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Corporate Greening, Exchange Process Among Co-workers, and Ethics of Care: An Empirical Study on the Determinants of Pro-environmental Behaviors at Coworkers-Level

Pascal Paillé · Jorge Humberto Mejía-Morelos · Anne Marché-Paillé · Chih Chieh Chen · Yang Chen

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Abstract The purpose of this study was to examine the relationships between perceived co-worker support, commitment to colleagues, job satisfaction, intention to help others, and pro-environmental behavior with the emphasis on eco-helping, with a view to determining the extent to which peer relationships encourage employees to engage in pro-environmental behaviors at work. This paper is framed by adopting social exchange theory through the lens of ethics of care. Data from a sample of 449 employees showed that receiving support from peers triggers an exchange process that encourages eco-helping among colleagues. The implications of the findings are discussed in the light of the social exchange literature.

Keywords Greening organizations · Perceived co-worker support · Commitment to colleagues · Job satisfaction · Intention to help others · Eco-helping · Ethics of care

P. Paillé
Department of Management, Faculty of Business Administration, Laval University, Pavillon Palasis-Prince, Local 1638, 2325, rue de la Terrasse, Quebec, QC G1V 0A6, Canada
e-mail: pascal.paille@fsa.ulaval.ca

J. H. Mejía-Morelos
Instituto Tecnológico Autónomo de México (ITAM), Av. Camino a Sta. Teresa 930, Col. Héroes de Padierna, 10700 Mexico, D.F., Mexico
e-mail: jhmm2007@gmail.com

A. Marché-Paillé
Department of Psychoanalysis and Clinical Consulting, Faculty of Psychology and Educational Sciences, Ghent University, H. Dunantlaan 2, 9000 Ghent, Belgium
e-mail: anne.marchepaille@ugent.be

C. C. Chen (✉)
Western Business School of China, Southwestern University of Finance and Economics, Chengdu 610074, Sichuan, People's Republic of China
e-mail: cchen@swufe.edu.cn

Y. Chen
School of Business Administration, Southwestern University of Finance and Economics, No. 555, Liutai Road, Wenjiang District, Chengdu 611130, Sichuan, People's Republic of China
e-mail: chenyang@swufe.edu.cn

Introduction

In a recent book edited by Jackson et al. (2012), practitioners examined various environmental initiatives implemented in their companies. Using a case study approach, the authors emphasized that the involvement of all employees at all levels is a critical factor in the promotion of environmental sustainability. As such, top management, line managers, clerical employees, and front-line workers play a key role in helping their company to achieve environmental sustainability. While top management may provide the impetus to engage in pro-environmental behaviors by defining environmental sustainability as a new value for the firm (Jabbour and Santos 2008), managers can also promote employee empowerment in the area of environmental sustainability (Daily et al. 2007) or may encourage employees to be eco-innovative (Ramus and Steger 2000). However, the literature has not well considered what employees do at their own level to help co-workers achieve environmental sustainability. The purpose of this paper is to address this issue by examining the factors that lead employees to engage in pro-environmental behavior in the workplace. In so doing, we propose to frame our paper by adopting social exchange theory (SET) through the lens of an ethic of care.

SET may provide a useful framework for studying environmental issues. However, little research has been

conducted to connect SET to environmentally sustainable behavior (Craddock et al. 2012). Social exchange was defined by Blau (1964) as "the voluntary actions of individuals that are motivated by the returns they are expected to bring and typically do in fact bring from others" (p. 91). Chen and Choi (2005) indicated that social exchange can be analyzed either at the macro-level (i.e., cultures) or micro-level (i.e., particular contexts such as organizations). At a macro-level, an exchange relationship is structured around three main obligations: give, receive, and return (Mauss 1954). According to Konstantinou and Fincham (2010), "giving initiates the sequence—there is an almost existential anxiety to give as the only way to earn the right to participate at the social level. The obligation to receive is reciprocal with that of giving; it recognizes the status of the gift and accepts the duty to make a return" (p. 828). The motivation to make a return highlighted by Konstantinou and Fincham is one of the fundamental principles explaining how exchange occurs between two people (i.e. a "donor" and a "receiver"). The assumption is that the donor invites the receiver to enter into a relationship and the receiver either accepts or refuses the offer (Konstantinou and Fincham 2010). By accepting to receive a gift, a moral debt is incurred. The obligation to return is created by the moral debt by which the tie between two people is maintained over time. At the micro-level, by drawing upon relevant literature, Chen and Choi (2005) distinguished four types of exchange structures that offer a particular pattern of social exchanges: negotiated exchange (based on explicit agreement), reciprocal exchange (giving and receiving across time), co-productive exchange (combination of resources to generate a joint good), and generalized exchange (unilateral benefits to one member from another or other members within a group).

