural environment...

indifferent about the natural environment." Responses range from 1 to 5, where 1 reflects

agreement with one bipolar statement, 5 reflects agreement with the other bipolar

statement, and 3 puts the respondent in between the two statements. In answering the

questions, the focus is on the person, rather than a role or position that the person holds

(Stets and Biga, 2003). The internal reliability for the scale is .91 (Biga, 2006; Stets and

Biga, 2003).

Organizational identification (OI) (moderator) (ESTABLISHED)*.* Mael and Ashforth's

(1992) six-item scale was used. Sample items include: "When someone criticizes my

organization, it feels like a personal insult," and "This organization's successes are my

successes." The internal reliability is .87 (Mael and Ashforth, 1992).

Organizational citizenship behavior toward the natural environment (OCB-E) (DV)

(ADAPTED)*.* A one-dimensional scale was developed based on the definition of OCB-E,

which specified the behavior as one that: (1) is directly targeted toward benefitting the

natural environment; (2) is generally not specified in the job description; (3) may not be

explicitly recognized by formal reward systems; (4) consists of affiliative- or change-

oriented behaviors; and (5) contributes through individual or/and combined effort to the

betterment of the natural environment.

     Items were designed to be broad in nature in order to accommodate the variety of

affiliative and/or change-oriented OCB-E that could occur in traditional organizations.

Eight items were initially specified; four to assess affiliative actions and four to address

change actions. For affiliatve behavior, items were adapted from two dimensions, *eco-*

helping and *eco-civic engagement,* of Boiral and Paillé's (2012) OCBE scale. Sample

questions include: "I volunteer for projects, endeavors or events that address

environmental issues in my organization," and "I encourage my colleagues to express their

ideas and opinions on environmental issues." The internal reliability of Boiral and Paillé's

(2012) OCB-E measure is between .78 and .89. For change-oriented OCB-E, I adapted items

from established OCB measures that assess *voice* (Van Dyne and LePine, 1998) and

individual initiative (Choi, 2007). Examples include: "I develop and make recommendations

on how to handle environmental issues that could affect the organization," and "I

frequently come up with new ideas or new methods of performing tasks that would benefit

my organization's environmental sustainability efforts."

Control variables

In the survey, demographic and background characteristics of the respondents were

collected. These include age, gender, number in household, job level, tenure, education

level, and race/ethnicity, to name some.

Control variables were selected on the basis of existing theory and prior literature.

In this regard, five individual-level variables that could affect the PCCE-OCB-E relationship

were included: number of household members, percent of time worked per week, age, job

level, and organizational tenure. Based on findings from the work-family climate literature

(e.g., Thompson et al., 1999), amount of time worked in the week and number of household

members can be associated with the amount of interest an individual has in taking

advantage of a company benefit and how much time he or she has for performing OCB type

behaviors. Further, in the environmental and OCB literatures, gender was not found to be

significantly associated with environmental behavior and organizational citizenship

behavior (Podsakoff et al., 2000; Stets and Biga, 2003). Also, in OCB studies, the influence of

tenure and age on citizenship behavior has received mixed support (Podsakoff et al., 2000).

But age, tenure, and job level have been significantly linked to perceptions of support and

identification (Rhoades and Eisenberger, 2002; Riketta, 2005). Overall, these findings

influenced my selection of controls. Lastly, since pro-social behavior research is prone to

social desirability, it was also controlled using the short form of the Crown and Marlowe (1960) social desirability scale.

Face and Content Validity

Before collecting any data, I examined the face validity of the initial survey instrument using a convenience sample (N ~ 20) of working adults who had the skills, knowledge, and ability to provide an in-depth review of the survey. The drafted instrument was inspected for clarity of instructions; administration difficulties; survey organization and wording; and reliability and validity of results. Based on their assessment, I made appropriate revisions to the instrument prior to performing the EFA with the pilot sample.

With regard to content validity, I used pre-established scales from the organizational behavior literature (organizational identification (OI) and perceptions of organizational support (POS)), a recently established measure from the environmental psychology literature (environmental identity (EEI)), and measures specific to my dissertation (climate (PCCE) and behavior (OCB-E)). The study-specific measures were developed by adapting items from established scales (e.g., psychological safety, OCB voice) and modifying them slightly to reflect my interest in the natural environment.

Sampling Procedure for First Pilot Study

To assess validity and reliability, I conducted two pilot studies. Prior to collecting any data, I obtained Institutional Review Board (IRB) approval from the University of Wisconsin - Milwaukee (UWM). The first round of pilot data was obtained using a convenience sample of full-time employed individuals who were either taking classes at a

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local university or were associated with researcher. Snowball sampling was used to identify respondents.

Students consisted of those taking undergraduate and graduate courses at a large Midwestern public university. The majority of respondents were business majors, but some came from majors such as non-profit management. To collect the student data, I contacted university instructors either in-person or via e-mail and asked whether they could assist me by asking their students to take my survey. A copy of the request email is included in the Appendix A. In most cases, extra credit (in the form of class points) was offered by the instructor at his or her discretion.

To collect data from non-student respondents, I contacted friends, family, and colleagues from organizations with which I have affiliations. These individuals took the survey, and then forwarded an electronic link to the survey to others they are associated with. They did this through a social media site like Facebook and personal contact lists. Everyone was given the option of taking a paper-and-pencil or an electronic survey administered through UWM Qualtrics.

Overall, 296 individuals took the pilot survey: 86 filled out the paper version, and the remainder took the electronic version. Unlike the dissertation survey, the pilot questionnaire did not force respondents to answer all of the questions. Thus, list-wise deletion was used to eliminate cases with a relatively large number of missing values. In addition, one case listed "5's" for all questions, so it was removed because of response invariance. In the end, 243 of 296 individuals provided usable responses for a response rate of 82.1%.

Description of First Pilot Sample

Refer to Appendix B for descriptive details on all samples used in the dissertation. For the first pilot sample (n=243), respondents were 39.9% female and 61.1% male. Employed individuals between the ages of 18 and 29 represented the largest group (60.5%). Further, data came primarily from Caucasian and Asian individuals (72.8% and 13.6%, respectively), and from those with a bachelor's degree (57.2%) or master's degree (17.7%). Job-wise, most respondents are employed in hourly (36.6%) and salaried professional (46.5%) positions, and with organizations with 1 to 99 employees (28%) or 1,000 to 10,000 (33.7%) employees. Lastly, the plurality of survey-takers work in education (20.2%), healthcare (9.5%), and accounting (5.3%). These trends are somewhat similar to those found in the second pilot sample and dissertation data.

Data Screening

Prior to assessing the psychometric properties of scales and testing the model, data screening procedures were performed to assess conditions of normality. The following non-redundant steps were taken for both individual items and cumulative items (scale scores) in the two pilot studies and the dissertation study. *Hence for practical purposes, I only describe them once in this section of the paper.*

First, data were screened for missing data. No missing data were found in the dissertation and second pilot datasets. In the first pilot sample, two cases were found to be missing data on one variable. These were treated as random data (i.e., missing at random), and the mean substitution approach was used to replace these scores. The means, standard

deviations, and correlations between variables were also noted. Any obvious deviations were considered substantially as to why they may have differed.

Data were also assessed to ensure univariate, bivariate, and multivariate normality, address outliers, and to detect the existence of multicollinearity (Tabachnick and Fidell, 2007; Kline, 2011). This is because non-normality is especially detrimental to factor analytic techniques, which include EFA and CFA, and for OLS regression analysis. Specifically, all items for each scale were screened for univariate outliers, defined as responses greater than 3.29 standard deviations from the mean (Tabachnick and Fidell, 2007), and for univariate normality, operationalized as skew between -2.0 and 2.0 and kurtosis between -7.0 and 7.0 (Kline, 2011). Graphical information on q-q (quartile-quartile) plots, box-plots, and stem-and-leaf diagrams were also reviewed. Consideration was also given to the bivariate normality of the relationships between the variables. Bivariate scatter plots were reviewed for violations to normality by considering the linearity and homoscedasticity of the residuals of pairs of variables. Multivariate normality was also assessed along with potential multivariate outliers. The logic for doing this is that when a set of variables is distributed as multivariate normal, then each variable must be normally distributed. However, even when all individual variables are normally distributed, the set of variables may still be distributed as multivariate non-normal. Hence, testing each individual variable for univariate normality is sufficient. To overcome potential difficulties in checking all permutations of variable relationships, multivariate normality was checked using Mardia's (1985) statistical tests for multivariate skewness and kurtosis, which assesses multivariate normality based on sample measures of

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multivariate skewness and kurtosis. Items were also screened for multivariate outliers by comparing the critical χ^2 to the Mahalanobis distance (Tabachnick and Fidell, 2007).

Overall, the three data sets exhibited some non-normality, so I took steps to address the issue prior to conducting validation and reliability analyses and hypothesis testing. Kurtosis and multicollinearity were not an issue in the datasets. However, slight multivariate non-normality and a few multivariate outliers were noted. To address non-normality, outliers were considered for removal and replacement, and variable transformations were performed based on the direction and degree of the skew (Tabachnick and Fidell, 2007). Additionally, for EFA and CFA analyses, Bollenstine bootstrapping using 5000 samples was applied. Also, in the EFA, principal axis factoring (PAF), which is more resilient to non-normal data (Fabrigar, Wegener, MacCallum, and Strahan, 1999), was used. Lastly, following Hayes's (2013) recommendation, bias-adjusted bootstrapping using 10,000 samples was applied in regression testing of the mediation, moderation, and moderated-mediation hypotheses.

Exploratory Factor Analyses and Internal Consistency Reliabilities (Pilot 1)

A series of exploratory factor analyses (EFA) was conducted for the scales of the newly developed constructs (PCCE and OCB-E) and the adapted construct (EEI). The EFA was also used to confirm that all items used in the model loaded on their appropriate factors.

The primary objective of EFA is to identify a set of factors and items that balance parsimony with adequate representation of underlying correlations (DeVellis, 2012). The analysis used SPSS version 22.0, principal axis factoring (PAF) extraction with Promax

rotation (factors assumed to be correlated). The PAF extraction method, in contrast to the

principal components analysis (PCA) extraction method, promotes factor solutions that are

based on common variance shared among items of a particular measure or scales (Gorsuch,

1990). As a result, unique item variance (i.e., variance that is not shared with other items

on the same scale) is not part of the factor solution. This differs from PCA, where the

objective is to explain all of the variance regardless of whether variance for each item is

shared with other items on the scale. PAF, unlike PCA, is recommended when data exhibit

non-normality (Fabrigar et al., 1999).

Before conducting the EFA, the suitability of data for factor analysis was assessed.

For PCCE, EEI, and OCB-E, the correlation matrices revealed numerous coefficients of .40

and above. Further, for these variables, the Kaiser-Meyer-Olkin (KMO) test, which

determines if there are enough items to predict each factor, was performed. The KMO value

for each of the measures in the EFA was greater than the recommended value of .60

(Kaiser, 1974). I also assessed Bartlett's test of sphericity, which supports the factorability

of the correlation matrix if it reaches statistical significance (Bartlett, 1954). For all

measures, Bartlett's value was significant ($p < .05$). In conclusion, the items and proposed

measures met the three criteria and thus provided evidence that the data were suitable for

exploratory factor analyses.

To identify overall factor structures, including number of factors to retain,

consideration was given to scree plots and the Kaiser criterion (eigenvalues greater than

one). Further, based on Tabachnick and Fidell's (2007) recommendations, items with

primary factor loadings <.40 or secondary factor loadings >.30 were considered for

deletion as this indicates cross-loading. Item retention/deletion decisions were also based on whether item factor loading was "high" (i.e., .8 or greater) or realistic for social sciences research (i.e., between .40 and .70). In general, items with the lowest loadings were removed first, and items with the highest loadings were retained. Consideration was also given to theoretical reasoning (i.e., does the item correlate appropriately with other items in the scale based on the theory? does the item adequately capture the construct's definition?), and practical reasoning (e.g., is there a minimum of 3 items per factor? was the item's wording confusing? were two items similar in content?). The EFA was iterative in that after removing items from the scales, EFA factor solutions were conducted repeatedly until "clean" solutions were identified (i.e., primary factor loadings greater than or equal to .40; items made sense together; items reflected construct definition). The EFA results and scale reliabilities for the scales are provided in Tables 4 – 8 below. The tables list only the scales associated with the variables in the model. Others used for validity testing and common method variance assessment are referenced in Appendix D, section (4). Items in *italics* were retained for the final dissertation measures. Cronbach's alpha values are also listed at the bottom of the tables. All scales exhibited good reliabilities above .80.

Table 4: (IV) Psychological Climate (PCCE)

Item	PCCE	Factor Loadings D1	D2	D3
1	*My organization makes a concerted effort to let every employee understand the importance of environmental preservation.*	.867		
2	*My organization has a clear policy statement urging environmental awareness in every area of operation.*	.875		
3	*Environmental preservation is highly valued by my organization's members.*	.790		
4	*Preserving the environment is a central corporate value in my organization.*	.845		
5	*In general, my supervisor is quite accommodating of me if I want to pursue environmental initiatives at work.*		.750	
6	*Higher management at my organization encourages supervisors to be sensitive to employees' environmental concerns.*		.813	
7	*Middle managers and executives at my organization are sympathetic toward employees' environmental concerns.*		.796	
8	*My organization is supportive if I want to do things in more environmentally-friendly ways.*		.742	
9	In my organization, it is generally okay to talk about environmental issues.			
10	At my organization, one can easily balance one's work with one's interest in pursuing activities that benefit the environment and the organization.			
11	At my organization, it is very hard to take a break from work to voluntarily take part in environmental initiatives.			
12	At my organization, opportunities are available to take part in activities that benefit the environment.			
13	In my organization, employees can be rejected for being different when it comes to addressing environmental issues in the workplace.			
14	In my organization, I feel free to take risks when it comes to pursuing environmental issues.			
15	In my organization, I would be able to bring up problems and tough issues when it comes to how the organization is handling environmental issues.			
16	My boss is flexible about allowing me to participate in environmental initiatives at work even though they are not a part of my job.			
17	My manager is supportive of my ideas on how the organization can better address environmental issues.			
18	My boss gives me the authority to implement environmental initiatives as I see fit in the organization.			
19	*People in my organization actively address environmental issues that may occur.*			.733
20	*Whenever an environmental concern arises, people in my organization search for a solution immediately.*			.774
21	*Whenever there is a chance to get actively involved in environmental issues, people in my organization take it.*			.814
22	*This organization is open and responsive to changes in how it deals with issues relating to the environment.*			.724
23	When it comes to addressing environmental sustainability issues, my organization seems to be more concerned with the status quo than with change.			
Eigenvalue		5.79	1.12	.786
Total variance explained		48.27%	9.33%	6.55%
Cronbach's alpha (α) (reliability) - PCCE overall	0.912	0.908	0.844	0.844

Extraction method: Principal Axis Factoring

Rotation Method: Promax with Kaiser Normalization (kappa=4)

n=243

Table 5: (DV) Organizational Citizenship Behavior toward the Environment (OCB-E)

Item	Affiliative-oriented OCB-E (items 1-4) and change-oriented OCB-E (items 5-8)		Factor Loading
1	I undertake environmental actions that contribute positively to my organization's image.		
2	*I volunteer for projects, endeavors or events that address environmental issues in my organization.*		*0.668*
3	I spontaneously give my time to help my colleagues take the environment into account in everything they do at work.		
4	I encourage my colleagues to adopt more environmentally conscious behavior.		
5	I frequently come up with new ideas or new methods of performing tasks that would benefit my organization's environmental sustainability efforts.		
6	*I often suggest ideas to improve the organization's environmental efforts.*		*0.923*
7	*I develop and make recommendations on how to handle environmental issues that could affect the organization.*		*0.944*
8	*I speak up and encourage others to get involved in environmental issues that could affect the organization.*		*0.881*
Eigenvalue		2.96	
Total variance explained		74.10%	
Cronbach's alpha (α) (reliability)		0.910	
Extraction method: Principal Axis Factoring			
Rotation Method: Promax with Kaiser Normalization (kappa=4)			
n=243			

Table 6: (MED) Perceived Organized Support (POS)

Item	Perceived Organizational Support	(POS)	Factor Loading
1	If the organization could hire someone to replace me at a lower salary it would do so.		
2	*The organization disregards my best interests when it makes decisions that affect me.*		.554
3	*The organization really cares about my well-being.*		.786
4	*The organization takes pride in my accomplishments at work.*		.778
5	*The organization tries to make my job as interesting as possible.*		.746
6	*The organization values my contribution to its well-being.*		.721
7	*The organization fails to appreciate any extra effort from me.*		.577
8	*The organization strongly considers my goals and values.*		.776
Eigenvalue	3.54		
Total variance explained	50.61%		
Cronbach's alpha (α) (reliability)	0.869		
Extraction method: Principal Axis Factoring			
Rotation Method: Promax with Kaiser Normalization (kappa=4)			
n=243			

Table 7: (MOD) Employee Environmental Identity (EEI)

Item	Employee Environmental Identity	(EEI)	Factor Loading
1	in competition...in cooperation with natural environment		
2	detached from...connected with natural environment		
3	*very concerned...indifferent about natural environment*		0.763
4	*very protective...not at all protective of natural environment*		0.777
5	superior...inferior to natural environment		
6	*very passionate...not at all passionate towards natural environment*		0.699
7	not respectful...very respectful of natural environment		
8	independent from...dependent on natural environment		
9	*an advocate of...dis-interested in natural environment*		0.788
10	*wanting to preserve...utilize natural environment*		0.696
11	nostalgic...emotionless thinking about natural environment		
Eigenvalue	3.61		
Total variance explained	60.17%		
Cronbach's alpha (α) (reliability)	0.859		
Extraction method: Principal Axis Factoring			
Rotation Method: Promax with Kaiser Normalization (kappa=4)			
n=243			

Table 8: (MOD) Organizational Identification (OI)

Item	Organizational Identification	(OI)				Factor Loading
1	*When someone criticizes my organization, it feels like a personal insult.*					*.761*
2	*I am very interested in what others think about my organization.*					*.628*
3	*When I talk about this organization, I usually say we rather than they.*					*.705*
4	*My organization's successes are my successes.*					*.743*
5	*When someone praises my organization it feels like a personal compliment.*					*.800*
6	*If a story in the media criticized my organization, I would feel embarrassed.*					*.654*
Eigenvalue		3.09				
Total variance explained		51.49%				
Cronbach's alpha (α) (reliability)		0.862				
Extraction method: Principal Axis Factoring						
Rotation Method: Promax with Kaiser Normalization (kappa=4)						
n=243						

Confirmatory Factor Analyses (dissertation sample)

After performing the EFA, confirmatory factor analyses (CFA) were performed using SPSS AMOS version 23.0 to confirm the dimensionality of the new construct (PCCE and OCB-E) and adapted construct (EEI) measures, and to check the overall fit of the measurement model with the dissertation sample (n=500). Data collection procedures and descriptive statistics for the dissertation data are discussed below in the *Dissertation Data Collection Procedure*s and *Description of Dissertation Sample* sections.

The CFA technique assesses whether the derived factor structures can be reliably replicated. CFA is suitable when measure*s* of the constructs are established in the literature or consist of slightly modified items from established measures (Tabachnick and Fidell, 2007). In my measurement model, summations of items were used (e.g., EEI was derived

by summing its individual scale items). This procedure is consistent with recommendations of Tabachnick and Fidell (2007).

For the CFA, five model fit indices were specified *a priori* to evaluate quality of model fit. These included the chi-square (χ^2) statistic, which checks for an "exact fit" between the population covariance matrix and the covariance matrix predicted by the model using a chi-square significance test (Kline, 2011). Conclusions drawn from this were considered in tandem with absolute and comparative fit indices because the chi-square test statistically evaluates only whether the model fits or fails to fit the data due to slight discrepancies between the observed and implied matrices. Thus, I also evaluated the root mean squared error (RMSEA), comparative fit index (CFI), standardized root mean square residual (SRMR), and non-normed fit index (NNFI). In particular, RMSEA, CFI, and NNFI are less affected than other indices by sample size.

RMSEA and SRMR, which are absolute fit indices, measure the level of discrepancy between the observed and implied covariance matrices per degree of freedom. Essentially they represent tests of "close fit" in that a smaller test value indicates that the implied covariance matrix is more similar to the population one, which means that the model more closely fits the data. Cutoff values of RMSEA are: (1) ≤.05 good fit (2) .05~.08 fair fit, (3) .08~.10 mediocre fit, and (4) >.10 poor fit. Cut off values of SRMR are: (1) ≤ .05 good fit (2) .05~.08 fair fit and (3) >.08 poor fit (Kline, 2011). I also assessed the confidence interval for RMSEA as a way to estimate the precision of the statistic; the interval should not include values above .08 (Kline, 2011).

CFI and NNFI are comparative fit indices, which measure the relative improvement in the fit of the generated model over that of a baseline or null model. The further away one's model is from the null model, the better the fit. Thus, a larger value of CFI and NNFI, which ranges from 0 to 1.0, indicates better fit, with an index greater than or equal to .95 considered "excellent" (Kline, 2011).

Results for the CFA for PCCE, OCB-E, and EEI are provided in Table 9. For OCB-E, and EEI, the Bollenstine χ^2 statistics were significant, and other fit indices (CFI, NNFI, SRMR, and RMSEA) indicated acceptable fit according to the standards noted above. For PCCE, I went a step further by examining alternative CFA models; for example, where the EFA suggested a three-factor model, I also examined a two-factor and one-factor model as alternatives. The results of the model comparisons for PCCE indicate that the measures identified through exploratory factor analyses fit the data significantly better than did any of the alternative models.

Table 9: Confirmatory Factor Analysis Results

Models	χ^2	df	CFI	NNFI	SRMR	RMSEA	RMSEA conf-Int	$\Delta \chi^2$	Δdf
Psychological Climate PCCE									
Null model	1474.333	52							
1 Factor	545.136	52	0.931	0.912	0.0408	0.138	.128-.148	929.197	0
2 Factor (with correlated factors)	322.831	51	0.962	0.951	0.0317	0.103	.093-.114	1151.502	1
3 Factor (with correlated factors)	*116.418*	*49*	*0.987*	*0.991*	*0.0161*	*0.053*	*.04-.065*	*1357.92*	*3*
PCCE as a higher-order factor	182.184	51	0.982	0.976	0.0212	0.072	.061-.083	1292.149	1
Behavior toward the Environment OCB-E									
1 Factor	*12.180*	*3*	*0.995*	*0.991*	*0.0108*	*0.078*	*.036-.126*		
Environmental Identity EEI									
1 Factor	*15.338*	*5*	*0.995*	*0.990*	*0.0106*	*0.064*	*.0209-.102*		

Summary – EFA and CFA

In sum, exploratory factor analysis using the first pilot sample identified factor structures for PCCE, OCB-E, and EEI. Confirmatory factor analysis using the dissertation sample subsequently corroborated the factor structures for these measures.

In Chapter 3, I had proposed that PCCE would consist of four dimensions (hypothesis 1). Based on results of the EFA and CFA, this hypothesis was not supported. A three-factor PCCE solution provided a better fitting model over a four-factor solution. In the exploratory factor analysis, a number of proposed items exhibited cross-loading. As a result, at least half of the items were dropped from the scales prior to running the CFA (refer to Table 4). In the end, the three subscales consisted of four items each. In reflecting on the dropped questions, items 9 and 13 through 18 appear to overlap the four retained items of Dimension 2 (items 5 through 8). These four retained items address management support for the environment and employee green behavior. In addition, dropped items 10 through 12 appear to overlap retained items of Dimension 3 (items 19 through 22). These four retained items address an organization's willingness to be open and supportive to employees with regard to their environmental ideas and initiatives.

For OCB-E, I had initially specified eight items adapted from Boiral and Paillé (2012) (environmental management) and the OCB literature to assess affiliative- and change-oriented behavior. In the end, four of these eight were retained (refer to Table 5). Three of the four retained items (6, 7, and 8) capture *suggestive* behavior. That is, employees "make recommendations", "speak up", or "suggest ideas" regarding environmental issues. These items generally address change-oriented green citizenship behavior associated with

voicing concern and taking initiative on behalf of the environment and organization.

Retained item 2 taps into *active* behavior. That is, individuals actually participate in

environmental activities associated with the organization. This item addresses affiliative

green citizenship behavior relating to eco-civic engagement (Boiral and Paillé, 2012),

which Boiral and Paillé derived from Organ et al's (1996) *helping* category of OCB. The four

non-retained questions had low factor loadings. A potential explanation for why items 3

and 4 were dropped is that they focus on support employees gave to co-workers, rather

than to the organization. Essentially, these items consider the co-worker, rather than the

organization, as the target of employee OCB-E. Item 1, which considers OCB-E done to

improve organizational image, had been adapted from Boiral and Paillé (2012). A potential

explanation for why the item had a low factor loading is that it assumes a level of employee

organizational loyalty should exist before OCB-E occurs. That is, when employees are

already loyal to the organization, they are more apt to support their organization's image.

In turn, performing OCB-Es would be one way loyal employees could support their

organization's image. Lastly, item 5 was dropped because respondents may have

interpreted the word "frequently" in the phrase "I frequently come up with new ideas or

new methods" as being too *extreme*. All in all, the retained OCB-E items tap into what I call

"*low stakes*" behaviors, which require limited effort to perform and don't necessarily have a

significant immediate impact on the environment or the organization.