Business ethics can "be regarded as a set of moral principles or values" (Carroll and Buchholtz 2008, p. 242) and may contribute to better understanding the relevance of SET between co-workers. Chen and Choi (2005) have shown the usefulness of combining an ethics perspective and a social exchange framework for studying some dilemmas raised by practices in three specific contexts of knowledge (i.e., R & D joint ventures, international intellectual property transfer, and plagiarism in academic research). In accordance, we believe that this kind of combination may be fruitful for studying how workers shape their relationships with each other in the context of environmental sustainability. Therefore, SET can be enhanced by highlighting to what extent ethical issues can help our understanding of why and how reciprocity between co-workers occurs when they believe in the necessity of acting on the job in favor of the natural environment. That is to say, it is important to delineate what we consider an appropriate ethical perspective to our purpose. In this paper, we focus on the ethics of care. In fact, Sander-Staudt and Hamington (2011) argued that "a care ethical approach to business is unique because it conceptualizes mutual interdependency and cooperative relationship as ontologically basic" (introduction, p. x). As such, an ethic of care appears relevant in the social exchange perspective among co-workers for examining how they take into account their peers' environmental concerns. Finally, for the sake of clarity, given that generalized exchange generates solidarity among individuals within a group (Chen and Choi 2005), it seems more compatible with the ethics of care that enable the emergence of social cohesion (Held 2002).

Very little research has explicitly addressed how relationships between co-workers contribute to the willingness to promote pro-environmental behavior in work settings by combining the ethical care perspective with the tenets of SET. The purpose of this paper is to address this issue. In so doing, the paper makes four main contributions. First, as noted by Ones and Dilchert (2012b), "pro-environmental behaviors have been studied in both the public and private sphere, but rarely in work settings" (p. 452). To address this issue, this study proposes to examine pro-environmental behaviors in a work setting. Second, as noted above, it has been suggested that traditional theoretical frameworks used for studying the factors driving pro-environmental behavior in public settings may not be appropriate for examining pro-environmental behaviors at work (Andersson et al. 2005; Stern 2000). This study extends previous research by applying the tenets of SET to the description of how employees can be encouraged by their peers to engage in pro-environmental behaviors. Third, an overview of the social exchange literature indicates that empirical research on exchange between peers is less common than research on the exchange process between organizations and employees or between leaders and their subordinates (Lavelle et al. 2007; Paillé 2013; Schaninger and Turnipseed 2005; Sherony and Green 2002; Takeuchi et al. 2011). Previous research has found that attitudes and behaviors at work are best predicted when the entity "colleagues" is viewed as the focus (rather than other possible foci such as the organization or the boss (e.g. Chiaburu and Harrison 2008; Riketta and Van Dick 2005). We believe that focusing on co-workers contributes to the study of pro-environmental behavior at work.

Finally, despite some existing works that use the ethical care perspective in organizational or business contexts (e.g., Held 2002; Hamington and Sander-Staudt 2011; Simola 2007), this perspective remains largely overlooked in environmental sustainability research. A notable exception is the comprehensive framework developed by Sama et al. (2004) in which they envisioned that adopting the ethics of care might enhance interactions between organizations and

the natural environment. They conceived of an organization as a "community of practice wherein it behooves all members to attend to each other's needs in order to sustain the community" (p. 155). Given that an organization is an abstraction represented by and through a wide range of individuals or groups (Reichers 1985), it remains unclear in the model of Sama et al. (2004) who within the organizations should take care of the environment. In addition, there is a lack of research on how employees interact with their peers in order to help them to engage in pro-environmental behaviors in work settings. Thus, by putting the focus on peers, the current study proposes to shed more light on the usefulness of the ethics of care for studying social exchange in a context of environmental sustainability.

"Theoretical Background and Hypotheses" section presents the literature review and the research hypotheses. "Method" and "Results" sections present the method and results. Finally, the findings are discussed in the light of the literature review.

Theoretical Background and Hypotheses

Although SET and ethics of care are different frameworks, they have great similarities. For example, reciprocity,[1] moral obligation and relationships between persons are acknowledged as important underpinnings for social exchange theorists (Blau 1964; Gouldner 1960; Lavelle et al. 2007), as well as for care ethicists (Held 2006; Mayeroff 1971; Noddings 1984). As such, these three tenets can be posited as theoretical connection points allowing to articulate social exchange with ethics of care for designing the research model.

The proposed research model (based on a set of hypotheses developed in the literature review section) draws upon these underpinnings, and aims to demonstrate how peer relationships contribute to creating a working environment that encourages mutual support among employees by helping them to deal with environmental issues. As shown in Fig. 1, the relationships between one specific construct of SET (perceived co-worker support), two employee attitudes (satisfaction and commitment), and employee outcomes (helping others and eco-helping) were examined.

Typically, the ethics of care are traced back in feminist literature and more specifically in the works on dependence in everyday lives undertaken by Gilligan (1982). Few years later, Noddings (1984) has deeply refined the ethical care perspective (Slote 2007). Her care ethical perspective is conceived as a moral deliberation experienced in real time that implies the appraisal of uniqueness of each caring relationship. In the care perspective defined by Noddings, the obligation to care is strongest towards those who are able to express a reciprocal relationship (Sander-Staudt 2011a). This means that the provision of care is properly delivered when those who give care are close to the beneficiaries, in term of spatial proximity.[2] Since Tronto (1993) this ethical care perspective has been analyzed in a broader sense. In its contemporary form, Hawk (2011) indicated that this ethical perspective has become a comprehensive framework "that can encompass the full range of moral issues experienced by humans" (p. 14) and that it can also be applied to a wide range of domains such as, among others, nursing or counseling (Engster 2011).