With regard to EEI, five of eleven items with the highest factor loadings were

retained (refer to Table 7). In considering the dropped questions, it is possible that the

wording of these items could have been confusing to survey-takers. It is also possible that these questions were not as relevant to survey-takers in the context of the workplace.

Convergent and Discriminant Validity (Pilot 2)

To assess convergent and discriminant validity and verify internal consistency reliabilities of the PCCE. EEI, and OCB-E measures, a second pilot sample (n=150) was collected using the procedure described below in the section *Dissertation Data Collection Procedures.*

Description of Second Pilot Sample

Refer to Appendix B for descriptive details on all samples used in the dissertation. For the second pilot sample (n=150), respondents were 46% female and 54% male. Employed individuals between the ages of 30 and 49 represented the largest group (46%). Further, respondents were primarily Caucasian and Asian (80.7% and 6.0%, respectively), and had obtained either just a bachelor's degree (38%) or less than a high school diploma (22%). Most respondents were employed in hourly (34%) or salaried professional (36%) positions, and worked for organizations with 1 to 99 employees (28.7%) ot 1,000 to 10,000 (25.3%) employees. Lastly, the plurality of survey-takers work in education (17.3%), healthcare (16%), and retail (12.7%). This industry response trend is somewhat similar to what was found in the first pilot sample and dissertation data.

Convergent Validity Analysis

Convergent validity evaluates the degree to which a particular scale is similar to, yet distinct from, other established, validated scales that measure similar constructs. In other words, it evaluates the degree of correlation between related constructs within the

nomological network (i.e., established links with other constructs). Refer to Appendix D, section (4) for a list of the items used for convergent validity testing purposes.

i. *Psychological Climate of Care for the Natural Environment (PCCE)*

To provide evidence of convergent validity for the PCCE scale, I examined the relationship between this newly developed construct, which contains adapted items from existing measures, to the Green Work Climate (GWC) scale (Norton et al., 2014). Of note is that PCCE is a type of psychological climate, while GWC is a type of organizational climate. I expect the scales to be positively correlated because they both assess employee perceptions relating to organizational support for the environment and green behaviors in the workplace. The internal consistency reliability of GWC is .93. Of note is that the GWC scale is similar in length to my PCCE scale (8 items versus 9 items). The correlation between the PCCE and GWC scale is positive and high (*r= .891, p < .01, 2-tail*), providing evidence of convergent validity of the PCCE scale.

ii. *Organizational Citizenship Behavior Toward the Natural Environment (OCB-E)*

To provide evidence of convergent validity for the OCB-E scale, I examined the relationship between this construct, which contains adapted items from existing measures, and the Pro-environmental Behavior (POB) scale (Bissing-Olson, Iyer, Fielding, and Zacher, 2013). Of note is that OCB-E and POB have different origins. Unlike OCB-E, which derives from the OCB literature, POB derives from the personal initiative literature (Frese and Fay, 2001). The targets of OCB-E are the organization and environment. POB addresses the environment, but does not specify the organization as the beneficiary of the behavior. I expect the scales to be positively correlated because they both assess broadly-defined

environmental behaviors taken by employees in the workplace. The internal consistency reliability of POB is .83. Of note is that the POB scale is similar in length to my OCB-E scale (3 items versus 4 items). The correlation between OCB-E and POB is positive and high (*r=.824, p < .01, 2-tail*), providing evidence of CV of the OCB-E scale.

iii.   *Employee Environmental Identity (EEI)*

To provide evidence of convergent validity for the EEI scale, I examined the relationship between this construct, which was developed in the environmental psychology literature, to the new environmental paradigm (NEP) short form (Dunlap, Van Liere, Mertig, and Jones, 2000; Whitmarsh, 2009). The NEP is a well-known measure of environmental values in the environmental psychology literature. It is also interpreted as a measure of environmental worldview. I expect the scales to be positively correlated because they both assess individuals' personal relationships with the natural environment. The internal consistency reliability of NEP short-form is .72 (Whitmarsh, 2009). Of note is that the NEP short-form scale is similar in length to my EEI scale (6 items versus 5 items). The correlation between the EEI and NEP short form scale is positive and high (*r=.916, p < .01, 2-tail*), providing evidence of convergent validity of the EEI scale.

Discriminant Validity Analysis

Discriminant validity evaluates how well a scale distinguishes itself from other scales that are supposed to measure different constructs. In other words, it assesses how well a particular scale distinguishes itself from others that measure distinct constructs. Fiske (1982) noted that when a construct is broad, care must be taken to ensure it is truly different from those constructs it subsumes or those to which it relates. Following

DeVellis's (2012) recommendations, I examined discriminant validity by assessing whether the measures that should *not* be related are in reality *not* related (i.e., low correlation between scales). Thus, I reviewed the correlation matrix for each scale's items to assess whether intra-scale item correlations were greater than and distinct from inter-scale correlations. Refer to Appendix D, section (4) for a list of the items used for discriminant validity testing purposes.

iv. *Psychological Climate of Care for the Natural Environment (PCCE)*

To provide evidence of discriminant validity for the PCCE scale, I examined the relationship between this newly developed construct to the Perceptions of Politics (POPS) scale (Hochwarter, Kacmar, Perrewe, and Johnson, 2003). I expect the scales to be weakly correlated because PCCE is a perception of a socially responsible organizational climate. On the other hand, POPS is a perception of the political dealings in an organization. The internal consistency reliability of POPS is .91. The correlation between the PCCE and POPS scales is low (*r= -.085, p < .01, 2-tail*), providing evidence of divergent validity of the PCCE scale.

v. *Organizational Citizenship Behavior Toward the Natural Environment (OCB-E)*

To provide evidence of discriminant validity for the OCB-E scale, I examined the relationship between this newly developed construct and the perceptions of politics (POPS) scale (Hochwarter et al., 2003). I expect the scales to be weakly correlated because OCB-E is a form of socially responsible behavior, while POPS is a perception of the political dealings in an organization. The internal consistency reliability of POPS is .91. The

correlation between the OCB-E scale and POPS is low ($r= .120, p < .01, 2\text{-}tail$), providing evidence of discriminant validity of the OCB-E scale.

vi. *Employee Environmental Identity (EEI)*

To provide evidence of discriminant validity for the EEI scale, I examined the relationship between this construct and the organizational identification (OI) scale (Mael and Ashforth, 1992). I expect the scales to be weakly correlated because EEI is a form of personal identity targeted at the natural environment. On the other hand, OI is a form of social identity targeted at an organizational setting. The internal consistency reliability of the OI scale is .87. The correlation between the EEI and the OI scale is low ($r=-.029, p < .01, 2\text{-}tail$), providing evidence of discriminant validity of the EEI scale.

Dissertation Study

Dissertation Data Collection Procedures

Prior to data collection, approval was received from the Institutional Review Board (IRB) of the University of Wisconsin-Milwaukee. A sample size of 500 individuals was sought for the dissertation study. In determining the target number, I accounted for 1) sample size in similar work; 2) the analytic procedure used (multiple regression); 3) time and budget restrictions; and 4) the number and type of predicted relationships that were estimated (e.g., simple mediation, moderated-mediation). As I noted at the beginning of this chapter, effect sizes for OCB-E studies are not well-established. Since we lack a precedent, I expect a small effect size (i.e., around 0.02) associated with a statistical power of 0.80 and alpha of .05 (Cohen, 1988).

As discussed earlier, a convenience sampling strategy was used for the first pilot study (refer to the *Sampling Procedures for First Pilot Study* section). A different approach was used for the second pilot study and the dissertation study. For these samples, I used the services of Qualtrics Online Panel, a fee-based organization that administers surveys on behalf of researchers. Since Qualtrics screens individuals, I was able to specify the number and characteristics of respondents that I needed. The use of survey fulfillment companies has become more prevalent and accepted in organizational research. For instance, Norton et al. (2014) recently used Amazon Mechanical Turk (MTurk) to collect data on their newly developed organizational climate construct, green work climate, and its relationship to employee in-role green behavior. In another case, Robertson (2014) collected data from 554 full-time employees through Qualtrics Panel Services to validate a new OCB-E scale that she developed in her dissertation.

I input my online survey using University of Wisconsin-Milwaukee's Qualtrics software and paid Qualtrics Panel Services to administer it on my behalf. The fee included an incentive offered to survey-takers upon full completion of the questionnaire.

For the dissertation, Quatrics sent out invitations to 1,370 individuals, of which 500 completed the survey (36.5% response rate). To obtain the sample, Qualtrics partners with other survey administration organizations by tapping into their pools of potential respondents, who live across the US. It took about a month to obtain the samples for the second pilot study and the dissertation. An incentive (monetary, reward points, or gifts) was provided by Qualtrics to survey-takers if they completely finished and submitted the survey. Neither Qualtrics nor I had direct communication with respondents. The only

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information linking individuals to responses was an identification number assigned by

Qualtrics (for incentive purposes) and an IP address. Since this information was not

relevant to my work, it was removed from the datasets prior to performing any analyses.

To decrease the potential for unreliable or invalid data, a number of filters were

applied. In its screening process, Qualtrics eliminated cases where individuals took less

than a third of the mean time for survey completion (i.e., in my case, less than 4 minutes

taken). The logic is that quick survey-takers are less likely think about their responses.

Cases where response flat-lining (i.e., "5" checked for every question) was present were

also eliminated. Qualtrics also included two questions at mid-points in the survey to serve

as fatigue checks. One asked, "Please select the last option - strongly agree - to continue,"

while the other asked, "Please select the middle option - neither agree nor disagree - to

continue." Cases where incorrect responses to these items were given were not included in

the final sample. Additionally, cases were excluded if respondents did not work full-time

for an organization outside of their own, had worked for the organization for less than a

year, or were under 18 years of age. Also, the survey was set up as "forced response" so

that items couldn't be skipped. Thus, cases with missing data were not included in the final

sample set. Finally, if cases exhibited skew or kurtosis for key variables in the model,

Qualtrics collected additional samples to replace the problematic data. All of these

measures ensured quality in the collection process. In the end, a sample size of 500 was

retained for the dissertation.

Dissertation Survey Design

In addition to using filters, I followed recommendations of DeVellis (2012) and Podsakoff et al. (2003) to minimize the potential for common method variance and increase the probability of high quality data. For example, to alleviate fatigue, I kept the survey at a reasonable length so that it could be completed within 10 to 15 minutes. Additionally, I varied the types of questions asked and scales used so that participant interest would be maintained. I also checked the data for social desirability and consistency, which occurs when respondents respond in ways to gain social approval (Abraham, Helms, and Presser, 2009) and maintain consistency among attitudes, perceptions, and attributions in their self-reported responses (Staw, 1975). In this regard, care was taken in organizing items on the survey so that questioning patterns were less detectable.

As with all self-report data collected using a single instrument, the potential exists for common method variance. So, I applied both procedural (*a priori*) and statistical (*post hoc*) remedies to address the potential for biases (Podsakoff, MacKenzie, Lee, and Podsakoff, 2003; Podsakoff, MacKenzie, and Podsakoff, 2012). This included assuring survey-takers that their responses were strictly confidential and that identities would not be published or released to anyone. I also specified that any results, if published, would only be reported in aggregate form. These initiatives alleviated the potential for social desirability and leniency biases in responses (Podsakoff et al., 2012).

In the survey, I separated scale items into multiple sections. Items related to PCCE (IV) and those related to OCB-E (DV) appeared on different pages of the questionnaire, and

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several items separated the focal items. I also designed the online layout (number of questions per screen) in such a way to make it difficult to identify the intent of the study. Further, based on Podsakoff et al.'s (2012) recommendation, items with confusing wording were revised prior to administering the dissertation survey. These actions addressed potential biases associated with item characteristics and context effects (Podsakoff et al., 2012).

Testing for Common Method Variance

After the dissertation data had been collected, I conducted statistical tests to assess whether common method variance was an issue. First, I conducted Harman's single-factor test (Podsakoff and Organ, 1986) where all the dissertation model variables were entered into an exploratory factor analysis, using un-rotated principal axis factor analysis. The first factor accounted for only 40.12% of the variance, compared with 67.12% of the variance explained by all five factors. This percentage is below the minimum of 50% of variance explained that Harmon recommends. Thus, the test did not indicate common method variance as a concern.

Then, I applied the latent method factor technique (Widaman, 1985). The test involved conducting a confirmatory factor analysis using SPSS AMOS where all substantive variable scale items were indicators of their respective theoretical latent factors as well as a single, unmeasured latent factor that was added to the analysis (Podsakoff et al., 2003). This approach does not require researchers to identify sources of method bias in a given study (Podsakoff et al., 2003). I then compared the five-factor model without the latent common method factor ($\chi^2 = 1350.608$, df = 514) with the measurement model including

the common method factor (χ^2 = 1321.121, df = 481). The decrease in chi-square ($\Delta\chi^2$ = 30.487, df = 33, p>.05) was not significant, suggesting that the addition of the latent common method factor did not significantly improve the fit of the measurement model. In addition, all factor loadings of the measurement model remained significant. Thus, this technique indicated that common method variance was not a problem in the study.

Third, I tested for common method variance with the correlation-based marker variable technique (Lindell and Whitney, 2001). Following Lindell and Whitney's (2001) recommendations, I took the following steps: (1) identified the smallest positive correlation between an *a priori* specified marker variable and the substantive variables in the model as an estimate of the effects of common method variance; (2) adjusted the zero-order correlation between every pair of substantive variables by subtracting the common method variance effect estimate from the zero-order correlation between pairs of substantive variables and dividing by the quantity of 1 minus this estimate; and (3) examined whether the resulting partial correlation was significantly different from zero. If the partial correlation remained significant, I concluded that common method variance was not an issue in the study.

For the marker variable, I selected organizational deviance (11-items, α = .81) (Bennett and Robinson, 2000), which the authors define as deviant behaviors directly harmful, in a minor or in a serious way, to the organization. Refer to Appendix D, section (4) for items in the scale. A sample item is, "I have discussed confidential company information with an unauthorized person." The organizational deviance measure was included in the dissertation survey instrument along with measures for all substantive

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variables of the study. Organizational deviance was chosen because it is similar in semantic content to criterion and predictor variables, but is theoretically unrelated to the substantive variables. Further, based on Lindell and Whitney's (2001) recommendations, the organizational deviance marker was located between predictor and criterion variables. The marker variable was not used in hypothesis testing, and a theoretical relationship to the other substantive variables was not expected.

Correlations between the marker variable, organizational deviance (M=5.71, SD=1.42) and the substantive variables were relatively low. Per Lindell and Whitney (2001), I selected the smallest positive correlation coefficient involving organizational deviance with PCCE (r=.006) for use in the partial correlation adjustment procedure. Partial correlation adjustments were then made on the inter-correlations between the substantive variables: PCCE, OCB-E, POS, EEI, and OI. The original correlations and the corrected correlations after removing common method variance are shown in Table 10. The corrected correlation coefficients were still statistically significant after common method variance was controlled.

Table 10: Assessment of Common Method Variance, Marker Method

Relationships	Original r	Corrected r
PCCE-POS	0.566**	0.563**
PCCE-EEI	0.181**	0.176**
PCCE-OI	0.557**	0.554**
PCCE-OCB-E	0.631**	0.629**
POS-EEI	0.179**	0.174**
POS-OI	0.607**	0.605**
POS-OCB-E	0.356**	0.352**
EEI-OCB-E	0.278**	0.274**
OI-OCB-E	0.463**	0.460**

Note. N=500; r denotes the zero-order correlation coefficient. ** p = .01

Taken together, the three tests provide confidence that common method variance is not a significant concern in the dissertation study.

Description of Dissertation Sample

Refer to Appendix B for descriptive details on all samples used in the dissertation. For the dissertation sample (n=500), respondents were 54.6% female and 45.4% male. Employed individuals between the ages of 30 and 49 represented the largest group (49.2%). Further, respondents were primarily Caucasian and Black/African American (81.4% and 7.8%, respectively), and had a bachelor's degree (36.8%) or less than a high school degree (21.2%). Most respondents were employed in hourly (36%) and salaried professional (39.4%) positions, and in organizations with 1 to 99 employees (29%) or 100 to 499 (20%) employees. Lastly, the majority of survey-takers work in education (16.6%), healthcare (12.8%), and retail (9.6%). This industry response trend is similar to what was found in the two pilot samples.

Descriptive Statistics and Scale Reliabilities of Dissertation Sample

The means, standard deviations, correlations and Cronbach's alpha coefficients for the final set of variables included in the dissertation analysis are presented in Table 11. All scales demonstrated good internal reliability with Cronbach's alpha values (α) $\geq$ .80, and all correlations are in the hypothesized directions.

Table 11: Means, Standard Deviations, Correlations, and Reliabilities

Means, Standard Deviations, Correlations, and Reliabilities (n=500)

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11
Age	3.87	1.28											
Job level	2.35	1.64	-0.057										
Organizational tenure	3.18	1.16	.456**	.137**									
Number of household members	2.11	0.72	-.162**	.103*	-.008								
Time worked per week (%)	60.06	22.47	-.073	.143**	.003	-.034							
Social desirability	1.64	0.22	.120**	-0.038	.075	.032	0.015						
Psychological Climate of Care for the Natural Environment (PCCE)	3.77	1.16	-.138**	.172**	.049	.177**	.101*	.126**	(.91)				
Perceived Organizational Support (POS)	4.75	1.25	-.057	.074	-.047	.165**	.016	.268**	.566**	(.87)			
Employee Environmental Identity (EEI)	3.55	0.92	.031	.015	-.049	.019	-.079	.146**	.181**	.179**	(.86)		
Organizational Identification (OI)	3.59	0.86	-0.130**	.124**	-.010	.157**	.063	0.054	.557**	.607**	.099*	(.86)	
Organizational Citizenship Behavior for the Environment (OCB-E)	2.55	1.16	-.203**	.265**	.024	.209**	.145**	0.081	.631**	.356**	.278**	.463**	(.91)

Reliabilities (Cronbach's alphas) where applicable, are listed on the diagonal

p < .05 p < .01 ***

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CHAPTER 5: RESULTS

Introduction

In this chapter, I review the results of analytic tests performed. Since seminal constructs and relationships were incorporated into the model, hypotheses were tested in progressive steps using factor analysis with SPSS AMOS version 23.0 and hierarchical multiple regression with SPSS and the PROCESS plugin (Hayes, 2013). Hypothesis 1 assessed the dimensionality of the independent variable PCCE, developed for the dissertation. Hypotheses 2 through 5 examined the model's relationships, which consider whether PCCE directly and indirectly influences OCB-E via exchange and identity processes. Tables 14 and 15 at the end of the chapter provide a summary of the hypotheses' test results.

Construct Dimensionality of Psychological Climate (PCCE)

Hypothesis 1 proposed that PCCE consists of four-dimensions, which were labeled as: (1) organizational care for the natural environment; (2) opportunities and flexibility; (3) psychological safety; and (4) openness and supportiveness to change. To test the hypotheses, I used exploratory and confirmatory factor analyses (EFA and CFA). The steps and results were detailed in Chapter 4. Pilot data (n=243) were used for the EFA, and the dissertation data (n=500) were used for the CFA. As I noted in the previous chapter, for PCCE, in the EFA, a significant number of item cross-loadings were identified. As a result, at least half of the items were dropped from the scales. In the CFA, for PCCE, a three-factor solution provided a better model fit than a four-factor or one-factor solution. Thus,

hypothesis 1 was not supported. Appendix D, section (5) highlights the initial and final set of items and dimensions for PCCE.

I reviewed the items for the three retained dimensions of PCCE along with its definition, which specifies PCCE as an employee's *sense that the organization values the natural environment beyond its instrumental benefit and supports employees in their environmental organizational citizenship efforts.* I then renamed the three dimensions to reflect what the measures attempted to tap into. The revised dimension labels are: *(1) organizational environmental support; (2) managerial environmental support;* and *(3) co-worker environmental support.* More specifically, for the first revised dimension, all four items that had been initially specified were retained for the final study. These items were adopted from the well-established *Internal Environmental Orientation* (IEO) scale (Banerjee, 2002; Banerjee et al., 2003). IEO taps into employees' views regarding how committed the organization is to environmental protection based on its willingness to incorporate environmental issues into its mission, policies, practices, and management behavior (Banerjee et al., 2003). My results indicate that dimension 1 taps into broader aspects of the organization with respect to its values and policies regarding the environment beyond its instrumental benefit.

The other two revised dimensions reflect the level of support given to employees in their environmental organizational citizenship behaviors. The second dimension of PCCE (*managerial environmental support*) consists of four items that were initially a part of dimensions 2 (opportunities and flexibility) and 3 (psychological safety). My factor analyses results indicated that respondents found several of the initial items to be

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redundant or similar in meaning. The four items that were retained represent the level of

support given to employees for environmental actions by various organizational levels (i.e.,

supervisors, middle managers). The third dimension (*co-worker environmental support*)

consists of four items. This dimension is the very similar to the fourth PCCE dimension that

was initially proposed (openness and supportiveness to change), with the exception of one

deleted item. The revised dimension taps into whether employees sense that their

organization is actually flexible and open to green behavior. That is, when employees see

their co-workers are responsive to environmental concerns, this indicates that the

organization is flexible and open to having employees introduce green initiatives and ideas.

Test of Measurement Model

Before performing tests for hypotheses 2 through 5 (model's relationships), I used

the dissertation sample to evaluate the fit of the full measurement model with CFA. The

model has five latent variables (PCCE, POS, EEI, OI, and OCB-E). Similar to what had been

done for hypothesis 1, model fit was assessed using chi-square, CFI, NNFI, SRMR, and

RMSEA fit indices. I also assessed the confidence interval for RMSEA as a way to estimate

the precision of the statistic; the interval should not include values above .08 (Kline, 2011).

As shown in Figure 4, the five-factor measurement model provided a good fit to the

data [χ^2 (514) = 1350.608, p<.001, CFI =.951, NNFI = .947, SRMR = .0602, RMSEA = .057

(.053, .061)]. Therefore, the CFA results provide evidence that the theoretical measures are

empirically distinct.

Figure 4: Results for the Five-Factor Measurement Model
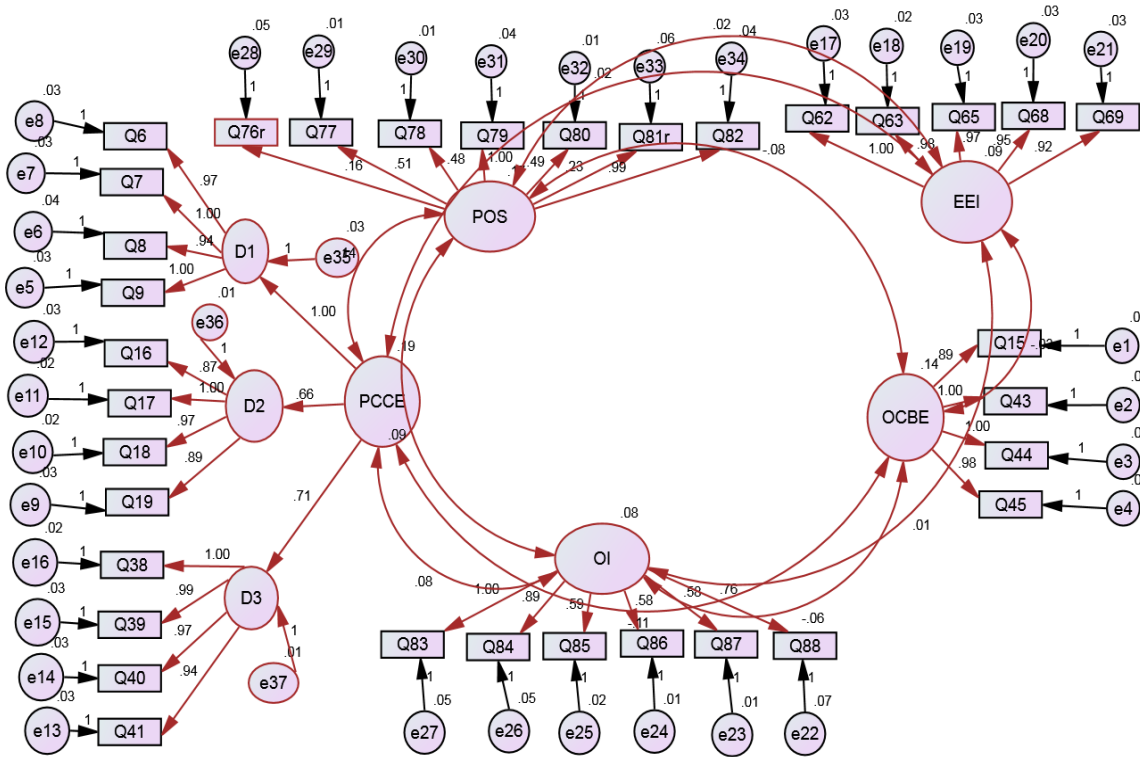
Climate (PCCE) predicts behavior (OCB-E)

Hypothesis 2 predicted that when employees perceive that their organization's climate indicates cares for the natural environment (PCCE), they are more likely to voluntarily undertake pro-environment or green behaviors on behalf of the organization (OCB-E). Using hierarchical multiple regression, the six control variables (age, job tenure, job level, percent of time doing work related activities, number of household members, and social desirability) were entered first, followed by PCCE, the independent variable. In support of hypothesis 2, results showed a significant, positive relationship between PCCE and OCB-E ($\beta = .548$, $p < .001$). Refer to Table 12 for details of regression statistics. As

predicted, employees are more apt to voluntarily participate in environmental behaviors at work when they perceived that: (1) their organization shows through its values and policies that it is concerned about environmental issues; (2) managers at all levels support employees who want to participate in OCB-Es; and (3) their organizations are open and flexible to employees with regard to green initiatives and ideas.

Table 12: Regression Results

Predictors	Standardized Regression Coefficients								
	OCB-E								
	Controls	H2	H3a ++	H3b	H3c	H4a	H4b +++	H5a	H5b+++
Controls									
No. in household	0.145***	0.081*	0.061	0.083*		0.081*	0.091**	0.064	0.072*
Current job level	0.246***	0.162***	0.023	0.163***		0.156***	0.162***	0.146***	0.151***
Time doing work activities	0.111**	0.081*	-0.031	0.080*		0.098**	0.101**	0.078*	0.076*
Age	-0.214***	-0.126***	0.047	-0.125**		-0.141***	-0.141	-0.099**	-0.110**
Tenure	0.070	0.024	-0.138***	0.019		0.036	0.034	0.022	0.015
Social Desirability	0.101*	0.020	0.163***	0.026		0.019	0.010	0.017	0.039
Model variables									
Climate (PCCE)		0.548***	.563***	0.569***		0.527***	0.554***	0.463***	0.514***
Perceived Organizational Support (POS)				-0.037			-0.023		-0.137**
Environmental Identity (EEI)						0.210***	0.169***		
Organizational Identity (OI)								.184***	0.244***
Indirect effect									
(PCCE→POS) x (POS→OCB-E)					-0.022				
95th percentile confidence Interval					[-.074, .025]				
Interactions									
PCCE x EEI						-0.171***			
PCCE x OI								0.144***	
POS x EEI							-0.104*		
POS x OI									0.045
R^2	0.184	0.454	0.388	0.455		0.510	0.484	0.496	0.487
R^2 adjusted	0.174	0.446	0.380	0.446		0.501	0.474	0.487	0.477
F	18.53	56.38	38.07	49.49		57.01	54.45	50.27	45.41
df	493	492	492	491		490	489	490	489

Notes: ++ Dependent variable is POS, not OCB-E, +++ Results of H3a are included within results of H4B and H5b (conditional interaction hypotheses)
Notes: *p < .05 **p < .01 ***p < .001

PCCE predicts OCB-E through perceptions of support (POS)

Tests of hypotheses 3a-3c assessed whether an indirect effect exists between PCCE and OCB-E through POS. Hypothesis 3a predicted a positive relationship between psychological climate (PCCE) and perceptions of support (POS). Hypothesis 3b predicted that POS influences behavior (OCB-E), and hypothesis 3c examined the relationship of PCCE to OCB-E through POS. Baron and Kenny's (1986) four-step procedure was used to establish mediation. Step 1 tests the direct effect between PCCE and OCB-E (path c). The significance of this path was identified in testing hypothesis 2. Step 2 examines the relationship between PCCE and POS (path a). Step 3 considers the path between POS and OCB-E, controlling for PCCE (path b). Step 4 assesses the relationship between PCCE and OCB-E, controlling for POS (path c-prime). To have total mediation, steps 1, 2, and 3 should be fulfilled, and c-prime should be zero (non-significant). For partial mediation, the first three steps should be met as before, but c-prime should be smaller than the absolute value of path c.

To test the hypothesis, model 4 of the PROCESS plugin (Hayes, 2013) in SPSS version 22.0 was utilized along with bias-adjusted bootstrapping (n=10,000). This form of asymmetric bootstrapping alleviates problems related to violating assumptions of normality of the sampling distribution (Hayes, 2013). I reviewed the 95th percentile confidence interval to make statistical inferences about the indirect effect (Hayes, 2013).

As Figure 5 and Table 12 illustrate, the standardized regression coefficient between PCCE and POS was statistically significant (β=.563, p<.001) (path a, step 2 met), but the coefficient between POS and OCB-E was not (β=-.037, p=.39) (path b, step 3 not met).

Further, the relationship between PCCE and OCB-E, controlling for POS was significant and larger than path c (β=.569, p<.001) (path c-prime, step 4 not met).The standardized indirect effect was -.0217. I tested the significance of this indirect effect using the bootstrapping procedures. Unstandardized indirect effects were computed for each of 10,000 bootstrapped samples, and the 95% confidence interval was computed by determining the indirect effects at the 1st and 95th percentiles. The bootstrapped unstandardized indirect effect was -0.0207 and the 95% confidence interval ranged from [-.070, .024]. Since zero was included within the confidence interval, the indirect effect was not statistically significant (Preacher, Rucker, and Hayes, 2007). Also, the normal theory (Sobel) test showed a non-significant indirect effect (β=-.0207, p=.384). Hence, hypothesis 3a was supported, but hypotheses 3b and 3c were not. Thus, the relationship between climate (PCCE) and behavior (OCB-E) is not mediated by perceptions of support (POS).

Figure 5: Mediation Results
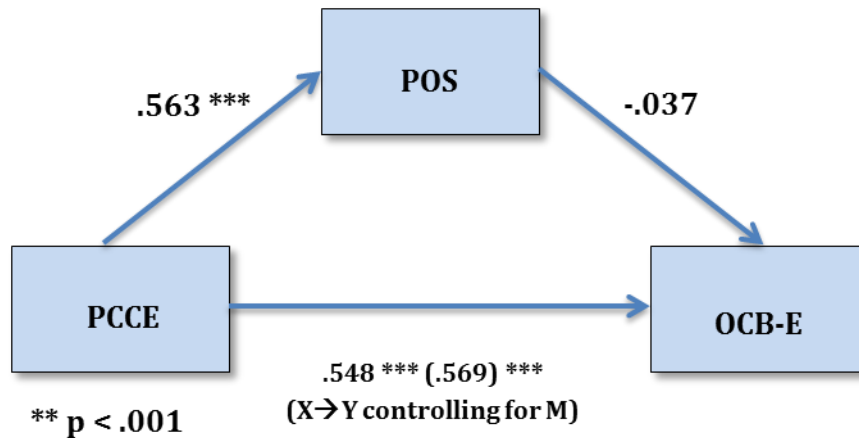
PCCE predicts OCB-E, conditional on environmental identity (EEI)

Hypothesis 4a states that a stronger positive relationship is expected between climate (PCCE) and behavior (OCB-E) when employee environmental identity (EEI) is high rather than when EEI is low. To test the hypothesis, model 1 of the PROCESS plugin (Hayes, 2013) in SPSS version 22.0 was utilized along with bias-adjusted bootstrapping with a sample size of 10,000. Standardized results (refer to Table 12) indicated that the interaction between PCCE and EEI was significant (β = -.171, p < .001).

To visually determine the direction and effects of the interaction, I followed recommendations of Aiken and West (1996) by plotting the regression weights (simple slopes) for the relationship between PCCE and EEI at one standard deviation above and one standard deviation below the mean of EEI. As Figure 6 shows, EEI strengthened the relationship in a positive direction between PCCE and OCB-E. Overall, in both weak and strong PCCE conditions, environmentally-attuned (higher EEI) employees performed OCB-

Es at a higher rate than did environmentally-indifferent (lower EEI) workers. This was especially apparent when a weak climate prevailed. In addition, the slope of the regression line associated with low EEI individuals is steeper than the slope for high EEI individuals. This suggests that as climate (PCCE) improves, employees with weaker identity responded by performing OCB-Es at an increasing rate over workers with stronger identities. Thus, environmentally-indifferent workers appear to be more influenced by changes in climate than are environmentally-attuned workers. Further, in the case where PCCE is perceived to be strong, both groups undertook OCB-Es at a similar high level. It is also evident in the graph that when PCCE is exceptionally strong, low EEI workers are likely to surpass high EEI workers in OCB-E. All in all, while the moderation relationship was significant, the relationship between PCCE and OCB-E was found to be stronger when EEI was low, rather than when EEI is high. Thus, hypothesis 4a was partially supported.

Figure 6: Interaction Effect between PCCE and EEI on OCB-E
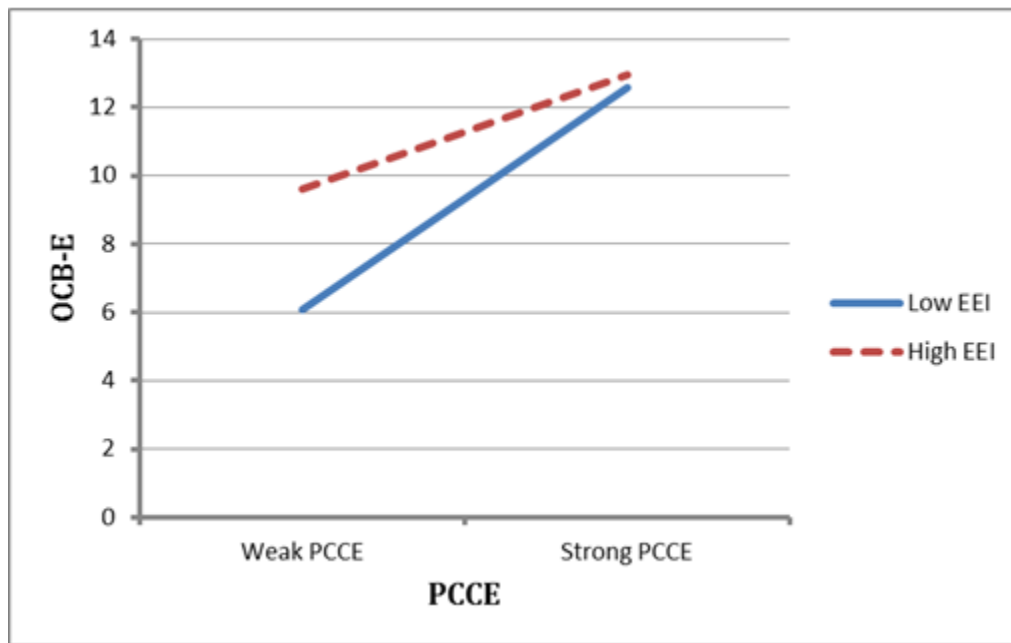
PCCE predicts OCB-E through POS, conditional on EEI

Hypothesis 4b examined the relationship between PCCE and OCB-E through POS conditioned on EEI (2nd stage moderated mediation). A conditional indirect effect is defined as "the magnitude of an indirect effect at a particular value of a moderator (or at particular values of more than one moderator)" (Preacher et al., 2007, p. 186). For testing purposes, model 14 of the PROCESS plugin (Hayes, 2013) in SPSS version 22.0 was utilized along with bias-adjusted bootstrapping with a sample size of 10,000. According to Preacher et al. (2007), in the first step, the mediator variable is regressed on the independent variable, which should be (but doesn't necessarily have to be) a significant predictor of the mediator variable. In the second step, a multiple regression is conducted that predicts the dependent variable from the mediator, moderator, independent variable, and interaction between the moderator and the mediator. The interaction effect should also be statistically significant based on a mean-centered interaction term (Aiken and West, 1996). The third and fourth steps test the conditional indirect effect of the independent variable on the dependent variable by probing specific indirect effects of the independent variable on the dependent variable at certain values of the moderator variable.

Referring to the statistical results in Table 12 and Figure 7, the first step indicates that climate (PCCE) significantly predicts perceptions of support (POS) (β=.563, p<.001). The second step yielded a significant interaction between POS and environmental identity (EEI) (β=-.104, p<.05), implying that the relationship between POS and OCB-E is moderated by EEI. I plotted this interaction following Aiken and West (1996). Figure 8 shows that POS

is associated with OCB-E under high and low environmental identities. The interaction patterns shown are similar to those presented in Figure 6 (interaction between PCCE and EEI on OCB-E).

For the third and fourth steps, I followed recommendations of Preacher at al. (2007) by plotting the standardized conditional indirect effect of PCCE on OCB-E through POS at various EEI values along with its corresponding 95% confidence band (Figure 9). I also reviewed tests of the conditional indirect effect (Table 13). As the plot and table indicate, the conditional indirect effect is only significant (zero not included in confidence band) when EEI is relatively strong (≥0.70 standard deviations above the mean) and when EEI is very weak (≥1.95 standard deviations below the mean). That is, PCCE is associated with OCB-E through POS for employees who hold either a strong environmental identity (environmentally-attuned) or a very weak identity (environmentally-indifferent). The relationship was not significant for individuals with a mid-range EEI. Further, the regression slope is negative, meaning that the effect of climate on behavior through perceptions of organizational support is stronger for employees with weaker environmental identities. On the flipside, this same effect is weaker for employees with stronger environmental identities. Practically speaking, employees with stronger EEI are less apt to undertake OCB-Es as a result of perceptions of organizational support fostered by climate (PCCE). Employees with weaker EEI are more apt to perform OCB-Es as a result of organizational support perceptions brought on by PCCE. These findings are in-line with results of testing hypothesis 4a, which identified that even though OCB-Es are undertaken at a higher overall level by workers with stronger EEI, workers with weaker environmental

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identities are more likely to translate climate perceptions into action (OCB-E) than are employees with strong identities as PCCE gets stronger. Overall, based on hypotheses 4a and 4b results, PCCE has more influence on employees with weaker EEI than on employees with stronger EEI. This is evident when considering the regression lines in Figures 6 and 8, where the slope of the low EEI condition is greater than that of the high EEI condition. These graphs show that when an organization maintains a strong PCCE, both high and low EEI individuals behave similarly, but in a weak climate, high EEI employees voluntarily undertake more OCB-Es. These findings, in partial support of hypothesis 4b, suggest that high EEI individuals may be more internally motivated to partake in OCB-E than are low EEI individuals, who may be more externally motivated (via climate and perceptions of support).

Figure 7: Conditional Indirect Effect (POS x EEI) on PCCE→OCB-E
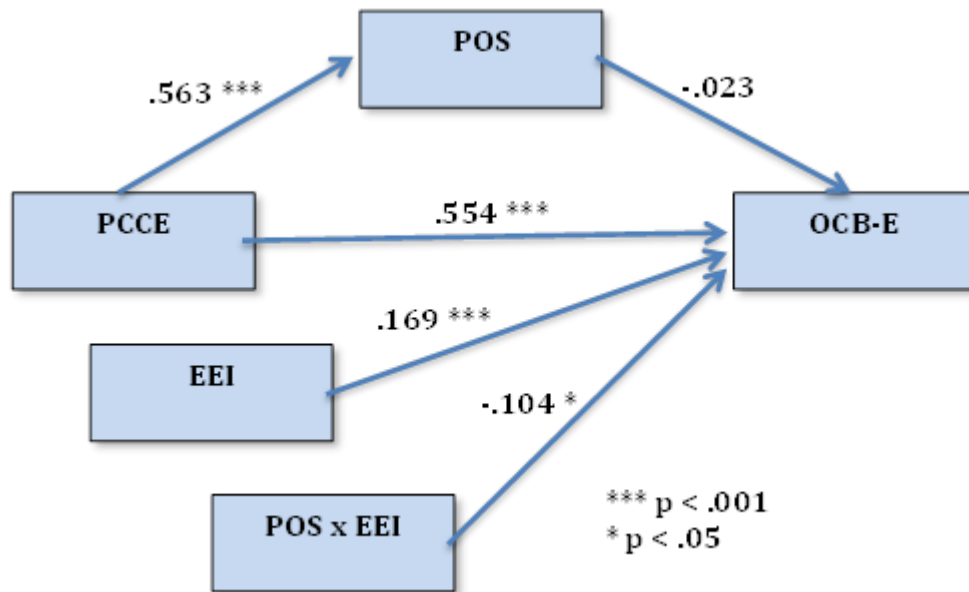
Figure 8: Interaction between POS and EEI on OCB-E
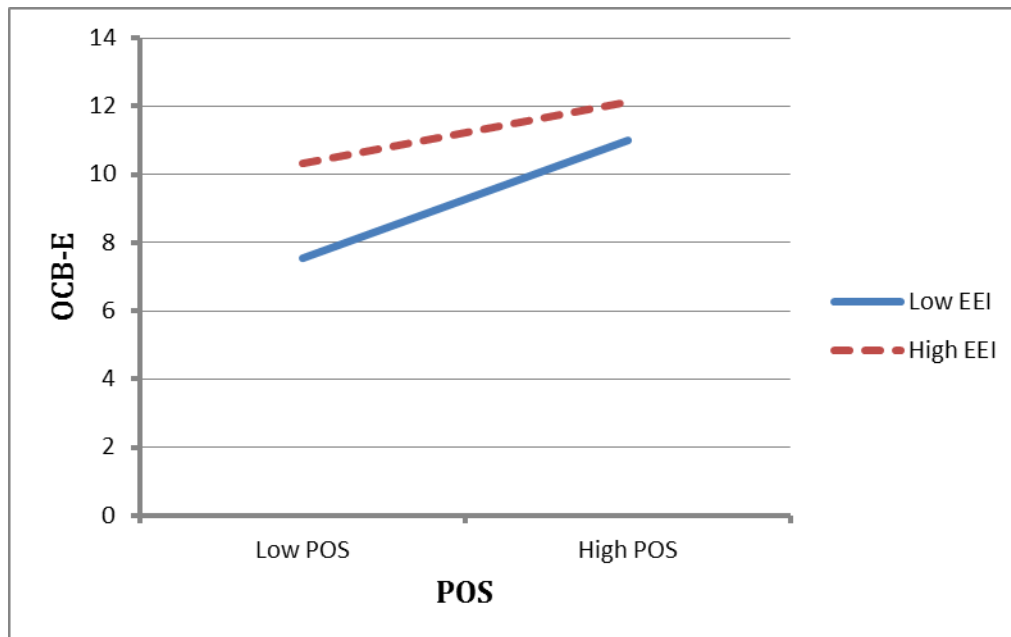
Table 13: Conditional Indirect Effects at (+1/-1 std. dev. mean) of EEI

Standardized conditional indirect effects of PCCE on OCB-E at values of the moderator (EEI)			
	Effect	**Conf. Interval**	**95% confident that population parameter within interval?**
High EEI	-0.1273	[-.2378, -.0267]	yes
Average EEI	-0.0127	[-.0580, .0303]	no
Low EEI	0.1018	[.0058, .2012]	yes

Figure 9: Conditional Indirect Effect for Values of EEI
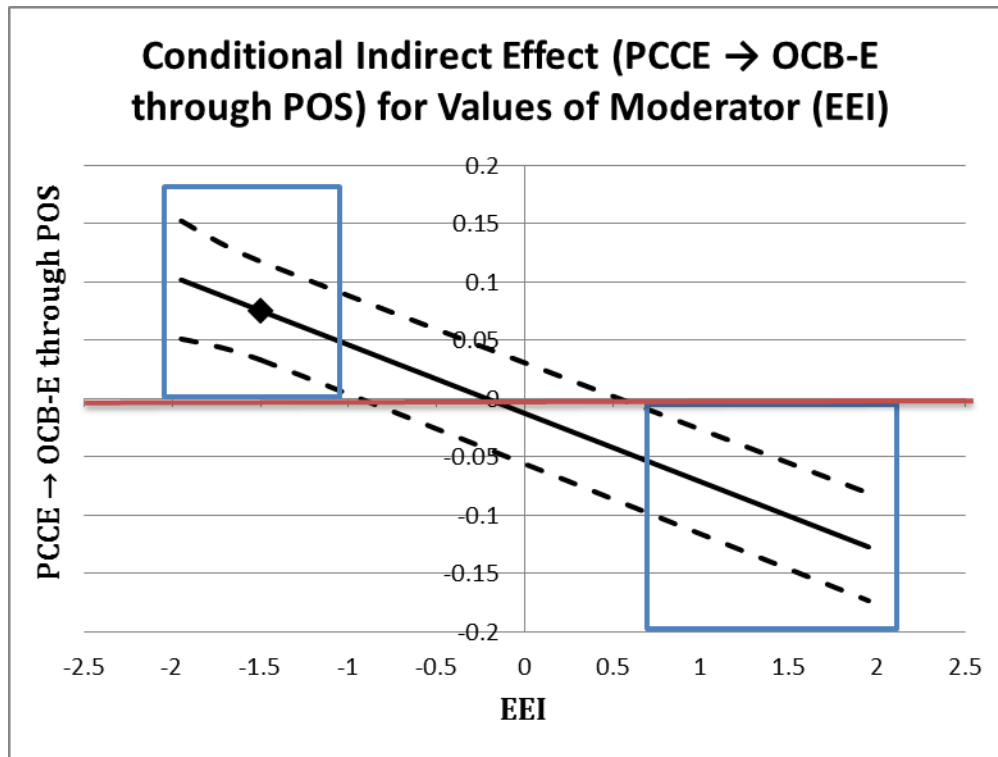
Note: Standardized values plotted. Regions of significance (highlighted in blue) are the areas that do not include zero for the mediated effect.

PCCE predicts OCB-E, conditional on organizational identification (OI)

Hypothesis 5a states that a stronger positive relationship is expected between

climate (PCCE) and behavior (OCB-E) when organizational identification (OI) is high than

when OI is low. Model 1 of the PROCESS plugin (Hayes, 2013) in SPSS version 22.0 with bias-adjusted bootstrapping (10,000 samples) was utilized. Referring to Table 12, the interaction between PCCE and OI was significant (β = .144, p < .001). I plotted the regression weights for the relationship between PCCE and OI at one standard deviation above and one standard deviation below the mean of OI (Aiken and West, 1996). As Figure 9 shows, organizational identification strengthened the relationship, in a positive direction, between PCCE and OCB-E. In support of hypothesis 5a, employees who exhibit higher levels of identification with their organization are more motivated than those with lower levels of identification to take on OCB-Es when they perceive that their organization has a climate that exhibits cares for the natural environment. Interestingly, when the climate is weak, employees with low OI or high identification voluntarily participate in OCB-Es at similar levels. Also, as PCCE improves, the rate of change of OCB-E for high identifiers increases at a faster rate than does the rate for lower identifiers. This suggests, in support of hypothesis 5a, that when a strong climate exists, employees who strongly identify with the organization voluntarily perform more OCB-Es than those who identify less with the organization.

Figure 10: Interaction Effect between PCCE and OI on OCB-E
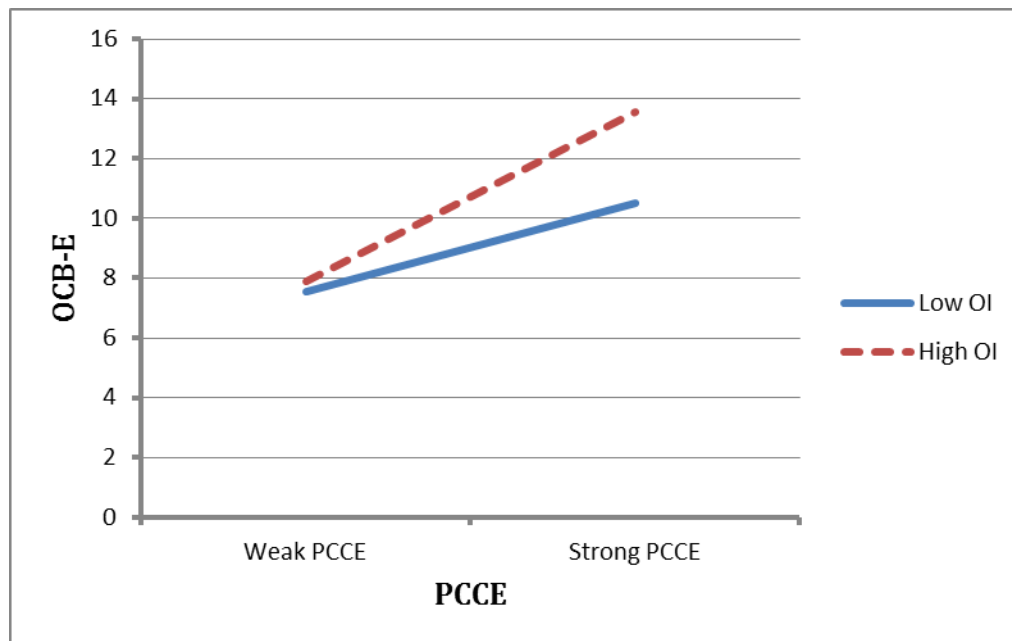
PCCE predicts OCB-E through POS, conditional on OI

Hypothesis 5b examined the relationship of PCCE and OCB-E through POS conditioned on OI. I used model 14 of the PROCESS plugin (Hayes, 2013) and procedures recommended by Preacher et al. (2007). Referring to the results in Figure 11 and Table 13, the first step indicated that climate (PCCE) significantly predicted perceptions of support (POS) (β=.563, p<.001), but the second step yielded a non-significant interaction between POS and organizational identity (OI) (β=.045, p=.096), implying that the relationship between POS and OCB-E is not moderated by OI. These findings do not support hypothesis 5b.

Figure 11: Conditional Indirect Effect (POS x OI) on PCCE → OCB-E

POS

.563 ***

-.137 **

PCCE

.514 ***

OCB-E

.244 ***

OI

.045

POS x OI

*** p < .001
** p < .01
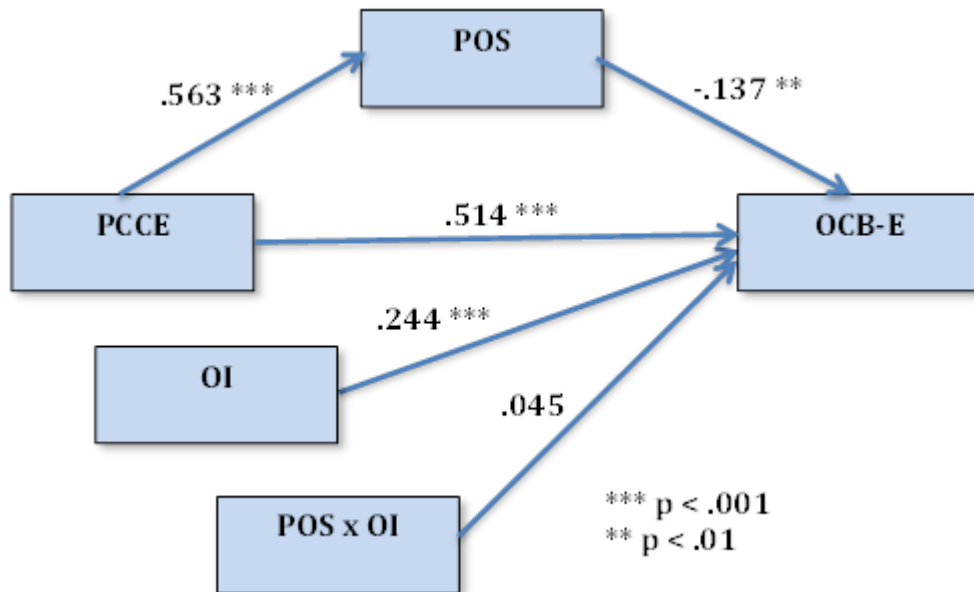
Summary of Results

In the end, three of nine hypotheses were fully supported (i.e., H2, H3a, and H5a), and two (H4a and H4b) were partially supported. This is indicated in Tables 13 and 14 and Figure 12.

Table 14: Results of Hypothesis Tests

Hypothesis 1 – PCCE will consist of four dimensions.	*3-dimensional model supported*
Hypothesis 2 - Employee perceptions of their organization's psychological climate of care for the natural environment (PCCE) will be positively associated with OCB-E.	*Supported*
Hypothesis 3a - Employees' perceptions of their organization's psychological climate of care for the natural environment (PCCE) will be positively associated with perceived organizational support (POS).	*Supported*
Hypothesis 3b - Perceived organizational support (POS) will be positively associated with OCB-E.	*Not Supported*
Hypothesis 3c - The relationship between psychological climate of care for the natural environment (PCCE) and OCB-E will be mediated by perceived organizational support (POS).	*Not Supported*
Hypothesis 4a - The relationship between psychological climate of care for the natural environment (PCCE) and OCB-E will be moderated by employee environmental identity (EEI) such that the relationship between PCCE and OCB-E will be stronger when EEI is high rather than when EEI is low.	*Partially Supported*
Hypothesis 4b - The mediation relationship between PCCE and OCB-E through perceived organizational support (POS) will be moderated by employee environmental identity (EEI) such that the relationship between POS and OCB-E will be stronger when EEI is high rather than when EEI is low.	*Partially Supported*
Hypothesis 5a - The relationship between psychological climate of care for the natural environment (PCCE) and OCB-E will be moderated by organizational identification (OI) such that the relationship between PCCE and OCB-E will be stronger when OI is high rather than when OI is low.	*Supported*
Hypothesis 5b - The mediation relationship between PCCE and OCB-E through POS will be moderated by organizational identification (OI) such that the relationship between POS and OCB-E will be stronger when OI is high rather than when OI is low.	*Not Supported*

Figure 12: Significant Relationships in the Model
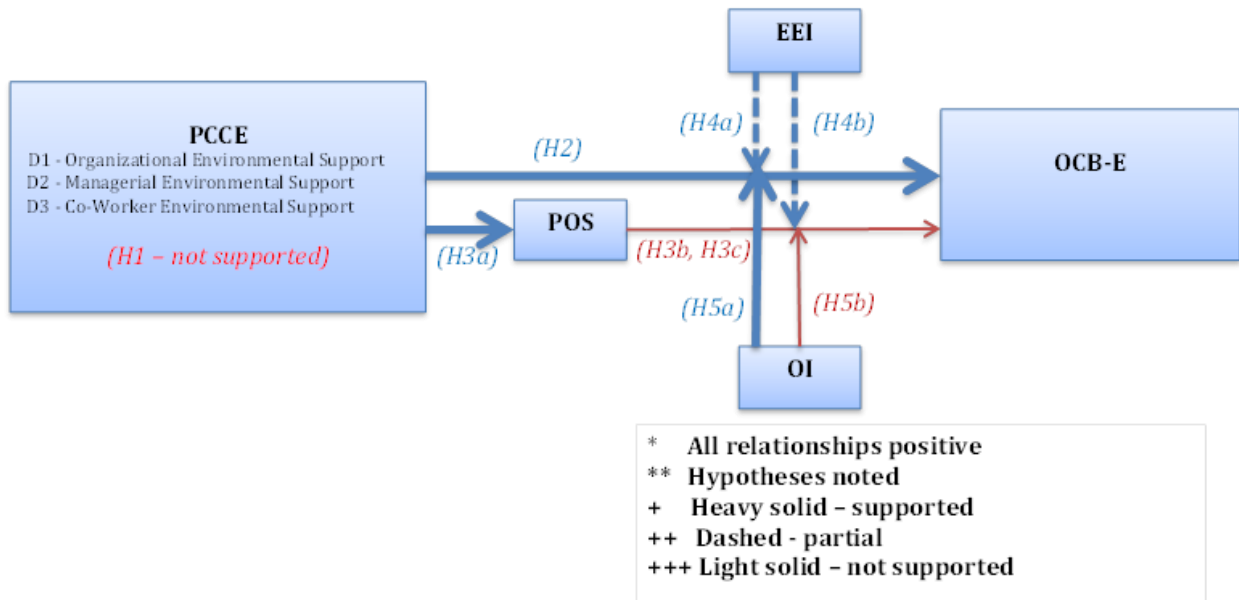
Post Hoc Analyses

Post hoc analyses A and B are discussed in this section. The first analysis considers why the mediation relationship (hypothesis 3) was non-significant. The second examines whether more variance in OCB-E is explained when employee environmental identity is simultaneously examined as a moderator both in the relationship between PCCE and OCB-E and the mediation relationship between PCCE and OCB-E through POS.

Post Hoc Analysis A

To gain a better understanding regarding why the mediation relationship between PCCE and OCB-E through POS was not significant, I investigated whether the reverse relationship between PCCE and POS was more probable. That is, do organizational support perceptions influence climate perceptions, and does this relationship affect OCB-E? I also examined how this reversed association affected the moderation and moderated mediation

relationships that were proposed in the dissertation. Essentially, instead of modeling climate as a distal determinant of OCB-E, the post hoc assessment examines POS as a distal determinant of OCB-E.

Table 15 details the post hoc results. These can be compared against the dissertation results in Table 12. Interestingly, when POS and PCCE are reversed, all of the hypotheses became significant. For instance, support was found for the direct relationship between POS and OCB-E (R^2 adjusted=.256); POS and PCCE (R^2 adjusted = .379); and PCCE and OCB-E (R^2 adjusted = .446). Also, the mediation relationship between POS and OCB-E through PCCE was significant, as were all of the moderation and moderated mediation associations.

These findings coupled with the dissertation findings confirm that even when PCCE and POS are interchanged, a significant association between the two constructs still exists, where the change in model fit and beta values is nominal (ΔR^2 adjusted= .001; $\Delta \beta$ = .001). Also, PCCE and EEI have the strongest associations with OCB-E. Perception of support (POS), on the other hand, is a significant, yet weaker or more distal predictor of OCB-E. Thus, POS may be more likely to work through PCCE to predict OCB-E. The suggestion of causality between the model variables though should be taken with caution because of the cross-sectional nature of the data.

Table 15: Post Hoc Analysis A Results

Predictors	Standardized Regression Coefficients								
				OCB-E					
	Controls	POS→OCB-E	POS→PCCE	PCCE→OCB-E	Indirect	POS→OCB-E, mod EEI	Cond Int. (mod EEI)	POS→OCB-E, mod OI	Cond Int. (mod OI)
Controls									
No. in household	0.145***	0.109**	0.045	0.083*		0.117**	0.082*	0.088*	0.068*
Current job level	0.246***	0.215***	0.092*	0.163***		0.211***	0.156***	0.191***	0.146***
Time doing work activities	0.111**	0.111**	0.054	0.08*		0.134***	0.098**	0.100**	0.075*
Age	-0.214***	-0.201***	-0.135**	-0.125**		0-0.219***	-0.141***	-0.170***	-0.093*
Tenure	0.070	0.096*	0.134**	0.019		0.114**	0.035	0.078	0.011
Social Desirability	0.101*	0.031	0.009	0.026		0.009	0.020	0.049	0.035
Climate (PCCE)				0.569***			0.531***		0.501***
Perceived Organizational Support (POS)		.284***	.564***	-0.0368		0.284***	-0.006	0.092	-0.110*
Environmental Identity (EEI)						0.211***	0.210***		
Organizational Identity (OI)			0.320916					0.364***	0.230***
Indirect effect									
(POS→PCCE **x** PCCE→OCB-E)					0.321				
Confidence Interval					[.238, .417]				
Interactions									
POS x EEI						-0.088*			
POS x OI								0.074*	
PCCE x EEI							-0.170***		
PCCE x OI									0.127***
R²	0.184	0.506	0.387	0.455		0.298	0.510	0.334	0.502
R² adjusted	0.174	0.256	0.379	0.446		0.285	0.500	0.322	0.491
F	18.53	24.22	44.53	49.48		29.62	52.04	28.33	46.65
df	493	492	492	491		490	489	490	489

Notes: ++ Dependent variable is PCCE, not OCB-E, +++ Results of H4a are included within results of H5B and H6b (conditional interaction hypotheses)

Notes: *p < .05 **p < .01 ***p < .001

Post Hoc Analysis B

Regarding employee environmental identity (EEI), to gain a better understanding of the moderated mediation results (hypothesis 4b) in light of the simple moderation results (hypothesis 4a), I performed a post hoc test to examine whether EEI simultaneously moderated the (1) relationship between PCCE and OCB-E, and (2) mediation relationship between PCCE and OCB-E though POS. In effect, hypotheses 4a and 4b were considered together using SPSS PROCESS macro, model 15 (Hayes, 2013). Results of post hoc test B are listed in Table 16. When analyzed simultaneously, the simple moderation relationship (PCCE to OCB-E conditional on EEI) remained significant, but the moderated mediation

relationship (PCCE to OCB-E through POS conditional on EEI) did not. This finding, along with the dissertation results, confirms the importance of environmental identity with regard to how employees perceive and respond to climate (PCCE). When compared with other model relationships, the interaction between PCCE and EEI explains a majority of the variance in OCB-E.

Table 16: Post Hoc Analysis B Results

Predictors				Standardized Regression Coefficients
				OCB-E
				Post hoc B
Controls				
			No. in household	0.081***
			Current job level	0.155***
		Time doing work activities		0.097**
			Age	-0.141***
			Tenure	0.035
			Social Desirability	0.02
Model variables				
			Climate (PCCE)	0.529***
	Perceived Organizational Support(POS)			-0.007
		Environmental Identity (EEI)		0.209***
		Organizational Identification (OI)		
Indirect effect				
	(POSE→PCCE) x (PCCE→OCB-E)			
	95th percentile confidence Interval			
Interactions				
			PCCE x EEI	-0.181***
			PCCE x OI	
			POS x EEI	0.024
			POS x OI	
			OI x EEI	
			R^2	0.510
			R^2 adjusted	0.499
			F	47.22
			df	488

Notes: $*p < .05$ $**p < .01$ $***p < .001$

CHAPTER 6: DISCUSSION AND CONCLUSION

In the final chapter, I review the empirical results of the relationships proposed in the research model. I also discuss the theoretical and practical implications of the work, along with limitations and suggestions for future research.

Discussion

The purpose of the dissertation was to contribute to the nascent literature on what constitutes and drives voluntary pro-environmental employee behavior in the workplace, an essential input for organizational sustainability efforts. Similar to what others have done (e.g., Paillé, Boiral, and Chen, 2013), I modeled green workplace behavior as a form of organizational citizenship behavior (OCB-E). OCB-E is a relatively new construct so consensus is lacking with regards to its conceptualization and the primary organizational (contextual) and individual (employee) factors that influence the behavior. A few frameworks outlining potential green workplace behavior antecedents have been proposed (e.g., Daily et al., 2009; Ramus and Killmer, 2007). These have encouraged empirical examination into what motivates OCB-E (e.g., Lamm et al., 2013). At this point, this research is limited, but evolving (refer to Figure 3 for an overview).

For my study, I applied psychological climate, social exchange, and identity perspectives to the corporate social responsibility and sustainability arenas by identifying potentially significant, but under-researched individual and organizational factors that could influence OCB-E. These factors include: (1) pro-environmental psychological climate (PCCE) and employee environmental identity (EEI), which relate to an individual's relationship with the natural environment; and (2) perceptions of organizational support and organizational identification, which relate to an employee's relationship with his/her

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organization. The overall research question I addressed was, "*Do employees' perceptions of their organizations' psychological climate of care for the natural environment (PCCE) directly and/or indirectly motivate them to voluntarily undertake organizational citizenship behaviors toward the natural environment (OCB-E)?*"

Summary of Findings

To examine the research question, five relationships were proposed in the dissertation model (refer to Figure 1). Nine hypotheses were developed to examine these relationships. Of these, three were fully supported, and two were partially supported. Figure 12 shows the dissertation model with significant associations highlighted.

Organizational Citizenship Behavior toward the Natural Environment (OCB-E)

The outcome of interest, OCB-E, was designed to consist of affiliative- and/or change-oriented behaviors. Affiliative behaviors were conceptualized as supporting social relations and norms of existing systems, while change behaviors were viewed as promoting changes to existing systems. Either behavior could occur, but I speculated that change-oriented behaviors might be more likely to occur in traditional organizations since fewer sustainability strategies could be in place. To measure OCB-E, a one dimensional scale with eight adapted items was initially specified; four questions for each form of behavior (refer to Table 5). Factor analyses resulted in four of eight items being retained for the final scale.

The retained questions, which were designed to be broad in nature, relate primarily to suggestion-making and voluntary participation in organizationally-sanctioned environmental activities. One of the retained items was initially developed to tap into affiliative-oriented behavior. The other three were designated to tap into change-oriented

behavior. A possible explanation for why more change-oriented OCB-E questions were retained is that the organizations that survey takers worked for had limited sustainability initiatives in place. Another possibility is that the three items initially designated for change-oriented OCB-E might actually represent affiliative behavior. In the study, information was not gathered on actual sustainability practices in respondents' organizations. I only measured respondents' climate perceptions (PCCE). A pro-environmental climate (i.e., strong PCCE) does not necessarily guarantee that a sustainability infrastructure is in place. An organization may have few sustainability measures, but employees could still perceive the organization as having a climate that is supportive of the environment and green behavior. Alternatively, an organization may have many sustainability initiatives in place, but the climate (PCCE) could be weak (i.e., employee perceive that the organization doesn't truly support the environment and green behavior). Ideally, a strong climate coupled with a solid sustainability infrastructure should be most effective in supporting all forms of OCB-E. Thus, if an organization maintains a solid sustainability infrastructure and a strong PCCE, then the three items could be interpreted as affiliative behaviors aimed at supporting existing systems. Alternatively, if a sustainability infrastructure is not in place but PCCE is strong, then the three items could reflect change behaviors aimed at revising existing systems. To further develop the OCB-E construct introduced in the dissertation, it may be fruitful to collect data on actual environmental sustainability practices being implemented by organizations that survey-takers work for. This will provide more insights into how green behaviors can be categorized (i.e. affiliative versus change-oriented).

Overall, though, the final OCB-E measure reflects what I consider to be "low stakes" behaviors (i.e., providing suggestions; participating in organizationally-sanctioned activities) because they require limited employee effort and/or risk to perform. That is, it takes less effort to suggest an idea than it does to actually implement an idea. It is less risky to participate in an organizationally-approved activity than it does to participate in one that is not organizationally recognized. Some may argue that low stakes OCB-Es have limited impact on sustainability efforts and hence, are not worthy of further study. I would contend, though, that they are important to study because low stakes OCB-Es generally precede action-oriented OCB-Es (e.g., implementing an environmental idea). This may especially be true in organizations where climate (PCCE) is strong, but actual sustainability efforts are not. In many ways, low stakes OCB-Es could be viewed as "canaries in the coal mine" that signal how satisfied employees are with their organization's current environmental sustainability efforts. When managers pay attention to the types of low stakes OCB-Es being performed and the frequency with which they are performed, proactive steps could be taken to improve environmental sustainability efforts.

Psychological Climate (PCCE) and Social Exchange Processes

Psychological of climate of care toward the natural environment (PCCE), which was developed for the study, was modeled as a primary determinant of OCB-E. Hypothesis 1 considered the dimensionality of PCCE. Initially, four dimensions were proposed; in the end, three were retained. Each of the three equally weighted subscales consists of four items (refer to Table 4). As I explained in the Chapter 5 *Results* section, proposed dimensions 2 (opportunities and flexibility) and 3 (psychological safety) consisted of items

that cross-loaded. This resulted in redundant items being dropped. Upon review, these questions had considerable overlap with regard to what they were attempting to tap into. Thus, even though hypothesis 1 was not supported, the three-dimensional climate construct provided an optimal fit for the model. Overall, PCCE consists of organizational factors that encourage voluntary extra-role green behaviors in the workplace. The factors are: 1) organizational values and policies regarding the environment beyond instrumental benefit (labeled as *organizational environmental support*); 2) support given for environmental actions by various management levels (labeled as *managerial environmental support*); and 3) organizational willingness to be flexible toward and open to environmental ideas and initiatives (labeled as *co-worker environmental support*).

For the first set of model relationships, I considered whether climate (PCCE) would, directly and/or indirectly, influence voluntary green behavior (OCB-E). As expected, for the direct relationship (hypothesis 2), climate was positively associated with OCB-E. For the indirect relationship though, climate was positively associated with perceptions of organizational support (POS), but POS did not mediate the relationship between climate (PCCE) and behavior (OCB-E) (hypothesis 3).

Thus, while evidence of a direct association between climate and behavior and climate and POS was found, evidence of a social exchange process occurring between PCCE and OCB-E through POS was not. The results demonstrate that pro-environmental climate perceptions have a strong influence on voluntary green behaviors at work. They also support my assumption that employees subconsciously equate a strong pro-environmental climate (PCCE) with an overall sense of procedural fairness and ethical treatment, and that

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these qualities could encourage broader perceptions of support. This finding is interesting and worthy of further study since few OCB-E studies, with the possible exception of Paillé, Boiral, and Chen (2013), consider the potential link between general support perceptions and a sustainability-supportive context and its relationship to voluntary pro-environmental behavior at work. In particular, future work can incorporate measures of procedural fairness and ethical treatment to gain a better understanding of the intermediary processes between PCCE and OCB-E.

As I discussed in post hoc analysis A, a possible reason for the non-significant mediation relationship is that the relationship between PCCE and POS may be reversed. That is, a social exchange relationship exists whereby employees who feel supported by the organization are apt to view its environmental climate (PCCE) more favorably and respond by voluntarily performing green citizenship behaviors. An alternate explanation for the non-significant mediation is that other psychological processes may be affecting the relationship between POS and OCB-E. As noted in Figure 3, other researchers have begun to study the relationship between POS and OCB-E through variables such as affective commitment and job satisfaction. I did not examine these types of intermediary variables, but I did assess whether different forms of identity interacted with POS to influence OCB-E. In the future, efforts could be made to examine the relationship of POS and OCB-E through PCCE by taking into account other intervening variables that may be influencing this relationship.

Identity Processes

Hypotheses 4 and 5 proposed the simple interaction and second-stage moderated mediation effects of climate (PCCE) on behavior (OCB-E) through support perceptions (POS) conditioned on two forms of identity, environmental identity (EEI) (i.e., form of personal identity) and organizational identification (OI) (i.e., form of social identity).

Partial support was found for the relationship of PCCE and OCB-E conditioned on EEI (hypothesis 4a). Employees with environmentally-attuned identities (high EEI) performed OCB-Es at a higher level than did employees who held environmentally-indifferent identities (low EEI). This was especially the case in a weak climate. More interestingly, contrary to my prediction, as climate improved, performance of OCB-Es by low EEI employees increased at a faster rate than did that by high EEI employees. Also, when PCCE was strong, both groups undertook OCB-Es at a similarly high level, and when PCCE was exceptionally strong, it could be extrapolated that low EEI employees would surpass high EEI individuals in performing OCB-Es. Essentially, PCCE appears to have more influence on individuals with lower EEI than it does on individuals with higher EEI.

Identity perspectives may provide an explanation for these findings. For one, self-verification processes could be at play (Deaux and Burke, 2010; Stets and Burke, 2000). In the case of weak PCCE, high EEI employees may be performing more OCB-Es in an effort to validate their self-meanings and improve their sense of person-organizational fit for self-evaluation enhancement purposes (i.e., improved self-esteem, self-worth, etc.). Low EEI workers, on the other hand, may be behaving in ways that are consistent with their identities (i.e., by taking on fewer OCB-Es). In the strong PCCE scenario, high EEI employees

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may experience identity self-verification and a sense of person-organizational fit more readily, so they may not feel motivated to perform OCB-Es as often. Also, in this context, low EEI employees are participating in OCB-Es and the organization as a whole is more proactively addressing the environment so high EEI employees would have fewer opportunities or incentives to perform such behaviors. Also, low EEI employees could be undertaking more OCB-Es due to an increased sense of pride that a strong PCCE could impart. Overall, these findings support the conclusion that having a supportive climate that cares about the natural environment is important in motivating all employees to voluntarily perform OCB-Es. In particular, a strong climate is needed in order to motivate employees who identify less with the environment.

The relationship of PCCE and OCB-E conditioned on OI was significant (hypothesis 5a). As expected, employees who strongly identified with their organizations were more apt to undertake OCB-Es than were employees who weakly identified with their organizations. More interestingly, in a weak climate (PCCE), both low and high identifiers participated in OCB-Es at a similar low level. But as climate improved, employees who identified strongly with their organizations increases OCB-E performance at a faster rate than did employees with weak organizational identification. These results, in conjunction with earlier findings, highlight the importance of a pro-environmental climate (PCCE) for citizenship-type green behavior (OCB-E). This especially appears to be the case for employees who strongly identify with their organizations. Strong identifiers may be motivated to perform OCB-Es in order to see their organizations succeed against

competitors (Dutton, Dukerich, and Harquail, 1994), or they may be interested in personal success since the organization may reflect themselves (Mael and Ashforth, 1992).

For the moderated mediation hypotheses (H4b and H5b), the relationship between PCCE and OCB-E through POS conditioned on organizational identification (OI) was not significant (hypothesis 5b), but the relationship between PCCE and OCB-E through POS conditioned on environmental identity (EEI) was partially significant (hypothesis 4b). A possible explanation for the non-significance of hypothesis 5b can be drawn from post hoc analysis A, where hypothesis 5b was found to be significant. This implies that OCB-E is more likely to be influenced primarily by the interaction between identification (OI) and PCCE rather than by the interaction between support perceptions (POS) and OI.

With regards to hypothesis 4b, PCCE was associated with OCB-E through POS only for employees who held either a strong environmental identity (environmentally-attuned) or a very weak identity (environmentally-indifferent). Overall, high EEI workers performed OCB-Es at a higher level than did low EEI workers, but more interestingly, the effect of climate on behavior through perceptions of organizational support was stronger for employees with weaker environmental identities than it was for employees with stronger environmental identities. That is, environmentally-indifferent employees were more likely, compared to environmentally-attuned employees, to perform OCB-Es at a higher rate as a result of organizational support perceptions (POS) brought on by climate perceptions (PCCE). These results are comparable to the simple moderation results of PCCE and OCB-E conditioned on EEI (hypothesis 4a). As I noted in post hoc analysis B, when hypotheses 4a and 4b were simultaneously tested, only results for hypothesis 4a were significant. This

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suggests that environmental identity (EEI) is more likely to interact with climate perceptions (PCCE) over general support perceptions (POS) in predicting OCB-E. It also indicates that EEI and PCCE may be proximal predictors of OCB-E, while POS may be a distal predictor.

Implications for Research and Practice

Theoretical Implications and Directions for Future Research

This study sought to advance our understanding of employee green citizenship behavior (OCB-E) and its determinants. The present findings make four theoretical contributions, which provide a number of potential avenues for future research. To begin, the overall contribution lies in the expansion of existing social exchange based models of OCB-E through the inclusion of psychological climate, personal identity, and organizational identification perspectives. Craddock, Huffman, and Henning (2012) highlight the need for more research on social exchange explanations for green workplace behavior, and Ones and Dilchert (2012) recommend the application of multiple theoretical lenses. By addressing these concerns, the present research makes an important contribution to the literature. Even though the social exchange relationship between PCCE and OCB-E through POS was not significant, future efforts could examine the relationship of PCCE and OCB-E through POS by taking into account other intervening variables (e.g., job satisfaction, affective commitment) that may affect this relationship. In addition, longitudinal data could be collected to examine whether the relationship between PCCE and POS is reversed. That is, POS may influence OCB-E through PCCE.

Second, the dissertation introduces psychological climate of care for the natural environment (PCCE) and demonstrates that PCCE is a key antecedent of OCB-E. Climate has received little attention in the sustainability literature with the exception of Norton et al. (2012; 2014), who developed green work climate (GWC); a form of organizational climate. Building on their efforts, PCCE was developed as a form of psychological climate. Unlike GWC, PCCE is associated with the individual level in terms of theory, measurement, and analysis, which makes it appropriate to apply in the context of OCB-E, an individual-level construct. PCCE incorporates a number of factors relevant to environmental sustainability; factors that were proposed in conceptual models of green behavior determinants (e.g., Daily et al., 2009). PCCE factors not only take into consideration the broader aspect of organizational values, they also address functional aspects including supervisory support, flexibility, and openness when it comes to green behavior. In the study, PCCE was significantly associated with perceptions of organizational support. This is an important finding because it shows that a social exchange relationship exists between the two constructs. PCCE was also found to be strongly associated with OCB-E. Since PCCE is a new construct, further work should be done to validate PCCE and differentiate it from similar constructs such as green work climate. In addition, more reliability testing should be done, and to assess its robustness, PCCE could be examined in relation to other forms of employee green behavior defined in the literature.

Third, my dissertation makes an important contribution to the green citizenship behavior literature by demonstrating that personal and social identity processes play roles in influencing the behavior. These relationships have not been examined in prior work.

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Environmental identity (EEI), a form of personal identity, can impact the way employees interpret and respond to their organizations' stance regarding environmental sustainability. Organizational identification also has an impact, but the underlying reasons require further assessment. I had speculated that feelings of pride or competitiveness associated with OI encourage OCB-E in response to PCCE. To test this proposition, data could be collected on these variables. With regard to environmental identity, employees with stronger identities responded more favorably to a pro-environmental climate by performing OCB-Es. The assumption was that a strong PCCE supports identity verification processes for those with a strong EEI. To examine this further, the dissertation model could be extended by incorporating measures of identity verification. For my other finding, which was that employees with low EEI increased performance of OCB-Es at a greater rate than did high EEI individuals as PCCE improved, I had speculated that low EEI employees might be driven by feelings of pride in performing OCB-Es as climate improved. This suggests that PCCE may either elicit feelings of organizational identification or be affected by identification. To examine this further, research could consider the ways in which both EEI and OI interact with PCCE to influence OCB-E.

Fourth, the dissertation offers a useful extension to existing conceptualizations of OCB-E by reframing the behavior broadly as consisting of affiliative and/or change-oriented activities. Specifically, it was found that employees are more likely to take on low-stakes OCB-Es, such suggestion-making and participation in green volunteer activities, when PCCE, EEI, and OI are stronger. As OCB-E is an evolving concept, future work should be done to develop a more robust measure. As I mentioned earlier, one suggestion is to

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collect data on environmental sustainability practices being implemented by organizations

of respondents. This can provide direction on how to further distinguish between

affiliative- and change-oriented forms of OCB-E. Another idea for further developing the

OCB-E scale is to include more items to assess affiliative- and change-oriented behaviors.

Items could be developed based on the OCB literature and from input from organizational

managers and employees.

Managerial Implications

Environmental sustainability efforts can be more effective when employees

voluntarily undertake behaviors that benefit both the organization and the environment.

Instead of being designed into work roles, green behaviors that are performed voluntarily

can be more efficient and cost-effective for organizations, and more engaging and

meaningful to employees. As my dissertation results allude to, managers can take a number

of steps to support these types of behaviors.

First, it should be recognized that employee perceptions matter. Psychological

climate represents the way each employee interprets various aspects of his or her

surroundings. Specifically, PCCE reflects both strategic and functional aspects of the

organization with regard to its position on the environment and green actions taken by

employees. Organizations may have sustainability initiatives in place (e.g., recycling bins,

paperless delivery, lights out policies, signs encouraging green actions, volunteer events),

but if employees perceive that the organization places little value on the environment and

is not supportive, flexible, and open to green ideas and initiatives (i.e. weak PCCE),

individuals are less likely to voluntarily undertake green behaviors that could benefit the organization. Ideally, organizations should focus on developing a strong climate (PCCE) coupled with a solid sustainability infrastructure to increase opportunities for OCB-Es.

Second, managers should be aware that identity processes can affect an individual's willingness to perform OCB-Es. The present findings show that OCB-E is associated with an employee's environmental identity and how strongly he or she identifies with the organization. While it may be difficult to directly assess these forms of identity, they could be inferred indirectly based on employee attitudes and actions. Managers who have an intimate knowledge of their employees are more likely to be able make this assessment.

Consider that organizational sustainability efforts could be improved when employees' environmental identities are known. For example, employees who are environmentally-attuned (high EEI) could be asked to serve in sustainability-related leadership roles, where they are more likely to have a significant impact. Alternatively, environmentally-indifferent (low EEI) employees may be more encouraged to perform OCB-Es if they are given more supervisory support or less risky opportunities to take green actions. . Sustainability efforts could also be improved when consideration is given to how well employees identify with the organization. My research found that PCCE and identification (OI) impact each other, and that this interrelationship influences employee green citizenship behavior. While the dissertation didn't explicitly examine this, a strong PCCE may be indicative of other positive aspects of an organization that can be linked to its image (e.g., competitive, ethical, being proactive) that could promote employee identification. Organizations should take this into consideration and think strategically

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about how a strong PCCE could be leveraged in such a way that it has a positive impact on both OCB-E and OI.

Lastly, if organizations are interested in improving their sustainability efforts, managers should be attuned to OCB-Es with regard to who is performing them, what types are being performed (i.e., change, affiliative), and the frequency of behaviors. These specifics associated with OCB-E can predict an organization's environmental sustainability "health." As noted earlier, low stakes OCB-Es could be viewed as "canaries in the coal mine" that signal how satisfied employees are with their organization's current environmental sustainability efforts. When managers pay attention to the types of low stakes OCB-Es being performed and the frequency with which they are performed, proactive steps could be taken to improve environmental sustainability efforts.

Limitations

As is the nature of all research, aspects of my study warrant some caution and offer avenues for future research. First, the exclusive use of self-report data from employees collected through a paid survey administration service may skew results due to common method bias by creating inflated correlations among constructs (Podsakoff et al., 2012). However, I attempted to minimize the potential for common method variance during the survey design and administration phases, and I controlled for social desirability, which was found to be non-significant. I also ran a number of statistical tests to check for bias concerns. The results indicated that common method bias was not a major issue in the study. Nevertheless, efforts should be made in future work to gather information using multiple methods. For instance, focus groups or objective sources could supplement surveys, and data on the predictors and criterion variables could be obtained from different sources (employees and supervisors). Alternatively, input on OCB-E could be collected from employees as well as their supervisors or co-workers. In addition, to improve the possibility of publishing in high quality journals, samples collected using paid services should be supplemented with other forms of collection. For instance, employees and supervisors who work for specific organizations could be sampled. Data from two or more sample sets collected using different methods will add further rigor to future work.

Second, it should be cautioned that the cross-sectional nature of this research precludes any causal inferences from being made. To allow for causal inference, future research should go beyond the constraints of the cross-sectional data used in the current study and include longitudinal or time series data. Additionally, as I noted above,

supervisor or co-worker evaluations of OCB-E would be useful to collect. Conducting longitudinal studies could allow researchers to consider the possibility of reverse causal ordering. Specifically, a reverse causal model, where perceptions of organizational support influence climate perceptions (PCCE) and subsequent behavior (OCB-E), can be examined. Finding support for such a model would imply that maintaining positive relationships with employees on a broader level influences their views on their organization's environmental sustainability position and their future willingness to voluntarily undertake OCB-Es.

Third, data were collected across a variety of organizations and industries, leaving it difficult to isolate any cross-level effects on employees' behaviors. Future work could focus on gathering data from select organizations within a particular industry so that these effects are more apt to be identified.

Finally, although reliability and validity testing were performed for PCCE and OCB-E, which are unique constructs to this study, further testing using more samples is needed in order to assess the stability and generalizability of these constructs over time and across contexts.

Conclusion

For many organizations, engaging employees in environmental sustainability efforts has become a necessity. But research on the topic is nascent, and limited guidance has been offered to managers on how to effectively implement sustainability measures through employee cooperation. In the dissertation, my interest was to extend nascent research on the topic in order to assist practitioners in gaining a better understanding of what motivates employees to voluntarily undertake green behaviors outside of their job role that benefit both the environment and the organization's sustainability efforts.

In this regard, I built on existing social exchange models of employee green behavior by defining the behavior as an organizational citizenship-type behavior or OCB-E and considering whether an employee's climate perception, or psychological climate of care for the natural environment (PCCE), is associated with the individual's willingness to undertake OCB-Es through perceptions of organizational support. I also went an important step further to consider whether an employee's personal identity, in the form of environmental identity (EEI), and his or her social identity, in the form of organizational identification (OI), interact with climate perceptions and social exchange processes to predict OCB-E. Prior work on green behavior antecedents have given limited, if any, attention to psychological climate and identity processes.

In my research, I found that both a pro-environmental climate (high PCCE) and identity processes (EEI and OI) were positively associated with green behaviors taken by employees (OCB-Es). Further, with respect to climate, I identified that employees were more willing to undertake OCB-Es when they perceived that their organization maintains

values and policies regarding the environment beyond instrumental benefit; support is given for environmental actions by various management levels; and the organization shows a willingness to be flexible toward and open to environmental ideas and initiatives. While a mediation relationship between climate and OCB-E through POS was not supported, I noted there to be a significant relationship between perceptions of organizational support and PCCE. This is an enlightening finding, worthy of further exploration.

Identity processes also impact OCB-E. My results show that employees do not necessarily check their environmental identities at the door when they come to work. On the contrary, I found that EEI affects the way employees perceive the organization's climate (PCCE) and respond through OCB-E participation. The same was true for organizational identification.

In summary, my dissertation begins to address some of the questions managers may have about how to support voluntary green behaviors in the workplace that benefit organizational environmental sustainability efforts. In particular, I have highlighted the importance of nurturing a pro-environmental climate and supporting environmental and organizational identification processes. The study also offers a number of fruitful avenues for future study that I hope will advance research efforts on this important business topic.

REFERENCES

Abraham, K.G., Helms, S., & Presser, S. (2009). How social processes distort measurement: The impact of survey nonresponse on estimates of volunteer work in the United States. *American Journal of Sociology, 114 (4),* 1129-1165.

Adler, P. S., & Borys, B. (1996). Two types of bureaucracy: Enabling and coercive. *Administrative Science Quarterly*, 61-89.

Aiken, L. S., & West, S. G. (1996). *Multiple regression: Testing and interpreting interactions.* Newbury Park, CA: Sage.

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179-211.

Ajzen, I., & Fishbein, M. (1980). Understanding attitudes and predicting social behaviour.

Ajzen, I., & Madden, T. J. (1986). Prediction of goal-directed behavior: Attitudes, intentions, and perceived behavioral control. *Journal of Experimental Social Psychology*, *22*(5), 453-474.

Allen, T. D. (2001). Family-supportive work environments: The role of organizational perceptions. *Journal of Vocational Behavior*, *58*(3), 414-435.

Amabile, T. M., Conti, R., Coon, H., Lazenby, J., & Herron, M. (1996). Assessing the work environment for creativity. *Academy of Management Journal*, *39(5),* 1154-1184.

Anderson, L. M., & Bateman, T. S. (2000). Individual environmental initiative: Championing natural environmental issues in US business organizations. *Academy of Management Journal*, *43*(4), 548-570.

Anderson, S. E., Coffey, B. S., & Byerly, R. T. (2002). Formal organizational initiatives and informal workplace practices: Links to work-family conflict and job-related outcomes. *Journal of Management*, *28*(6), 787-810.

Anderson, N. R., & West, M. A. (1998). Measuring climate for work group innovation: development and validation of the team climate inventory. *Journal of Organizational Behavior*, *19*(3), 235-258.

Armeli, S., Eisenberger, R., Fasolo, P., & Lynch, P. (1998). Perceived organizational support and police performance: the moderating influence of socioemotional needs. *Journal of Applied Psychology*, *83*(2), 288.

Ashford, S. J., Rothbard, N. P., Piderit, S. K., & Dutton, J. E. (1998). Out on a limb: The role of context and impression management in selling gender-equity issues. *Administrative Science Quarterly, 43,* 23–57.

Ashforth, B. E., Harrison, S. H., & Corley, K. G. (2008). Identification in organizations: An examination of four fundamental questions. *Journal of Management*, *34*(3), 325-374.

Ashforth, B. E., & Humphrey, R. H. (1993). Emotional labor in service roles: The influence of identity. *Academy of Management Review*, *18*(1), 88-115.

Ashforth, B. E., & Mael, F. (1989). Social identity theory and the organization. *Academy of Management Review*, *14*(1), 20-39.

Babiak, K., & Trendafilova, S. (2011). CSR and environmental responsibility: motives and pressures to adopt green management practices. *Corporate Social Responsibility and Environmental Management*, *18*(1), 11-24.

Baer, M., & Frese, M. (2003). Innovation is not enough: Climates for initiative and

    psychological safety, process innovations, and firm performance. *Journal of*

    Organizational Behavior, *24*(1), 45-68.

Bamberg, S., & Möser, G. (2007). Twenty years after Hines, Hungerford, and Tomera: A new

    meta-analysis of psycho-social determinants of pro-environmental behaviour.

    Journal of Environmental Psychology, *27*(1), 14-25.

Bandura, A. (1988). Self-efficacy conception of anxiety. *Anxiety Research*, *1*(2), 77-98.

Banerjee, S. (2002). Corporate environmentalism: The construct and its measurement.

    Journal of Business Research, 55(3), 177–191.

Banerjee, S., Iyer, E., & Kashyap, R. (2003). Corporate environmentalism: Antecedents and

    influence of industry type. *Journal of Marketing*, *67*(2), 106–122.

Bansal, P. (2003). From issues to actions: The importance of individual concerns and

    organizational values in responding to natural environmental issues. *Organization*

    Science, *14*(5), 510-527.

Bansal, P. (2005). Evolving sustainably: a longitudinal study of corporate sustainable

    development. *Strategic Management Journal*, *26*(3), 197-218.

Bansal, P., & Gao, J. (2006). Building the Future by Looking to the Past Examining Research

    Published on Organizations and Environment. *Organization & Environment*, *19*(4),

    458-478.

Bansal, P., & Roth, K. (2000). Why companies go green: a model of ecological

    responsiveness. *Academy of Management Journal*, *43*(4), 717-736.

187

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social

    psychological research: Conceptual, strategic, and statistical considerations. *Journal*

    of personality and social psychology, *51*(6), 1173.

Bartlett, M. S. (1954). A note on the multiplying factors for various χ 2

    approximations. *Journal of the Royal Statistical Society. Series B (Methodological)*,

    296-298.

Bauer, T. N., & Aiman-Smith, L. (1996). Green career choices: The influence of ecological

    stance on recruiting. *Journal of Business and Psychology, 10,* 445–458.

Behson, S. J. (2005). The relative contribution of formal and informal organizational work–

    family support. *Journal of Vocational Behavior*, *66*(3), 487-500.

Bennett, R. J., & Robinson, S. L. (2000). Development of a measure of workplace

    deviance. *Journal of Applied Psychology*, *85*(3), 349.

Biga, C. F. (2006). Explaining environmentally significant individual behaviors: Identity

    theory, multiple identities, and shared meanings (*Unpublished doctoral dissertation,*

    Washington State University).

Biga, A., Ones, D. S., Dilchert, S., & Gibby, R. E. (2010). Ethical climate perceptions and

    sustainability: An individual level analysis. In *S. Dilchert (Chair), Organizational and*

    group differences in environmentally responsible employee behaviors. Symposium

    conducted at the annual conference of the Society for Industrial and Organizational

    Psychology, Atlanta, Georgia.

Bissing-Olson, M. J., Iyer, A., Fielding, K. S., & Zacher, H. (2013). Relationships between daily affect and pro-environmental behavior at work: The moderating role of pro-environmental attitude. *Journal of Organizational Behavior*, *34*(2), 156-175.

Blader, S. L., & Tyler, T. R. (2009). Testing and extending the group engagement model: linkages between social identity, procedural justice, economic outcomes, and extra role behavior. *Journal of Applied Psychology*, *94*(2), 445.

Blau, P. M. (1964). *Exchange and power in social life*. Transaction Publishers.

Boiral, O. (2002). Tacit Knowledge and Environmental Management, *Long Range Planning, 35*(3), 291–317.

Boiral, O. (2005). The impact of operator involvement in pollution reduction: case studies in Canadian chemical companies. *Business Strategy and the Environment*, *14*(6), 339-360.

Boiral, O. (2009). Greening the corporation through organizational citizenship behaviors. *Journal of Business Ethics*, *87*(2), 221-236.

Boiral, O., & Paillé, P. (2012). Organizational citizenship behaviour for the environment: measurement and validation. *Journal of Business Ethics*, *109*(4), 431-445.

Bolderdijk, J. W., Steg, L., Geller, E. S., Lehman, P. K., & Postmes, T. (2013). Comparing the effectiveness of monetary versus moral motives in environmental campaigning. *Nature Climate Change*, *3*(4), 413-416.

Bonaiuto, M., Bilotta, E., Bonnes, M., Ceccarelli, M., Martorella, H., & Carrus, G. (2008). Local Identity and the Role of Individual Differences in the Use of Natural Resources: The Case of Water Consumption1. *Journal of Applied Social Psychology*, *38*(4), 947-967.

189

Borman, W. C., & Motowidlo, S. J. (1993). Expanding the criterion domain to include

        elements of contextual performance. *Personnel Selection in Organizations*, *71*(1993),

        98.

Borman, W. C., & Motowidlo, S. J. (1997). Task performance and contextual performance:

        The meaning for personnel selection research. *Human Performance*, *10*(2), 99-109.

Brammer, S., Millington, A., & Rayton, B. (2007). The contribution of corporate social

        responsibility to organizational commitment. *The International Journal of Human

        Resource Management*, *18*(10), 1701-1719.

Brewer, M. B. (1991). The social self: On being the same and different at the same time.

        Personality and Social Psychology Bulletin, *17*(5), 475-482.

Brewer, M. B., & Gardner, W. (1996). Who is this" We"? Levels of collective identity and self

        representations. *Journal of Personality and Social Psychology*, *71*(1), 83.

Brief, A. P., & Motowidlo, S. J. (1986). Prosocial organizational behaviors. *Academy of

        Management Review*, *11*(4), 710-725.

Brown, S. P., & Leigh, T. W. (1996). A new look at psychological climate and its relationship

        to job involvement, effort, and performance. *Journal of Applied Psychology*, *81*(4),

        358.

Brundtland, G. (1987). Our common future: Report of the 1987 World Commission on

        Environment and Development.

Burke, P. J. (1980). The self: Measurement requirements from an interactionist perspective.

        Social Psychology Quarterly, 18-29.

Burke, P. J. (1991). Identity processes and social stress. *American Sociological Review*, 836-849.

Burke, P. J., & Reitzes, D. C. (1981). The link between identity and role performance. *Social Psychology Quarterly*, 83-92.

Burke, P. J., & Stets, J. E. (2009). *Identity Theory*. Oxford University Press.

Buysse, K., & Verbeke, A. (2003). Proactive environmental strategies: a stakeholder management perspective. *Strategic Management Journal*, *24*(5), 453-470.

Carpenter, N. C., Berry, C. M., and Houston, L. (2013). A meta-analytic comparison of self-reported and other-reported organizational citizenship behavior. *Journal of Organizational Behavior*.

Catasús, B., Lundgren, M., & Rynnel, H. (1997). Environmental managers' views on environmental work in a business context. *Business Strategy and the Environment*, *6*(4), 197-205.

Charng, H. W., Piliavin, J. A., & Callero, P. L. (1988). Role identity and reasoned action in the prediction of repeated behavior. *Social Psychology Quarterly*, 303-317.

Cheung, G. W., & Lau, R. S. (2008). Testing mediation and suppression effects of latent variables: Bootstrapping with structural equation models. *Organizational Research Methods*,

Choi, J. N. (2007). Change-oriented organizational citizenship behavior: effects of work environment characteristics and intervening psychological processes. *Journal of Organizational Behavior*, *28*(4), 467-484.

Christ, O., Dick, R., Wagner, U., & Stellmacher, J. (2003). When teachers go the extra mile: Foci of organisational identification as determinants of different forms of organisational citizenship behaviour among schoolteachers. *British Journal of Educational Psychology*, *73*(3), 329-341.

Christmann, P. (2000). Effects of "best practices" of environmental management on cost advantage: The role of complementary assets. *Academy of Management Journal*, *43*(4), 663-680.

Clayton, S. D., & Myers, O. G. (2009). *Conservation psychology: Understanding and Promoting Human Care for Nature* (No. Part 1, pp. 15-33). Hoboken, NJ: Wiley-Blackwell.

Clayton, S. D., & Opotow, S. (Eds.). (2003). *Identity and the Natural Environment: The Psychological Significance of Nature*. MIT Press.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Psychology Press.

Cohen, J. E., Jonsson, T., & Carpenter, S. R. (2003). Ecological community description using the food web, species abundance, and body size. *Proceedings of the National Academy of Sciences*, *100*(4), 1781-1786.100(4), 1781–1786.

Corral-Verdugo, V.; Frías-Armenta, M.; García-Cadena, C. Introduction to the psychological dimensions of sustainability. *Psychological Approaches to Sustainability*; Corral-Verdugo, V., Frías-Armenta, M., García-Cadena, C., Ed.; Nova Science Publishers: New York, NY, USA, 2010; pp. 3–18.

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.

Craddock, E. B., Huffman, A. H., & Henning, J. B. (2012). Taming the dragon: How industrial–organizational psychologists can break barriers to "green" business. *Industrial and Organizational Psychology*, *5*(4), 484-487.

Cropanzano, R., & Mitchell, M. S. (2005). Social exchange theory: An interdisciplinary review. *Journal of Management*, *31*(6), 874-900.

Crowne, D.P., & Marlowe, D. (1960). A scale of social desirability independent of psychopathology. *Journal of Consulting Psychology, 24,* 349-354.

Daily, B. F., Bishop, J. W., & Govindarajulu, N. (2009). A conceptual model for organizational citizenship behavior directed toward the environment. *Business & Society*, *48*(2), 243-256.

Daily, B. F., Bishop, J. W., & Steiner, R. (2007). The mediating role of EMS teamwork as it pertains to HR factors and perceived environmental performance. *Journal of Applied Business Research*, *23*(1), 95.

Daily, B. F., & Huang, S. C. (2001). Achieving sustainability through attention to human resource factors in environmental management. *International Journal of Operations & Production Management*, *21*(12), 1539-1552.

Davis, J. L., Green, J. D., & Reed, A. (2009). Interdependence with the environment: Commitment, interconnectedness, and environmental behavior. *Journal of Environmental Psychology*, *29*(2), 173-180.

De Roeck, K., & Delobbe, N. (2012). Do environmental CSR initiatives serve organizations' legitimacy in the oil industry? Exploring employees' reactions through organizational identification theory. *Journal of Business Ethics*, *110*(4), 397-412.

Deaux, K. (1992). Personalizing identity and socializing self. *Social Psychology of Identity and the Self-concept*, 9-33.

Deaux, K. (1993). Reconstructing social identity. *Personality and Social Psychology Bulletin*, *19*(1), 4-12.

Deaux, K., & Burke, P. (2010). Bridging identities. *Social Psychology Quarterly*, *73*(4), 315-320.

del Brío, J. Á., Fernandez, E., & Junquera, B. (2007). Management and employee involvement in achieving an environmental action-based competitive advantage: an empirical study. *The International Journal of Human Resource Management*, *18*(4), 491-522.

Delmas, M. A., Pekovic, S. (2013). Environmental standards and labor productivity: Understanding the mechanisms that sustain sustainability. *Journal of Organizational Behavior*, *34*(2), 230-252.

Denton, D. K. (1999). Employee involvement, pollution control and pieces to the puzzle. *Environmental Management and Health, (10)*2, 105-111.

Detert, J. R., & Burris, E. R. (2007). Leadership behavior and employee voice: is the door really open? *Academy of Management Journal*, *50*(4), 869-884.

DeVellis, R. F. (2012). *Scale development: Theory and applications* (Vol. 26). Sage publications.

Devine-Wright, P. (2009). Rethinking NIMBYism: The role of place attachment and place identity in explaining place-protective action. *Journal of Community & Applied Social Psychology*, *19*(6), 426-441.

Dilchert, S. & Ones, D. S. (2012). Employee environmental behaviors (Chapter 5). In

Jackson, S. E., Ones, D. S., & Dilchert, S. (2012). *Managing Human Resources for*

Environmental Sustainability (Vol. 32). John Wiley & Sons.

Driscoll, C., & Starik, M. (2004). The primordial stakeholder: Advancing the conceptual

consideration of stakeholder status for the natural environment. *Journal of Business*

Ethics, *49*(1), 55-73.

Dutton, J. E., Dukerich, J. M., & Harquail, C. V. (1994). Organizational images and member

identification. *Administrative Science Quarterly*, *39*(2).

Dutton, J. E., Roberts, L. M., & Bednar, J. (2010). Pathways for positive identity construction

at work: Four types of positive identity and the building of social resources.

Academy of Management Review, *35*(2), 265-293.

Dyllick, T., & Hockerts, K. (2002). Beyond the business case for corporate sustainability.

Business Strategy and the Environment, 11, 130-141.

Edmondson, A. (1999). Psychological safety and learning behavior in work teams.

Administrative Science Quarterly, *44*(2), 350-383.

Egri, C. P., & Herman, S. (2000). Leadership in the North American environmental sector:

Values, leadership styles, and contexts of environmental leaders and their

organizations. *Academy of Management Journal*, *43*(4), 571-604.

Ehrhart, M. G. (2004). Leadership and procedural justice climate as antecedents of unit-

level organizational citizenship behavior. *Personnel Psychology*, *57*(1), 61-94.

Eisenberger, R., Cummings, J., Armeli, S., & Lynch, P. (1997), Perceived organizational

support, discretionary treatment, and job satisfaction. *Journal of Applied Psychology,*

82(5), 812-820.

Eisenberger, R., Fasolo, P., & Davis-LaMastro, V. (1990). Perceived organizational support

and employee diligence, commitment, and innovation. *Journal of Applied Psychology*,

75(1), 51.

Eisenberger R, Huntington R, Hutchison S, Sowa D. (1986). Perceived organizational

support. *Journal of Applied Psychology,* 71, 500–507.

Ellemers, N., Spears, R., & Doosje, B. (2002). Self and social identity. *Annual Review of*

Psychology, *53*(1), 161-186.

Etzion, D. (2007). Research on organizations and the natural environment, 1992-present: A

review. *Journal of Management*, *33*(4), 637-664.

Fabrigar, L. R., Wegener, D. T., MacCallum, R. C., & Strahan, E. J. (1999). Evaluating the use of

exploratory factor analysis in psychological research. *Psychological methods*, *4*(3),

272.

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.

Fielding, K. S., McDonald, R., & Louis, W. R. (2008). Theory of planned behaviour, identity

and intentions to engage in environmental activism. *Journal of Environmental*

Psychology, *28*(4), 318-326.

Fishbein, M., & Ajzen, I. (1975). *Belief, Attitude, Intention and Behavior: An Introduction to Theory and Research*.

Fiske, D. W. (1982). Convergent-discriminant validation in measurements and research strategies. *New Directions for Methodology of Social & Behavioral Science*.

Foa, U. G. & Foa, E. B. (1974). *Societal Structures of the Mind*. Charles C Thomas.

Foa, E. B., & Foa, U. G. (1980). Resource theory. In *Social Exchange* (pp. 77-94). Springer US.

Frazier, M. L., & Fainshmidt, S. (2012). Voice Climate, Work Outcomes, and the Mediating Role of Psychological Empowerment A Multilevel Examination. *Group & Organization Management*, *37*(6), 691-715.

Frese, M., & Fay, D. (2001). 4. Personal initiative: An active performance concept for work in the 21st century. *Research in Organizational Behavior*, *23*, 133-187.

Fuller, J. B., Hester, K., Barnett, T., Frey, L., Relyea, C., & Beu, D. (2006). Perceived external prestige and internal respect: New insights into the organizational identification process. *Human Relations*, *59*(6), 815-846.

Thompson, S. C. G., & Barton, M. A. (1994). Ecocentric and anthropocentric attitudes toward the environment. *Journal of environmental Psychology*, *14*(2), 149-157.

Gecas, V. (2000). Value identities, self-motives, and social movements. *Self, Identity, and Social Movements*, *13*, 93-109.

Gibson, K. (2000). The moral basis of stakeholder theory. *Journal of Business Ethics*, *26*(3), 245-257.

Glisson, C., & James, L. R. (2002). The cross-level effects of culture and climate in human service teams. *Journal of Organizational Behavior*, *23*(6), 767-794.

Gond, J. P., El-Akremi, A., Igalens, J., & Swaen, V. (2010). Corporate social responsibility influence on employees. *Research Paper Series*, (54-2010).

Gorsuch, R. L. (1990). Common factor analysis versus component analysis: Some well and little known facts. *Multivariate Behavioral Research*, *25*(1), 33-39.

Gouldner, A. W. (1960). The norm of reciprocity: A preliminary statement. *American Sociological Review*, 161-178.

Govindarajulu, N., & Daily, B. F. (2004). Motivating employees for environmental improvement. *Industrial Management & Data Systems*, *104*(4), 364-372.

Grant, A. M., & Mayer, D. M. (2009). Good soldiers and good actors: prosocial and impression management motives as interactive predictors of affiliative citizenship behaviors. *Journal of Applied Psychology*, *94*(4), 900-912.

Graves, L. M., & Sarkis, J. (2010). Fostering Employee Proenvironmental Behavior: The Impact of Leadership and Motivation; Graduate School of Management Clark University; Environmental Leadership: A Reference Handbook DR Gallagher, N. *Christensen, & RNL Andrews (Eds.) Sage Publications*.

Graves, L. M., Sarkis, J., & Zhu, Q. (2011, January). Understanding employee proenvironmental behavior: A test of a theoretical model. In *Academy of Management Proceedings* (Vol. 2011, No. 1, pp. 1-6). Academy of Management.

Hanna, M.D., Newman, W.R., & Johnson, P. (2000). Linking Operational and Environmental Improvement through Employee Involvement, *International Journal of Operations and Production Management, 20*(2), 148-65.

Hart, S. L. (1995). A natural-resource-based view of the firm. *Academy of Management Review*, *20*(4), 986-1014.

Haslam, S. A., Eggins, R. A., & Reynolds, K. J. (2003). The ASPIRe model: Actualizing social and personal identity resources to enhance organizational outcomes. *Journal of Occupational and Organizational Psychology*, *76*(1), 83-113.

Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford Press.

Hirst, G., Van Dick, R., & Van Knippenberg, D. (2009). A social identity perspective on leadership and employee creativity. *Journal of Organizational Behavior*, *30*(7), 963-982.

Hochwarter, W. A., Kacmar, C., Perrewe, P. L., & Johnson, D. (2003). Perceived organizational support as a mediator of the relationship between politics perceptions and work outcomes. *Journal of Vocational Behavior*, *63*(3), 438-456.

Hoffman, A. J., & Ventresca, M. J. (Eds.). (2002). *Organizations, Policy and the Natural Environment: Institutional and Strategic Perspectives*. Stanford University Press.

Hogg, M. A., & Abrams, D. (1988). Social identifications: A social psychology of intergroup relations and group processes. Routledge. *London and New York*.

Hogg, M. A., Terry, D., & White, K. (1995). A Tale of Two Theories. *Social Psychology Quarterly*, *58*(4), 255-269.

Holmbeck, G.N. (1997). Toward terminological, conceptual, and statistical clarity in the study of mediators and moderators: Examples from the child-clinical and pediatric psychology literatures. *Journal of Consulting and Clinical Psychology, 65*, 599–610.

Homans, G. C. (1958). Social behavior as exchange. *American Journal of Sociology*, 597-606.

Hostager, T. J., Neil, T. C., Decker, R. L., & Lorenz, R. D. (1998). Seeing environmental

opportunities: Effects of intrapreneurial ability, efficacy, motivation, and

desirability. *Journal of Organizational Change Management*, *11*(1), 11-25.

Huffman, A. H., Watrous-Rodriguez, K., Henning, J., & Berry, J. (2009). Working through

environmental issues: The role of the Io psychologist. *The Industrial-Organizational*

Psychologist, *47*(2), 27.

IUCN, U. (1980). WWF. *World Conservation Strategy. Living Resource Conservation for*

Sustainable Development. Gland, Switzerland, IUCN, UNEP, WWF.

IUCN, U. (1991). WWF (1991) Caring for the Earth: a strategy for sustainable living. *IUCN,*

UNEP, WWF, Gland.

Jackson, S. E., Ones, D. S., & Dilchert, S. (2012). *Managing Human Resources for*

Environmental Sustainability (Vol. 32). John Wiley & Sons.

Jackson, S. E., Renwick, D. W., Jabbour, C. J., & Muller-Camen, M. (2011). State-of-the-art and

future directions for green human resource management: Introduction to the

special issue. *Zeitschrift für Personalforschung/German Journal of Research in Human*

Resource Management, 99-116.

James, L. R., Hater, J. J., Gent, M. J., & Bruni, J. R. (1978). Psychological climate: Implications

from cognitive social learning theory and interactional psychology. *Personnel*

Psychology, *31*(4), 783-813.

James, L. A., & James, L. R. (1989). Integrating work environment perceptions: Explorations

into the measurement of meaning. *Journal of Applied Psychology*, *74*(5), 739.

James, L. R., & Jones, A. P. (1974). Organizational climate: A review of theory and research. *Psychological Bulletin*, *81*(12), 1096.

James, L. R., & Sells, S. B. (1981). Psychological climate: Theoretical perspectives and empirical research. *Toward a Psychology of Situations: An Interactional Perspective*, 275-295.

Jones, A. P., & James, L. R. (1979). Psychological climate: Dimensions and relationships of individual and aggregated work environment perceptions. *Organizational Behavior and Human Performance*, *23*(2), 201-250.

Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal, 33,* 692-724.

Kahn, W. A. (1992). To be fully there: Psychological presence at work. *Human Relations*, *45*(4), 321-349.

Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika*, *39*(1), 31-36.

Kane, R. E., Magnusen, M. J., & Perrewé, P. L. (2012). Differential effects of identification on extra-role behavior. *Career Development International*, *17*(1), 25-42.

Kline, R. B. (2011). *Principles and practice of structural equation modeling.* New York: The Guilford Press.

Kolk, A., & Pinkse, J. (2004). Market strategies for climate change. *European Management Journal*, *22*(3), 304-314.

Konovsky, M. A., & Pugh, S. D. (1994). Citizenship behavior and social exchange. *Academy of Management Journal*, *37*(3), 656-669.

Kreiner, G. E., Hollensbe, E. C., & Sheep, M. L. (2006). Where is the "me" among the "we"? Identity work and the search for optimal balance. *Academy of Management Journal*, *49*(5), 1031-1057.

Kuenzi, M., & Schminke, M. (2009). Assembling fragments into a lens: A review, critique, and proposed research agenda for the organizational work climate literature. *Journal of Management*, *35*(3), 634-717.

Laine, M. (2010). The nature of nature as a stakeholder. *Journal of Business Ethics*, *96*(1), 73-78.

Lambert, S. J. (2000). Added benefits: The link between work-life benefits and organizational citizenship behavior. *Academy of Management Journal*, *43*(5), 801-815.

Lamm, E., Tosti-Kharas, J., & Williams, E. G. (2013). Read This Article, but Don't Print It Organizational Citizenship Behavior Toward the Environment. *Group & Organization Management*, *38*(2), 163-197.

Lee, Y., & De Young, R. (1994). Intrinsic satisfaction derived from office recycling behavior: A case study in Taiwan. *Social Indicators Research, 31,* 63–76.

Liang, J., Farh, C. I., & Farh, J. L. (2012). Psychological antecedents of promotive and prohibitive voice: A two-wave examination. *Academy of Management Journal*, *55*(1), 71-92.

Liao, H., & Rupp, D. E. (2005). The impact of justice climate and justice orientation on work outcomes: a cross-level multifoci framework. *Journal of Applied Psychology*, *90*(2), 242.

Lindell, M. K., & Whitney, D. J. (2001). Accounting for common method variance in cross-sectional designs. *Journal of Applied Psychology*, 86,114–121.

Lipponen, J., Bardi, A., & Haapama, J. (2008). The interaction between values and organizational identification in predicting suggestion-making at work. *Occupational and Organizational Psychology*, 81, 241-248.

Lo, S. H., Peters, G. J. Y., & Kok, G. (2012). A review of determinants of and interventions for proenvironmental behaviors in organizations. *Journal of Applied Social Psychology*, *42*(12), 2933-2967.

MacKenzie, S. B., Podsakoff, P. M., & Podsakoff, N. P. (2011). Construct measurement and validation procedures in MIS and behavioral research: Integrating new and existing techniques. *MIS Quarterly*, *35*(2), 293-334.

Mael, F., & Ashforth, B. E. (1992). Alumni and their alma mater: A partial test of the reformulated model of organizational identification. *Journal of Organizational Behavior*, *13*(2), 103-123.

Marshall, R. S., Cordano, M., & Silverman, M. (2005). Exploring individual and institutional drivers of proactive environmentalism in the US wine industry. *Business Strategy and the Environment*, *14*(2), 92-109.

Masterson, S. S., Lewis, K., Goldman, B. M., & Taylor, M. S. (2000). Integrating justice and social exchange: The differing effects of fair procedures and treatment on work relationships. *Academy of Management Journal*, *43*(4), 738-748.

McCall G. J., & Simmons, J. L. (1978). Identities and interactions. (Rev. ed.) *New York:* The Free Press.

McKay, P. F., Avery, D. R., & Morris, M. A. (2008). Mean racial-ethnic differences in

   employee sales performance: The moderating role of diversity climate. *Personnel*

   Psychology, *61*(2), 349-374.

Meyer, J. P., Becker, T. E., & Van Dick, R. (2006). Social identities and commitments at work:

   Toward an integrative model. *Journal of Organizational Behavior*, *27*(5), 665-683.

Montiel, I. (2008). Corporate social responsibility and corporate sustainability separate

   pasts, common futures. *Organization & Environment*, *21*(3), 245-269.

Moorman, R. H. (1991). Relationship between organizational justice and organizational

   citizenship behaviors: do fairness perceptions influence employee citizenship?

   Journal of Applied Psychology, *76*(6), 845.

Moorman, R. H., Blakely, G. L., & Niehoff, B. P. (1998). Does perceived organizational

   support mediate the relationship between procedural justice and organizational

   citizenship behavior? *Academy of Management Journal*, *41*(3), 351-357.

Morrison, E. W. (2011). Employee voice behavior: Integration and directions for future

   research. *The Academy of Management Annals*, *5*(1), 373-412.

Morrison, E. W., & Phelps, C. C. (1999). Taking charge at work: Extrarole efforts to initiate

   workplace change. *Academy of Management Journal*, *42*(4), 403-419.

Murillo-Luna, J. L., Garcés-Ayerbe, C., & Rivera-Torres, P. (2008). Why do patterns of

   environmental response differ? A stakeholders' pressure approach. *Strategic*

   Management Journal, *29*(11), 1225-1240.

Muster, V., & Schrader, U. (2011). Green work-life balance: A new perspective for green

   HRM. *Zeitschrift für Personalforschung*, *25*(2), 140-156.

Naumann, S. E., & Bennett, N. (2000). A case for procedural justice climate: Development

and test of a multilevel model. *Academy of Management Journal*, *43*(5), 881-889.

Newman, A., Nielsen, I., & Miao, Q. (2015). The impact of employee perceptions of

organizational corporate social responsibility practices on job performance and

organizational citizenship behavior: evidence from the Chinese private sector. *The*

International Journal of Human Resource Management, *26*(9), 1226-1242.

Nigbur, D., Lyons, E., & Uzzell, D. (2010). Attitudes, norms, identity and environmental

behaviour: Using an expanded theory of planned behaviour to predict participation

in a curbside recycling programme. *British Journal of Social Psychology*, *49*(2), 259-

284.

Norton, T. A., Zacher, H., & Ashkanasy, N. M. (2012). On the Importance of

Pro-Environmental Organizational Climate for Employee Green Behavior. *Industrial*

and Organizational Psychology, *5*(4), 497-500.

Norton, T. A., Zacher, H., & Ashkanasy, N. M. (2014). Organizational sustainability policies

and employee green behaviour: the mediating role of work climate perceptions.

Journal of Environmental Psychology, 38, 49-54.

O'Reilly, C. A., & Chatman, J. (1986). Organizational commitment and psychological

attachment: The effects of compliance, identification, and internalization on

prosocial behavior. *Journal of Applied Psychology*, *71*(3), 492.

Ones, D. S., & Dilchert, S. (2012). Environmental sustainability at work: A call to action.

Industrial and Organizational Psychology, *5*(4), 444-466.

Ones, D., Dilchert, S., & Biga, A. (2010). Perceptions of Organizational Support and

    Employee Sustainability. In *annual international conference on business and*

    sustainability, Portland, OR.

Organ, D. W. (1988). *Organizational citizenship behavior: The good soldier syndrome*.

    Lexington Books/DC Heath and Com.

Organ, D. W. (1990). The motivational basis of organizational citizenship behavior.

    Research in organizational behavior, *12*(1), 43-72.

Organ, D., Podsakoff, P., & MacKenzie, S. (2006). *Organizational Citizenship Behavior: Its*

    Nature, Antecedents, and Consequences. Thousand Oaks, CA: Sage Publishers.

Organ, D. W., & Ryan, K. (1995). A meta-analytic review of attitudinal and dispositional

    predictors of organizational citizenship behavior. *Personnel Psychology*, *48*(4), 775-

    802.

Paillé, P., & Boiral, O. (2013). Pro-environmental behavior at work: Construct validity and

    determinants. *Journal of Environmental Psychology*, *36*, 118-128.

Paillé, P., Boiral, O., & Chen, Y. (2013). Linking environmental management practices and

    organizational citizenship behaviour for the environment: a social exchange

    perspective. *The International Journal of Human Resource Management*, *24*(18),

    3552-3575.

Paillé, P., Chen, Y., Boiral, O., & Jin, J. (2013). The impact of human resource management on

    environmental performance: An employee-level study. *Journal of Business Ethics*, 1-

    16.

Paillé, P., & Mejía-Morelos, J. H. (2014). Antecedents of pro-environmental behaviours at

    work: The moderating influence of psychological contract breach. *Journal of*

    Environmental Psychology, *38*, 124-131.

Parker, C. P., Baltes, B. B., Young, S. A., Huff, J. W., Altmann, R. A., Lacost, H. A., & Roberts, J. E.

    (2003). Relationships between psychological climate perceptions and work

    outcomes: a meta-analytic review. *Journal of Organizational Behavior*, *24*(4), 389-

    416.

Paulhus, D. L., & Reid, D. B. (1991). Enhancement and denial in socially desirable

    responding. *Journal of Personality and Social Psychology*, *60*(2), 307.

Peterson, D. K. (2004). The relationship between perceptions of corporate citizenship and

    organizational commitment. *Business & Society*, *43*(3), 296-319.

Pfeffer, J. (2009). in organizations. *Power and Interdependence in Organizations*, 17.

Ping Jr, R. A. (1996). Latent variable interaction and quadratic effect estimation: A two-step

    technique using structural equation analysis. *Psychological Bulletin*, *119*(1), 166.

Podsakoff, P. M., & Mackenzie, S. B. (1994). Organizational citizenship behaviors and sales

    unit effectiveness. *Journal of Marketing Research*, 351-363.

Podsakoff, P. M., MacKenzie, S. B., Paine, J. B., & Bachrach, D. G. (2000). Organizational

    citizenship behaviors: A critical review of the theoretical and empirical literature

    and suggestions for future research. *Journal of Management*, *26*(3), 513-563.

Podsakoff, P. M. MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2012). Sources of method bias

    in social science research and recommendations on how to control it. Annual

    Review of Psychology, 63, 539–569.

Podsakoff, P. M. MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88,* 879-903.

Podsakoff, P.M., & Organ, D.W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of Management*, 12, 531–544.

Prasad, P., & Elmes, M. (2005). In the Name of the Practical: Unearthing the Hegemony of Pragmatics in the Discourse of Environmental Management. *Journal of Management Studies*, *42*(4), 845-867.

Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior research methods, instruments, & computers*, *36*(4), 717-731.

Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate Behavioral Research*, *42*(1), 185-227.

Proshansky, H. M., Fabian, A. K., & Kaminoff, R. (1983). Place-identity: Physical world socialization of the self. *Journal of Environmental Psychology*, *3*(1), 57-83.

Ramus, C. A. (2003). *Employee Environmental Innovation in Firms: Organizational and Managerial Factors*. Ashgate Publishing, Ltd.

Ramus, C. A., & Killmer, A. B. (2007). Corporate greening through prosocial extrarole behaviours–A conceptual framework for employee motivation. *Business Strategy and the Environment*, *16(8),* 554-570.

Ramus, C. A., & Oppegaard, K. (2006). Shifting Paradigms in Sustainability Management: Instrumental and Value-Driven Orientations. In *Academy of Management Annual Conference, Atlanta*.

Ramus, C. A., & Steger, U. (2000). The Roles of Supervisory Support Behaviors and Environmental Policy in Employee "Ecoinitiatives" at Leading-Edge European Companies. *Academy of Management Journal*, *43*(4), 605-626.

Rashid, N. R. N. A., & Wahid, N. H. A. (2013). Positive Spillover of Pro-Environmental Behavior Phenomenon: The Influence of Organizational and Family Factors. *International Proceedings of Economics Development & Research*, *56*, 79-83.

Rego, A., Leal, S., & e Cunha, M. P. (2011). Rethinking the employees' perceptions of corporate citizenship dimensionalization. *Journal of Business Ethics*, *104*(2), 207-218.

Reichers, A. E., & Schneider, B. (1990). Climate and culture: An evolution of constructs. *Organizational Climate and Culture*, *1*, 5-39.

Reid, A., & Deaux, K. (1996). Relationship between social and personal identities: Segregation or integration. *Journal of Personality and Social Psychology*, *71*(6), 1084.

Renwick, D. W., Redman, T., & Maguire, S. (2013). Green human resource management: A review and research agenda. *International Journal of Management Reviews*, *15*(1), 1-14.

Rhoades, L., & Eisenberger, R. (2002). Perceived organizational support: a review of the literature. *Journal of Applied Psychology*, *87*(4), 698.

Rhoades, L., Eisenberger, R., & Armeli, S. (2001). Affective commitment to the organization: the contribution of perceived organizational support. *Journal of Applied Psychology*, *86*(5), 825.

Riketta, M. (2005). Organizational identification: A meta-analysis. *Journal of Vocational Behavior*, *66*(2), 358-384.

Rioux, S. M., & Penner, L. A. (2001). The causes of organizational citizenship behavior: a motivational analysis. *Journal of Applied Psychology*, *86*(6), 1306.

Robertson, J. (2014). Greening organizations: The roles of leadership and organizational citizenship behaviors. (*Unpublished doctoral dissertation, Queens University*).

Robertson, J. L., & Barling, J. (2013). Greening organizations through leaders' influence on employees' pro-environmental behaviors. *Journal of Organizational Behavior*, *34*(2), 176-194.

Roccas, S., & Brewer, M. B. (2002). Social identity complexity. *Personality and Social Psychology Review*, *6*(2), 88-106.

Rokeach, M. (1973). *The nature of human values*. Free press.

Ronnenberg, S. K., Graham, M. E., & Mahmoodi, F. (2011). The important role of change management in environmental management system implementation. *International Journal of Operations & Production Management*, *31*(6), 631-647.

Rothbard, N. P., & Ramarajan, L. (2009). Checking your identities at the door? Positive relationships between nonwork and work identities. *Exploring positive identities and organizations: Building a theoretical and research foundation*, 125-148.

Rotundo, M., & Sackett, P. R. (2002). The relative importance of task, citizenship, and

    counterproductive performance to global ratings of job performance: a policy-

    capturing approach. *Journal of Applied Psychology*, *87*(1), 66.

Rousseau, D. M. (1988). The construction of climate in organizational research.

Rupp, D. E., Ganapathi, J., Aguilera, R. V., & Williams, C. A. (2006). Employee reactions to

    corporate social responsibility: An organizational justice framework. *Journal of*

    Organizational Behavior, *27*(4), 537-543.

Russo, M. V., & Fouts, P. A. (1997). A resource-based perspective on corporate

    environmental performance and profitability. *Academy of Management Journal*,

    40(3), 534-559.

Sarkis, J., Gonzalez-Torre, P., & Adenso-Diaz, B. (2010). Stakeholder pressure and the

    adoption of environmental practices: The mediating effect of training. *Journal of*

    Operations Management, *28*(2), 163-176.

Schmitt, N., Klimoski, R. J., Ferris, G. R., & Rowland, K. M. (1991). *Research methods in*

    human resources management. South-Western Pub.

Schneider, B. (1987). The people make the place. *Personnel Psychology*, *40*(3), 437-453.

Schneider, B. (2000). The psychology of organizations. In N. M. Ashkanasy, C. Wilderom, &

    M. F. Peterson (Eds.), *Handbook of Organizational Culture and Climate* (pp. xvii–xxi).

    Thousand Oaks, CA: Sage.

Schneider, B., & Reichers, A. E. (1983). On the etiology of climates. *Personnel Psychology*,

    36(1), 19-39.

Schneider, B., White, S. S., & Paul, M. C. (1998). Linking service climate and customer

    perceptions of service quality: Tests of a causal model. *Journal of Applied Psychology*,

    83(2), 150.

Schultz, P. W. (2000). Empathizing with nature: The effects of perspective taking on

    concern for environmental issues. *Journal of Social Issues*, *56*, 391-406.

Schultz, P., & Tabanico, J. (2007). Self, identity, and the natural environment: Exploring

    implicit connections with nature. *Journal of Applied Social Psychology*, *37*(6), 1219-

    1247.

Schwartz, S. H. (1977). Normative influences on altruism. In L. Berkowitz (Ed.), *Advances in*

    Experimental Social Psychology (Vol. 10, pp. 221-279). San Diego: Academic Press.

Scott, S. G., & Bruce, R. A. (1994). Determinants of innovative behavior: A path model of

    individual innovation in the workplace. *Academy of Management Journal*, *37*(3), 580-

    607.

Seppälä, T., Lipponen, J., Bardi, A., & Pirttilä-Backman, A. M. (2012). Change-oriented

    organizational citizenship behaviour: An interactive product of openness to change

    values, work unit identification, and sense of power. *Journal of Occupational and*

    Organizational Psychology, *85*(1), 136-155.

Settoon, R. P., Bennett, N., & Liden, R. C. (1996). Social exchange in organizations: Perceived

    organizational support, leader–member exchange, and employee reciprocity.

    Journal of Applied Psychology, *81*(3), 219.

Sharma S. (2000). Managerial interpretations and organizational context as predictors of corporate choice of environmental strategy. *Academy of Management Journal, 43,* 681–697.

Sharma, S., & Henriques, I. (2005). Stakeholder influences on sustainability practices in the Canadian forest products industry. *Strategic Management Journal*, *26*(2), 159-180.

Sharma, S., & Vredenburg, H. (1998). Proactive corporate environmental strategy and the development of competitively valuable organizational capabilities. *Strategic Management Journal*, *19*(8), 729-753.

Shore, L. M., & Shore, T. H. (1995). Perceived organizational support and organizational justice. *Organizational Politics, Justice, and Support: Managing the Social Climate of the Workplace*, 149-164.

Shore, L. M., & Tetrick, L. E. (1991). A construct validity study of the Survey of Perceived Organizational Support. *Journal of Applied Psychology*, *76*(5), 637.

Shore, L. M., & Wayne, S. J. (1993). Commitment and employee behavior: comparison of affective commitment and continuance commitment with perceived organizational support. *Journal of Applied Psychology*, *78*(5), 774.

Shrivastava, P. (1995a). Environmental technologies and competitive advantage. *Strategic Management Journal*, *16(1),* 183-200.

Shrivastava, P. (1995b). Ecocentric management for a risk society. *Academy of Management Review*, *20*(1), 118-137.

Sluss, D. M., Klimchak, M., & Holmes, J. J. (2008). Perceived organizational support as a mediator between relational exchange and organizational identification. *Journal of Vocational Behavior*, *73*(3), 457-464.

Sparks, P., & Shepherd, R. (1992). Self-Identity and the Theory of Planned Behavior: Assessing the Role of Identification with" Green Consumerism". *Social Psychology Quarterly*, 388-399.

Starik, M., & Kanashiro, P. (2013). Toward a Theory of Sustainability Management Uncovering and Integrating the Nearly Obvious. *Organization & Environment*, *26*(1), 7-30.

Starik, M., & Marcus, A. A. (2000). Introduction to the special research forum on the management of organizations in the natural environment: A field emerging from multiple paths, with many challenges ahead. *Academy of Management Journal*, *43*(4), 539-547.

Starik, M., & Rands, G. P. (1995). Weaving an integrated web: Multilevel and multisystem perspectives of ecologically sustainable organizations. *Academy of Management Review*, *20*(4), 908-935.

Staw, B. M. (1975). Attribution of the "causes" of performance: A general alternative interpretation of cross-sectional research on organizations. *Organizational Behavior and Human Performance, 13*(3), 414-432.

Stern, P. C. (2000). New environmental theories: toward a coherent theory of environmentally significant behavior. *Journal of Social Issues*, *56*(3), 407-424.

Stern, P. C., Dietz, T., Abel, T., Guagnano, G. A., & Kalof, L. (1999). A value-belief-norm theory of support for social movements: The case of environmentalism. *Human Ecology Review*, *6*(2), 81-98.

Stets, J. E., & Biga, C. F. (2003). Bringing identity theory into environmental sociology. *Sociological Theory*, *21*(4), 398-423.

Stets, J. E., & Burke, P. J. (2000). Identity theory and social identity theory. *Social Psychology Quarterly*, *63*(3), 224-237.

Stets, J. E., & Burke, P. J. (2003). A sociological approach to self and identity. *Handbook of Self and Identity*, 128-152.

Stets, J. E., & Burke, P. J. (2005). New directions in identity control theory. *Advances in Group Processes*, *22*, 43-64.

Strahan, R., & Gerbasi, K. C. (1972). Short, homogeneous versions of the Marlowe-Crowne Social Desirability Scale. *Journal of Clinical Psychology*.

Stryker, S. (1968). Identity salience and role performance: The relevance of symbolic interaction theory for family research. *Journal of Marriage and the Family*, 558-564.

Stryker, S. (1980). *Symbolic Interactionism: A Social Structural Version*. Caldwell,, NJ: Blackburn Press.

Stryker, S., & Burke, P. J. (2000). The past, present, and future of an identity theory. *Social Psychology Quarterly*.

Swann Jr, W. B., Johnson, R. E., & Bosson, J. K. (2009). Identity negotiation at work. *Research in Organizational Behavior*, *29*, 81-109.

Tabachnick, B. G., & Fidell, L. S. (2007). Multivariate analysis of variance and covariance. *Using multivariate statistics*, *3*, 402-407.

Tajfel, H., & Turner, J. C. (1986). The social identity theory of intergroup behaviour. In S. Worchel, & W. G. Austin (Eds.), Psychology of intergroup relations (2nd ed., pp. 7–24). Chicago: Nelson-Hall.

Tangirala, S., & Ramanujam, R. (2008). Exploring nonlinearity in employee voice: The effects of personal control and organizational identification. *Academy of Management Journal*, *51*(6), 1189-1203.

Temminck, E., Mearns, K., & Fruhen, L. (2013). Motivating Employees towards Sustainable Behaviour. *Business Strategy and the Environment*.

Thompson, C. A., Beauvais, L. L., & Lyness, K. S. (1999). When work–family benefits are not enough: The influence of work–family culture on benefit utilization, organizational attachment, and work–family conflict. *Journal of Vocational Behavior*, *54*(3), 392-415.

Turker, D. (2009). Measuring corporate social responsibility: A scale development study. *Journal of Business Ethics*, *85*(4), 411-427.

Turner, J. C., Hogg, M. A., Oakes, P. J., Reicher, S. D., & Wetherell, M. S. (1987). *Rediscovering the Social Group: A Self-categorization Theory*. Basil Blackwell.

Valentine, S., Greller, M. M., & Richtermeyer, S. B. (2006). Employee job response as a function of ethical context and perceived organization support. *Journal of Business Research*, *59*(5), 582-588.

Van Dick, R. (2001). Identification in organizational contexts: Linking theory and research from social and organizational psychology. *International Journal of Management Reviews*, *3*(4), 265-283.

Van Dick, R. (2004). My job is my castle: Identification in organizational contexts. *International Review of Industrial and Organizational Psychology*, *19*, 171-204.

Van Dyne, L., & LePine, J. A. (1998). Helping and voice extra-role behaviors: Evidence of construct and predictive validity. *Academy of Management Journal*, *41*(1), 108-119.

Van Knippenberg, D. (2000). Work motivation and performance: A social identity perspective. *Applied Psychology*, *49*(3), 357-371.

Van Knippenberg, D., & Sleebos, E. (2006). Organizational identification versus organizational commitment: self-definition, social exchange, and job attitudes. *Journal of Organizational Behavior*, *27*(5), 571-584.

Van Knippenberg, D., Van Dick, R., & Tavares, S. (2007). Social identity and social exchange: Identification, support, and withdrawal from the job. *Journal of Applied Social Psychology*, *37*(3), 457-477.

Victor, B., & Cullen, J. B. (1987). A theory and measure of ethical climate in organizations. *Research in Corporate Social Performance and Policy*, *9*.

Victor, B., & Cullen, J. B. (1988). The organizational bases of ethical work climates. *Administrative Science Quarterly*, 101-125.

Viswesvaran, C., & Ones, D. S. (2000). Perspectives on models of job performance. *International Journal of Selection and Assessment*, *8*(4), 216-226.

Vroom, V. H. (1964). *Work and Motivation*. New York: Wiley.

Walumbwa, F. O., Hartnell, C. A., & Oke, A. (2010). Servant leadership, procedural justice climate, service climate, employee attitudes, and organizational citizenship behavior: a cross-level investigation. *Journal of Applied Psychology*, *95*(3), 517.

Watson, T. J. (2008). Managing identity: Identity work, personal predicaments and structural circumstances. *Organization*, *15*(1), 121-143.

WCED (World Commission on Environment and Development), 1987. Our Common Future. Oxford University Press, Oxford/New York.

Weigert, A. J. (1997). *Self, interaction, and natural environment: Refocusing our eyesight*. SUNY Press.

Whitmarsh, L. (2009). Behavioural responses to climate change: Asymmetry of intentions and impacts. *Journal of environmental psychology*, *29*(1), 13-23.

Whitmarsh, L., & O'Neill, S. (2010). Green identity, green living? The role of proenvironmental self-identity in determining consistency across diverse proenvironmental behaviours. *Journal of Environmental Psychology, 30*, 305-314.

Widaman, K. 1985. Hierarchically nested covariance structure models for multitrait-multimethod data. *Applied Psychological Measurement*, 9, 1–26.

Williams, L. J., & Anderson, S. E. (1991). Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behaviors. *Journal of Management*, *17*(3), 601-617.

Zellars, K. L., & Tepper, B. J. (2003). Beyond social exchange: New directions for organizational citizenship behavior theory and research. In J. Martocchio (Ed.),

Research in Personnel and Human Resource Management: 395-424. Greenwich, CT: JAI Press, Vol. 22.

Zohar, D. (2000). A group-level model of safety climate: testing the effect of group climate on microaccidents in manufacturing jobs. *Journal of Applied Psychology*, *85*(4), 587.

APPENDICES

Appendix A: Pilot Studies Survey Participation Requests

(1)   E-mail solicitation to course instructors asking for assistance in pilot study

Dear Professor xxxx,

My name is Sashi Sekhar, and I am a doctoral candidate in Management Science. *The reason I am writing is that I am currently in the survey validation phase of my dissertation research and I wanted to see if you would be able to assist me with my pilot data collection phase by allowing me access to students in your fall 2014, BM-xxx, XXXX course.* Dr. Sarah Freeman, my dissertation chair, suggested I contact you because your students may be representative of the population of interest of my study.

My dissertation addresses employee green behaviors in the workplace and their determinants. *I need to collect pilot data via survey from about 200 individuals who are over the age of 18, live and work in the US, and are employed full-time for at least a year by any organization.* My hope is to collect the data during the fall from your course as well as others in the Sheldon B. Lubar School.

If you are able to assist me, I can accommodate your needs. I can either come to your class to physically administer the survey, or provide you with an introduction letter and electronic link to the survey that you can then distribute to the class. The questionnaire should take *at most* 15 to 20 minutes to complete. Responses are anonymous. Data will be used in cumulative form for scale validation purposes only. To increase the likelihood of participation, it would be great if course extra credit or another form of incentive could be provided at your discretion. The study has received human subject approval from the university (IRB No. 15.098, IRB Exemption Date 10/22/2014).

Thank you. I sincerely appreciate your consideration of my request. *Let me know if this is feasible, and we can set a mutually agreeable schedule for the survey administration.* Feel free to contact me at xxx-xxx-xxxx or via e-mail if there are any questions. I look forward to hearing from you.

Sincerely,
Sashi

Sashi Sekhar, MS
Ph.D. Candidate, Organizations and Strategic Management
Sheldon B. Lubar School of Business (S-325)
University of Wisconsin - Milwaukee
P.O. Box 742, 3203 N. Maryland Ave.
Milwaukee, WI 53201 - 0742

(2)   Pilot study introduction letter to student and non-student participants

** Included at the beginning of paper and electronic forms of survey

<u>Thank you for your interest in participating in this research study</u> as it is a critical step for understanding how organizations can improve their environmental sustainability efforts through employee participation in green workplace behaviors.

The study addresses

(1) Types of green behaviors in the workplace
(2) Employee motivations for participating in these behaviors
(3) Organizational practices that support these behaviors

The following is a <u>brief pilot survey that should take you approximately 15 to 20 minutes to complete</u>. Your responses will be used for instrument validation purposes *only.* Your name and contact information are not collected, but some background information is needed for statistical purposes *only.* Data will be kept in strict confidentiality, and results will be reported in cumulative form with no personal information.

Your participation is completely voluntary and without penalty. To receive an incentive (if your instructor has offered one), the survey must be *fully completed and submitted.*

This project has been approved by the University of Wisconsin-Milwaukee Institutional Review Board for the Protection of Human Subjects (IRB No. 15.098, IRB Exemption Date 10/22/2014). If you have questions about your rights as a research participant, please contact the IRB Director at (414) 229-3173 or by email at <u>irbinfo@uwm.edu</u>.

Additional questions can be directed to the lead investigators for this project at the Sheldon B. Lubar School of Business, University of Wisconsin-Milwaukee: Dr. Sarah Freeman, sarah@uwm.edu and Sashi Sekhar, MS, doctoral student, scsekhar@uwm.edu.

Thank you for assisting me in refining my dissertation research. Your input is valuable and sincerely appreciated!

 I HAVE READ AND UNDERSTOOD THE "CONSENT TO PARTICIPATE" LETTER FOR THE STUDY. IF YOU AGREE THAT YOU ARE AT LEAST 18 YEARS OF AGE, EMPLOYED FULL-TIME FOR AT LEAST ONE YEAR WITH YOUR CURRENT EMPLOYER AND CONSENT TO PARTICIPATE IN THE STUDY BY TAKING THIS SURVEY, PLEASE CHECK THE "I AGREE" BOX BELOW: I Agree (1)   I Decline (2)

Appendix B - Description of Samples

	Pilot 1		Pilot 2		Dissertation	
Gender	**n=243**	**%**	**n=150**	**%**	**n=500**	**%**
Female	97	39.9%	69	46.0%	273	54.6%
Male	146	60.1%	81	54.0%	227	45.4%
Age						
18-29	147	60.5%	18	12.0%	74	14.8%
30-49	59	24.3%	69	46.0%	246	49.2%
50-69	35	14.4%	63	42.0%	180	36.0%
> 70	2	0.8%	0	0.0%	0	0.0%
Race/ethnicity						
Latino/Hispanic	11	4.5%	6	4.0%	22	4.4%
Black/African American	13	5.3%	8	5.3%	39	7.8%
Caucasian	177	72.8%	121	80.7%	407	81.4%
Asian	33	13.6%	9	6.0%	26	5.2%
American Indian	2	0.8%	2	1.3%	1	0.2%
Pacific Islander	0	0.0%	0	0.0%	2	0.4%
> 1 race/ethnicity	7	2.9%	1	0.7%	3	0.6%
Education						
≤ High school/GED	37	15.2%	33	22.0%	106	21.2%
Associates	11	4.5%	23	15.3%	93	18.6%
Bachelors	139	57.2%	57	38.0%	184	36.8%
Masters	43	17.7%	26	17.3%	80	16.0%
Doctorate/professional	13	5.3%	11	7.3%	37	7.4%
Job level						
Hourly	89	36.6%	51	34.0%	180	36.0%
Salaried Professional	113	46.5%	54	36.0%	197	39.4%
Manager/Supervisor	22	9.1%	11	7.3%	50	10.0%
Dept./division manager	9	3.7%	20	13.3%	37	7.4%
Senior executive/CEO	10	4.1%	14	9.3%	36	7.2%
Yearly income						
< $20,000	66	27.2%	2	1.3%	18	3.6%
$20,000-39,999	32	13.2%	34	22.7%	137	27.4%
$40,000-59,999	61	25.1%	40	26.7%	132	26.4%
$60,000-99,999	55	22.6%	43	28.7%	142	28.4%
$100,000-199,999	27	11.1%	27	18.0%	61	12.2%
> $200,000	2	0.8%	4	2.7%	10	2.0%
No. employees in org.						
1-99	68	28.0%	43	28.7%	145	29.0%
100-499	38	15.6%	31	20.7%	100	20.0%
500-999	17	7.0%	14	9.3%	59	11.8%
1,000-10,000	82	33.7%	38	25.3%	76	15.2%
≥ 10,000	38	15.6%	24	16.0%	35	7.0%
No. Industries/sample	36		34		41	
Top 3 industries	Education	20.2%	Education	17.3%	Education	16.6%
represented	Healthcare	9.5%	Healthcare	16.0%	Healthcare	12.8%
	Accounting	5.3%	Retail	12.7%	Retail	9.6%

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Appendix C: Dissertation Study Survey Introduction Letter

- Letter is given prior to the survey. Subjects must check "I accept" to take survey. Otherwise, access and incentive aren't provided.

Organizational and Employee Support for Environmental Behaviors in the Workplace (OESEB) Survey

Thank you for your interest in participating in this research study as it is a critical step for understanding how organizations can improve their environmental sustainability efforts through employee participation in green workplace behaviors. The study addresses:

(1) Types of green behaviors in the workplace
(2) Employee motivations for participating in these behaviors
(3) Organizational practices that support these behaviors

The following is a brief survey that should take you *approximately 10 to 15 minutes* to complete. Your name and contact information are not collected, but some background information is needed for statistical purposes only. Data will be kept in strict confidentiality. The Internet protocol (IP) address of the computer where the survey was taken is not linked to responses, and results will be reported in cumulative form across respondents with no personal information. Your participation is completely voluntary and without penalty. To receive an incentive offered through Qualtrics, the survey must be fully completed and submitted.

This project has been approved by the University of Wisconsin-Milwaukee Institutional Review Board for the Protection of Human Subjects (IRB No. 15.098, IRB Exemption Date 10/22/2014). If you have questions about your rights as a research participant, please contact the IRB Director at (414) 229-3173 or by email at irbinfo@uwm.edu. Questions can be directed to the lead investigators for this project at the Sheldon B. Lubar School of Business, University of Wisconsin-Milwaukee: Dr. Sarah Freeman, sarah@uwm.edu and Sashi Sekhar, MS, doctoral student, scsekhar@uwm.edu.

Your honesty and care in filling out the survey are sincerely appreciated. The data will be used by the aforementioned doctoral candidate (Sashi Sekhar) to complete her dissertation on green behaviors in the workplace. ***Your input is valuable. Thank you for your assistance!***

I HAVE READ AND UNDERSTOOD THE "CONSENT TO PARTICIPATE" LETTER FOR THE STUDY. IF YOU AGREE THAT YOU ARE AT LEAST 18 YEARS OF AGE, EMPLOYED FULL-TIME FOR AT LEAST ONE YEAR WITH YOUR CURRENT EMPLOYER AND CONSENT TO PARTICIPATE IN THE STUDY BY TAKING THIS SURVEY, PLEASE CHECK THE "I AGREE" BOX BELOW: **I Agree**   **I Decline**

Appendix D – Complete List of Scale Items

(3)   Scales/items for dissertation model

Note: Most scales/items were used "as is" in both the pilot studies and dissertation study with the exception of those noted with **(+++).** These measures were modified for the dissertation study based on what was found in the exploratory and confirmatory factor analyses using pilot data. Appendix D, section C highlights these modifications.

<u>(IV) Psychological Climate of Care for the Natural Environment</u>

(1) Dimension 1 - Organizational care for the environment   (**+++)**
Banerjee et al. (2002, 2003) - Internal Environmental Orientation (IEO) - 7-point scale (strongly disagree...strongly agree)

1. My organization makes a concerted effort to let every employee understand the importance of environmental preservation.
2. My organization has a clear policy statement urging environmental awareness in every area of operation.
3. Environmental preservation is highly valued by my organization's members.
4. Preserving the environment is a central corporate value in my organization.

(2) Dimension 2 - Opportunities and flexibility   (**+++)**
Adapted from Thompson et al (1999) - Managerial Support dimensions of work-family climate scale- 5-point scale (strongly disagree...strongly agree)

1. In general, my supervisor is quite accommodating of me if I want to pursue environmental initiatives at work.
2. Higher management at my organization encourages supervisors to be sensitive to employees' environmental concerns.
3. Middle managers and executives at my organization are sympathetic toward employees' environmental concerns.
4. My organization is supportive if I want to do things in more environmentally-friendly ways.
5. In my organization, it is generally okay to talk about environmental issues.
6. At my organization, one can easily balance one's work with one's interest in pursuing activities that benefit the environment and the organization.
7. At my organization, it is very hard to take a break from work to voluntarily take part in environmental initiatives (R)
8. At my organization, opportunities are available to take part in activities that benefit the environment.

(3) Dimension 3 - Psychological safety **(+++)**
Adapted from Baer & Frese (2003), Brown & Leigh (1996) **, and Edmundson (1999) - 5-point scale (strongly disagree...strongly agree)

1. In my organization, employees can be rejected for being different when it comes to addressing environmental issues in the workplace.
2. In my organization, I feel free to take risks when it comes to pursuing environmental issues.
3. In my organization, I would be able to bring up problems and tough issues when it comes to how the organization is handling environmental issues.
4. My boss is flexible about allowing me to participate in environmental initiatives at work even though they are not a part of my job. **
5. My manager is supportive of my ideas on how the organization can better address environmental issues. **
6. My boss gives me the authority to implement environmental initiatives as I see fit in the organization. **

(4) Dimension 4 - Openness and supportiveness to change **(+++)**
Adapted from Baer & Frese (2003) - 5-point scale (strongly disagree...strongly agree)

1. People in my organization actively address environmental issues that may occur.
2. Whenever an environmental concern arises, people in my organization search for a solution immediately.
3. Whenever there is a chance to get actively involved in environmental issues, people in my organization take it.
4. This organization is open and responsive to changes in how they deal with issues relating to the environment.
5. When it comes to addressing environmental sustainability issues, my organization seems to be more concerned with the status quo than with change.

(Mediator) Perceived Organizational Support (POS) **(+++)**
Eisenberger et al. (1997) POS short form - 7-point scale (strongly disagree...strongly agree)

1. If the organization could hire someone to replace me at a lower salary it would do so.
2. The organization disregards my best interests when it makes decisions that affect me. (R)
3. The organization really cares about my well-being.
4. The organization takes pride in my accomplishments at work.
5. The organization tries to make my job as interesting as possible.
6. The organization values my contribution to its well-being.
7. The organization fails to appreciate any extra effort from me. (R)
8. The organization strongly considers my goals and values.

<u>(Moderator) Employee Environmental Identity (EEI)</u>   **(+++)**
Stets and Biga (2003) Meaning of EEI

Instructions: 11 bipolar statements comprised the environment identity measure. Respondents will be asked to think *about how they view themselves in relationship to the environment,* identifying where they would place themselves between each bipolar statement referencing the natural environment.

5-point scale
(lean strongly toward this view... somewhere between views...lean strongly toward this view)
(1...3...5)

1. in competition with the natural environment...in cooperation with the natural environment (R)
2. detached from the natural environment...connected to the natural environment (R)
3. very concerned about the natural environment.. indifferent about the natural environment
4. very protective of the natural environment...not at all protective of the natural environment
5. superior to the natural environment...inferior to the natural environment (R)
6. very passionate towards the natural environment...not at all passionate towards the natural environment
7. not respectful of the natural environment...very respectful of the natural environment (R)
8. independent from the natural environment...dependent on the natural environment (R)
9. an advocate of the natural environment...dis-interested in the natural environment
10. wanting to preserve the natural environment...wanting to utilize the natural environment
11. nostalgic thinking about the natural environment...emotionless thinking about the natural environment.

<u>(Moderator) Organizational Identification (OI)</u>
Mael and Ashforth (1992) - 5-point scale (strongly disagree...strongly agree)

1. When someone criticizes my organization, it feels like a personal insult.
2. I am very interested in what others think about my organization.
3. When I talk about this organization, I usually say 'we' rather than 'they'.
4. This organization's successes are my successes.
5. When someone praises this organization it feels like a personal compliment.
6. If a story in the media criticized this organization, I would feel embarrassed.

<u>(DV) OCB-E</u>   (**+++**)
(a) Boiral and Paillé (2012) – OCBE, eco-civic engagement
(b) Boiral and Paillé (2012) – OCBE, eco-helping
(c) Adapted from Van Dyne and LePine (1998) – OCB voice
(d) Adapted from Choi (2007) – OCB taking initiative
- 5-point scale (strongly disagree...strongly agree)

1. I undertake environmental actions that contribute positively to my organization's image. (a)
2. I volunteer for projects, endeavors or events that address environmental issues in my organization. (a)
3. I spontaneously give my time to help my colleagues take the environment into account in everything they do at work. (b)
4. I encourage my colleagues to express their ideas and opinions on environmental issues. (b)
5. I develop and make recommendations on how to handle environmental issues that could affect the organization. (c)
6. I speak up and encourage others to get involved in environmental issues that could affect the organization. (c)
7. I frequently come up with new ideas or new methods of performing tasks that would be beneficial to my organization's environmental sustainability efforts. (d)
8. I often suggest ideas to improve the organization's environmental efforts to others. (d)

<u>Background Information</u>

1.   What is your gender?   Female   Male

2.   What age range *best describes* you? (Select ONE)

    ___   18 - 22
    ___   23 - 29
    ___   30 – 39
    ___   40 - 49
    ___   50 – 59
    ___   60 – 69
    ___   Over 70

3.   What is the highest level of education that you have *completed*? (Select ONE)

    ____   Some high school
    ___   High school or GED

  ___ 2-year college or junior college
  ___ Bachelor's degree from a four-year university
  ___ Master's degree from a university (M.B.A., M.S.)
  ___ Doctorate (Ph.D., Ed.D, D.B.A.) or professional degree (M.D., J.D.)

4. Which of the following best describes your race or ethnic group? (Select ONE)
- ❍ Latino / Hispanic / Spanish origin (can include Cuba, Mexico, Puerto Rico, South/Central America)
- ❍ Black / African American
- ❍ White (origins in Europe, Middle East, North Africa)
- ❍ Asian (origins in Far East, Southeast Asia, and Indian Subcontinent)
- ❍ American Indian or Alaska Native (original peoples of North, Central, or South America - who maintains tribal affiliation or community attachment)
- ❍ Native Hawaiian or Other Pacific Islander (original peoples of Hawaii, Guam, Samoa, or other Pacific Islands)
- ❍ More than 1 race or ethnicity (7)

5. What is the 5-digit numeric zip code of the place where you live?

6. How many members are in your household (include yourself plus others such as spouse, children, pets, grandparent, live-in tenant, etc.) (Select ONE)
- ❍ 1 (self only)
- ❍ 2 - 3
- ❍ 4 - 6
- ❍ 7 - 9
- ❍ more than 10

7. How many years have you worked for your present employer? (Select ONE)
- ❍ Less than a year
- ❍ 1 – 5 years
- ❍ 6 – 10 years
- ❍ 11 – 20 years
- ❍ 21 – 30 years
- ❍ More than 30 years

8. Which industry do you work in? (drop down: US Dept. Labor SIC) (Select ONE)
- • Accounting
- • Advertising market services
- • Banking—commercial
- • Banking—investment
- • Communications—media
- • Communications—telecommunications
- • Computer services/software
- • Construction

- Consulting
- Education
- Entertainment/leisure/tourism
- Financial management services
- Food/Lodging
- Government—federal
- Government—international
- Government—local
- Health care services
- Import/export/international trading
- Insurance
- Law
- Nonprofit
- Real estate
- Retail/ wholesale
- Transportation
- Utilities
- Venture capital
- Aerospace
- Agribusiness
- Biotechnology
- Chemical
- Electronic equipment—computers
- Electronic equipment—consumer Products
- Electronic equipment—optics
- Electronic equipment—semiconductors
- Electronic equipment—telecommunications
- Electronic equipment—other
- Food/beverage/tobacco
- Household/personal/nonelectric
- Industrial/construction equipment
- Natural resources/extractive
- Paper/forest products
- Petroleum energy
- Pharmaceutical
- Rubber/plastics
- Software/printing/publishing
- Textiles/clothing
- Transportation equipment/automotive

9. What is the number of employees working at your present organization (if your organization has multiple locations, please give total number of employees WORLDWIDE) (Select ONE)
- ○ 1-14
- ○ 15-49
- ○ 50-99
- ○ 100-499
- ○ 500-999
- ○ 1,000-4,999
- ○ 5,000-10,000
- ○ Greater than 10,000

10. What is the level of your current job? (Select ONE)
- ○ Hourly
- ○ Salaried professional
- ○ Project or Program manager
- ○ Unit Manager or First line supervisor
- ○ Division manager or department manager
- ○ Senior executive
- ○ Executive vice president
- ○ CEO

11. What is your current annual job income level? (Select ONE)
- ○ Less than $20,000/year
- ○ Between $20,000 and $39,999/year
- ○ Between $40,000 and $59,999/year
- ○ Between $60,000 and $99,999/year
- ○ Between $100,000 and $199,999/year
- ○ Above $200,000

12. In an average week (including weekends), what percentage of your time is spent doing: (sum of percentages will total 100%)
_____ Job-related activities (e.g., projects, email, meetings, travel, paperwork, etc.)?
_____ Household activities (e.g. dependent care, housework, yard work, auto maintenance, etc.)?
_____ Other activities (e.g., volunteering, religious, leisure, friends, travel, fitness, school, etc.)?

13. Which of the following best describes you? (Select ONE)
- ○ I work full-time for an organization that is not my own
- ○ I work part-time for an organization that is not my own
- ○ I am self-employed
- ○ I do not work at this time

(4)   Scales/items for validity and bias testing purposes

Green Work Climate (GWC) – convergent validity for PCCE
Norton, Zacher, and Ashkanasy (2014), 5-point scale (strongly disagree...strongly agree), α = .93

1. My organization is worried about its environmental impact.
2. My organization is interested in supporting environmental causes.
3. My organization believes it is important to protect the environment.
4. My organization is concerned with becoming more environmentally friendly.
5. In my organization, employees pay attention to environmental issues.
6. In my organization, employees are concerned about acting in environmentally friendly ways.
7. In my organization, employees try to minimize harm to the environment.
8. In my organization, employees care about the environment.

Perception of Politics (POPs), short form – discriminant validity for PCCE and OCB-E
Hochwarter, Kacmar, Perrewe, and Johnson (2003), 7-point scale (strongly disagree...strongly agree), α = .91

1. In this organization, there is a lot of self-serving behavior going on.
2. In this organization, people do what's best for them, not what's best for the organization.
3. In this organization, people spend too much time sucking up to those who can help them.
4. In this organization, people are working behind the scenes to ensure that they get their piece of the pie.
5. In this organization, many employees are trying to maneuver their way into the in-group.
6. In this organization, individuals are stabbing each other in the back to look good in front of others.

New Environmental Paradigm Scale (NEP), short form – convergent validity for EEI

Whitmarsh (2009), SA = Strongly Agree, MA = Mildly Agree, U = Unsure, MD = Mildly Disagree, and SD = Strongly Disagree, α =.72

1. Humans have a right to modify the natural environment to suit their needs (R)
2. Humans are severely abusing the planet
3. Plants and animals have the same rights as humans to exist
4. Nature is strong enough to cope with the impact of modern industrialist nations (R)
5. Humans were meant to rule over the rest of nature (R)
6. The balance of nature is very delicate and easily upset

Proactive Pro-environmental Behavior (POB) – convergent validity for OCB-E
Bissing-Olson, Iyer, Fielding, and Zacher (2013), 5-point scale (never...always), α = .83

1. I take chances to get actively involved in environmental protection at work.
2. I take initiatives to act in environmentally-friendly ways at work.
3. I do more for the environment at work than I am expected to.

Organizational Identification (OI) – discriminant validity for EEI
Mael and Ashforth (1992) - 5-point scale (strongly disagree…strongly agree)

1. When someone criticizes my organization, it feels like a personal insult
2. I am very interested in what others think about my organization
3. When I talk about this organization, I usually say 'we' rather than 'they'
4. This organization's successes are my successes
5. When someone praises this organization it feels like a personal compliment
6. If a story in the media criticized this organization, I would feel embarrassed

Organizational Deviance
Bennett and Robinson (2001), 7-point scale (strongly disagree…strongly agree), α = .81

1. I have taken property from work without permission.
2. I have spent too much time fantasizing or daydreaming instead of working.
3. I have falsified a receipt to get reimbursed for more money than you spent on business expenses.
4. I have taken an additional or longer break than is acceptable at your workplace.
5. I have come in late to work without permission.
6. I have littered in my work environment.
7. I have neglected to follow my boss's instructions.
8. I have intentionally worked slower than you could have worked.
9. I have discussed confidential company information with an unauthorized person.
10. I have used an illegal drug or consumed alcohol on the job.
11. I have put little effort into my work.

Marlowe-Crowne Social Desirability, short form
Strahan and Gerbasi (1972), 2-point scale (true…false), α = range .80-.90

1. I never hesitate to go out of my way to help someone in trouble.
2. I have never intensely disliked anyone.
3. There have been times when I was quite jealous of the good fortune of others.
4. I would never think of letting someone else be punished for my wrong doings.
5. I sometimes feel resentful when I don't get my way.
6. There have been times when I felt like rebelling against people in authority even though I knew they were right.
7. I am always courteous, even to people who are disagreeable.

8. When I don't know something I don't at all mind admitting it.
9. I can remember playing sick to get out of something.
10. I am sometimes irritated by people who ask favors of me.

Job Satisfaction – common method bias marker
Kreitner and Kinicki (2004), 5-point scale (strongly disagree…strongly agree), α = .84

1. All in all, I am satisfied with my job.
2. In general, I do not like my job.
3. In general, I like working here.

(5)   Modified scales/items for dissertation study

- Items retained for final dissertation study are shown in color

PCCE	Initial Survey	Final Survey
D1	**Organizational care for environment** 1. My organization makes a concerted effort to let every employee understand the importance of environmental preservation. 2. My organization has a clear policy statement urging environmental awareness in every area of operation. 3. Environmental preservation is highly valued by my organization's members. 4. Preserving the environment is a central corporate value in my organization.	**Organizational environmental support** 1. My organization makes a concerted effort to let every employee understand the importance of environmental preservation. 2. My organization has a clear policy statement urging environmental awareness in every area of operation. 3. Environmental preservation is highly valued by my organization's members. 4. Preserving the environment is a central corporate value in my organization.
D2	**Opportunities and Flexibility** 1. In general, my supervisor is quite accommodating of me if I want to pursue environmental initiatives at work. 2. Higher management at my organization encourages supervisors to be sensitive to employees' environmental concerns. 3. Middle managers and executives at my organization are sympathetic toward employees' environmental concerns. 4. My organization is supportive if I	**Managerial environmental support** 1. In general, my supervisor is quite accommodating of me if I want to pursue environmental initiatives at work. 2. Higher management at my organization encourages supervisors to be sensitive to employees' environmental concerns. 3. Middle managers and executives at my organization are sympathetic toward employees' environmental concerns. 4. My organization is supportive if I want to do things in more environmentally-friendly ways.

		want to do things in more environmentally-friendly ways. 5. In my organization, it is generally okay to talk about environmental issues. 6. At my organization, one can easily balance one's work with one's interest in pursuing activities that benefit the environment and the organization. 7. At my organization, it is very hard to take a break from work to voluntarily take part in environmental initiatives. (R) 8. At my organization, opportunities are available to take part in activities that benefit the environment.	
D3	**Psychological Safety** 1. In my organization, employees can be rejected for being different when it comes to addressing environmental issues in the workplace. (R) 2. In my organization I feel free to take risks when it comes to pursuing environmental issues. 3. In my organization, I would be able to bring up problems and tough issues when it comes to how the organization is handling environmental issues. 4. My boss is flexible about allowing me to participate in environmental initiatives at work even though they are not a part of my job. 5. My manager is supportive of my ideas on how the organization can better address environmental issues. 6. My boss gives me the authority to implement environmental initiatives as I see fit in the organization.	**Co-worker environmental support** 1. People in my organization actively address environmental issues that may occur. 2. Whenever an environmental concern arises, people in my organization search for a solution immediately. 3. Whenever there is a chance to get actively involved in environmental issues people in my organization take it. 4. This organization is open and responsive to changes in how it deals with issues relating to the environment.	
D4	**Openness and Supportiveness to Change** 1. People in my organization actively address environmental issues that may occur. 2. Whenever an environmental concern		

	arises, people in my organization search for a solution immediately. 3. Whenever there is a chance to get actively involved in environmental issues, people in my organization take it. 4. This organization is open and responsive to changes in how they deal with issues relating to the environment. 5. When it comes to addressing environmental sustainability issues, my organization seems to be more concerned with the status quo than with change. (R)	
OCB-E	1. I undertake environmental actions that contribute positively to my organization's image. 2. I volunteer for projects, endeavors or events that address environmental issues in my organization. 3. I spontaneously give my time to help my colleagues take the environment into account in everything they do at work. 4. I encourage my colleagues to express their ideas and opinions on environmental issues 5. I frequently come up with new ideas or new methods of performing tasks that would be beneficial to my organization's environmental sustainability efforts. 6. I often suggest ideas to improve the organization's environmental efforts to others 7. I develop and make recommendations on how to handle environmental issues that could affect the organization 8. I speak up and encourage others to get involved in environmental issues that could affect the organization	1. I volunteer for projects, endeavors or events that address environmental issues in my organization. 2. I suggest ideas to improve the organization's environmental efforts. 3. I develop and make recommendations on how to handle environmental issues that could affect the organization. 4. I speak up and encourage others to get involved in environmental issues that could affect the organization.
EEI	1. in competition with the natural environment... in cooperation with the natural environment	1. very concerned about the natural environment...…………………….... indifferent about the natural

		2. detached from the natural environment... connected to the natural environment 3. very concerned about the natural environment... indifferent about the natural environment 4. very protective of the natural environment... not at all protective of the natural environment 5. superior to the natural environment... inferior to the natural environment 6. very passionate towards the natural environment... not at all passionate towards the natural environment 7. not respectful of the natural environment... very respectful of the natural environment 8. independent from the natural environment...dependent on the natural environment 9. an advocate of the natural environment... dis-interested in the natural environment 10. wanting to preserve the natural environment... wanting to utilize the natural environment 11. nostalgic thinking about the natural environment...emotionless thinking about the natural environment.	environment (rev) 2. very protective of the natural environment................................. not at all protective of the natural environment (rev) 3. very passionate towards the natural environment..............not at all passionate towards the natural environment (rev) 4. an advocate of the natural environment... .dis-interested in the natural environment (rev) 5. wanting to preserve the natural (rev) environment.......................................wan ting to utilize the natural environment (rev)
POS		1. If the organization could hire someone to replace me at a lower salary it would do so. 2. The organization disregards my best interests when it makes decisions that affect me. (R) 3. The organization really cares about my well-being. 4. The organization takes pride in my accomplishments at work. 5. The organization tries to make my job as interesting as possible. 6. The organization values my contribution to its well-being. 7. The organization fails to appreciate any extra effort from me. (R)	1. The organization disregards my best interests when it makes decisions that affect me. (rev) 2. The organization really cares about my well-being. 3. The organization takes pride in my accomplishments at work. 4. The organization tries to make my job as interesting as possible. 5. The organization values my contribution to its well-being. 6. The organization fails to appreciate any extra effort from me. (rev) 7. The organization strongly considers my goals and values.

	8. The organization strongly considers my goals and values.	

Curriculum Vitae

Ms. Sashi Sekhar

Ph.D., Management Science (minor International Business), University of Wisconsin-Milwaukee; 25+ years combined experience in industry as a process analyst for Fortune 500 firms and in higher education as a clinical professor; research in organizational strategy and behavior

Seeking a **business school faculty position** at a university that supports multi-level organizational research and a high quality learning environment that emphasizes a career-focused curriculum to prepare students to be socially conscious, globally-minded leaders with strong decision-making abilities and qualitative and quantitative skill sets

UNIVERSITY EXPERIENCE

INSTRUCTION
- Versatile instructor; 20+ years in adjunct and full-time positions in business, engineering, and technology for undergraduate and graduate programs (Bachelors, Masters, MBA, EMBA) at *Purdue University Northwest, Florida State University, University of Wisconsin-Milwaukee*
- Courses: *Strategic Management Capstone (31 semesters), Operations Management (12 semesters), Principles of Business (21 semesters), Organizational Behavior (7 semesters)*
- Integrate industry experience into content along with experiential and service learning strategies
- Incorporate ethical decision-making, social responsibility, and global perspectives into materials
- Tailor instruction for: a) small and large class sizes; b) traditional format with lecture and discussion sections; c) online / hybrid classes; d) accelerated 4, 6, and 8 week schedules; f) weekend programs
- Individualized attention: a) first-generation, US; b) first-generation, college; 2) working professionals; c) foreign nationals; d) returning students; and e) racially and ethnically diverse students

CURRICULUM DEVELOPMENT/ MANAGEMENT
- Responsible for curriculum design and management of aforementioned courses
- In particular, extensively revised Strategic Management Capstone course into experiential format
- Developed all elements: a) goals/objectives aligned with program accreditation standards; b) content; c) syllabus/schedule; d) learning environment; e) assignments; f) assessments

- Coordinated instructor activities: a) select materials; b) manage goals/objectives consistency across sections; c) assess instructional quality through class visits, learning assessments, and semester evaluations; d) share best practices to promote instructional excellence; e) mentor students and instructors; f) assess progress of program accreditation goals fulfillment

ACCREDITATION WORK
- 5+ years at University of Wisconsin-Milwaukee managing Business School's AACSB Assurance of Learning reports under the direction of AASCB chair and university-wide accreditation body
- Developed reports for Bachelors, Masters, MBA, EMBA, Ph.D., Nonprofit certificate
- Strong working-knowledge of higher education assessment and evaluation systems
- Assisted School during 2013 AACSB site visit; resulted in all programs being re-accredited
- Identified and collected necessary data for assessment purposes
- Developed and applied assessment criteria to evaluate data against measurement targets
- Used statistical and graphical techniques for data analysis
- Wrote in-depth technical reports approved by School's AACSB Accreditation Committee
- Organized and maintained AACSB data in secure location
- Input School's assessment results on university's online accreditation system; WEAVE
- Designed School's online alumni surveys using Qualtrics software
- At Purdue Northwest, assembled and submitted my academic portfolio for accreditation purposes

RESEARCH ACTIVITIES
Conference Papers

Sekhar, S. *"Employee Environmental Values, Green Organizational Initiatives, and P-O Fit: Influence on Employee Attitudes toward Initiatives, Organizational Commitment and Turnover Intentions"* to be presented at International Association for Business & Society (IABS) Annual Conference, Portland, OR, June 2013

Sekhar. S. "*Integrating SHRM and HR Legal Issues Work: Getting a Clearer Picture by Looking Through Both Lenses.*" to be presented at Academy of Management (AOM) Annual Conference, Boston, MA, August 2012

Sekhar, S., & Dimitrova, M. "*Do Activists Pay Attention to Organizational Resource Characteristics? Effects of Dedicated and Potential Resource Allocations on Stakeholder Activism*" presented at the Academy of Management Midwest (MAM) Annual Conference, Omaha, NE, October 2011 (doctoral student best paper nomination)

Yunlu, D., Sekhar, S., Winkel, D., & Shaffer, M. "*Perceptions of Interpersonal Conflict in Organizations: Role of Justice, Perceived Organizational Support, and Emotional Intelligence.*" presented at Society of Industrial-Organizational Psychology (SIOP) Annual Conference, Chicago, IL, April 2011.

Sekhar, S. "*Philanthropic Behavior Associated with Multinational Enterprises: Strategic and Moral Philosophy Influences.*" Academy of International Business (AIB) Annual Conference, Rio De Janeiro, Brazil, June 2010.

Sekhar, S. "*The Second Act*" strategic management teaching case. The Clute Institute of Applied Business Research Conference, Honolulu, HI, January 2009.

Sekhar, S. "*Stakeholder Management: A Cross-Cultural Perspectiv*e." Academy of International Business (AIB), Southeast Chapter, Atlanta, GA, November 2001.

Sekhar, S. & Capar, N. "*A Cross-Cultural Perspective on Multinational Corporate Performance,*" Academy of International Business (AIB), Southeast Chapter, Atlanta, GA, November 2001.

Sekhar, S. "E-*commerce and Two Popular Business-level Typologies: A Comparative Analysis,*" *Global Competitiveness*, pp. 45-55, October 2001.

Sekhar, S. "*A Technology Curriculum for the Year 2000 and Beyond.*"American Society of Engineering Education Conference, Seattle, WA, October 1998.

Publications and Works in Progress

Sekhar, S. *"Studying the connections between organizations, individuals, and the natural environment across disciplines – A research agenda."* Conditional acceptance at Organization & Environment; revise & re-submit

Sekhar, S. "*The Second Act,*" strategic management teaching case. Conditional acceptance at Journal of Case Research; revise & re-submit

Sekhar. S. "*Integrating SHRM and HR Legal Issues Work: Getting a Clearer Picture by Looking Through Both Lenses.*" Submitted to Human Resources Management

Sekhar, S. "*Addressing the "what", why", "how" and "who": Using an international business lens to examine corporate social responsibility – A review of the literature.*" Submitted to International Journal of Management Reviews

Sekhar, S. "*Employee Volunteering and Job Embeddedness: Encouraging Better Performance and Intentions to Stay with the Firm?*" targeted to Midwest Academy of Management 2017 Conference

Sekhar, S. "*CEO Stock Options and Prior CEO Experience Effects on Firm Performance: Does the Departing CEO Factor In?*" targeted to Academy of Management Midwest 2017 Annual Conference

Journal / Conference Activity	Professional Memberships
- Journal Manuscript Reviewer – Organization & Environment, Business & Society (June 2013 – date)	**-**Academy of Management **-**Academy of International Business **-**Intl. Association for Business & Society
- Session Chair (2013) - International Association for Business & Society	**-**Society of Human Resource Management **-**Society of I/O Psychology

Conference Manuscript Reviewer –
Academy of Management, International
Association for Business & Society

University of Wisconsin-Milwaukee, Sheldon B. Lubar School of Business
- Ph.D., Management Science, minor International Business, December, 2016
- Chancellor's Graduate Student Award (2014 / 2015)

DISSERTATION: Bringing the outside in: Examining the impacts that climate, exchange, and identity processes have on organizationally-beneficial employee green behavior

RESEARCH INTERESTS: multi-level aspects of corporate social responsibility and environmental sustainability; strategic implications of private/non-profit/public collaboration; volunteerism in the workplace; using identity/institutional lenses to examine organizational/employee outcomes

Purdue University, West Lafayette, IN
- M.S., Industrial Engineering, December1993
- B.S., Industrial Engineering, May 1989
- Certification in Distance Learning Education, January 2011

Indiana University, School of Public and Environmental Affairs
- Graduate Certification in Environmental Affairs, May 2006

National Society for Experiential Education
- Certification in Experiential Learning, December 2009

University of Wisconsin-Milwaukee, Sheldon B. Lubar School of Business
- AACSB Accreditation Project Assistant   August 2010 – July 2015
  o Developed and published AACSB Assurance of Learning reports for six
      business programs
- Adjunct Faculty   May 2013 - July 2013
  o Developed and taught Organizational Behavior 6-week online (D2L) ~ 40
      students

Purdue University Northwest
- Clinical Professor/Curricula Coordinator
  College of Business   August 2001 – December 2012
  <u>Instruction</u>   responsible for development, management, teaching
  (xx sem. taught/coordinated)
    o Class size: 15 – 50 students Course evaluations: 4.00/5.00 – 4.89/5.00
    o Students: 18 – 65 age range; all races/ethnicities; work experience: little,
      part-time, hourly, supervisory, senior manager, professional; first-generation

- MGMT 650 - Strategic Management, MBA & executive MBA (8 sem)
- MGMT 450 EXL – Strategic Management: Capstone experiential (20 sem)
- MGMT 360 – Operations Management (6 sem)
- OBHR 330 – Organizational Behavior (class & online (Blackboard)) (6 sem)
- MGMT 301 – Career Lectures (1 sem)
- MGMT 101 – Principles of Business (class & online (Blackboard)) (21 sem)

Service
- Faculty Advisor, *Collegiate Entrepreneur Organization* and *Society of Women Engineers*
  - Initiated chapters in coordination with other faculty
  - Organized and held quarterly meetings; invited industry guest speakers
  - Served in advisory capacity for student leaders
  - Sponsored students for national conferences and field trips
- Faculty Search Committee, Strategic Management
  - Reviewed credentials and interviewed candidates; provided input on final selection
- Faculty Mentor for Undergraduate Students
  - Provided emotional support and advice about courses and study strategies
  - Explained graduation requirements and assisted with plans of study
- Program Development Committee, Bachelor of Arts (BA) in Business
  - Developed and gained approval for BA program curriculum
- Grade Appeals Committee

- Continuing Instructor, Engineering/Technology   January 1993 – August 1999
  - IET 404 – Industrial Organizations (8 sem)
  - IET 310 – Facilities Design & Material Handling Systems (2 sem)
  - IET 224 – Operations Management (6 sem)
  - OLS 252 – Human Relations in Organizations (4 sem)
  - ENGR 190 – Introduction to Engineering Design & Analysis (2 sem)

Florida State University, College of Business   August 1999 – August 2001
- Research Assistant and Adjunct Faculty
  - Teaching – Strategic Management Capstone (3 sem)
  - Research – data analysis for Labor Relations studies

Tyco Intl. Ltd, Aurora, IL   March 1996 - August 1998
    Manager, Systems Engineering

Reliable Packaging Inc., Chicago, IL   July 1993 - January 1996
    Senior Systems Engineer

Daxus Corporation, Munster, IN   June 1990 – January 1993

Associate Systems Engineer

R & R Donnelley & Sons, Crawfordsville, IN   June 1988 – May 1990
    Industrial Engineer

- Industry positions required me to work in cross-functional teams to: (1) apply TQM and lean production principles to analyze product/process quality, efficiency, effectiveness; (2) make improvement recommendations; (3) implement necessary changes; (4) develop technical documents; (4) train employees on revised processes; (5) continually assess system performance; (6) address safety concerns; (7) develop and submit progress reports and budgets to senior management

REFERENCES

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Professor, Entrepreneurship
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