Noddings (1984), and Tronto (1993) share the idea that caring is a process that articulates several phases. While Noddings proposed "caring about" and "caring for" as the two main steps of caring, Tronto has stretched the care process that is described through caring about, taking care of, care-giving, and care-receiving (Engster 2011; Tronto 1993). While "caring about" refers to one individual's willingness to direct his or her attention to others (Tronto 1993), "taking care of" involves the necessity that one gives care when one is aware that someone needs care (Tronto 1993), "caring for" refers to the act (i.e., hands-on) of care provision (Sander-Staudt 2011a), and is similar to care-giving (Liedtka 1996). Care-giving and care-receiving reflect the act of care and as such are interconnected. Care-giving refers to the provision supplied by the benefactor, and care-receiving is the degree to which the recipient believes the provision meets his or her needs (Hawk 2011; Simola 2007). These phases rely on the key elements of attentiveness, responsibility, competence, and responsiveness that refer to moral virtues that bolster individual actions (Sander-Staudt 2011b).

Although Tronto (1993) proposed that caring activities can be delivered to the environment, she failed to give a clear explanation of what exactly covers the environment. Rarely specified in the perspective of care, the environment can be regarded in a broader sense by referring, for example, to local communities that surround a firm (Engster 2011) or, as in the remainder of this paper, to the natural environment (Sama et al. 2004). That is to say, from the employee's standpoint, an important question is, what does it mean to be caring toward a co-worker in relation to his or her environmental concerns? As a starting point, we contend that one co-worker cares about another

[1] Although we are aware of the existing debate among care ethicists about, for example, the nature of reciprocity, what interests the authors of this paper is that, in accordance with generalized exchange, most care ethicists share the idea that reciprocity should not be considered as form of contract, rather as an underlying process through which relations among people are maintained over time.

[2] See Slote's discussion (2007, chapter 2) about different forms of proximity in the ethics of care.

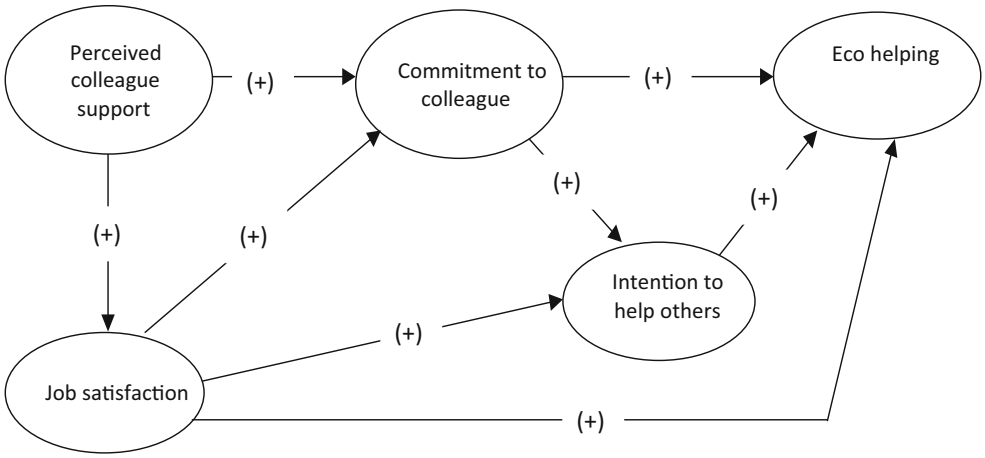

Fig. 1 Research model

when he or she allows him or her to pursue what he or she considers as an important moral interest, such as taking care of the natural environment. By being attentive (caring about), responsible (taking care of), or responsive (act of caring) to a colleague for whom protecting the environment is an important concern, peers may contribute to shaping a caring workplace for the sake of the natural environment.

Mutual assistance seems built through the act of caring (Simola 2007). In the perspective of ethics of care, receiving caring attention from others means "being treated well because one is an essential member of the group, being recognized […] for what one has accomplished or put up with because one has made a proper contribution" (Solomon 1998, p. 519). Solomon's proposition is consistent with the notion of support in SET. Blau (1964) suggested that social support is an important input for social exchange among individuals involved in a given relationship. Social support refers to the positive nature and function of social relationships with various people (Burke et al. 1996, p. 263). As such, following Burke et al. (1996), for a given individual, while social support outside work may involve relationships with a spouse or friends, social support at work may be provided by employers, leaders, or colleagues. Given the focus of this paper, we begin by examining support in the workplace, before focusing on support from peers (i.e. colleagues). In the context of peer relationships, support occurs when an employee perceives that a colleague demonstrates their concern for the employee's well-being by taking appropriate measures designed to support them. Typically, well-being at work is limited to physical and mental health and is consistent with the moral obligation to care for others in order to avoid or alleviate pain or suffering (Engster 2011). Interestingly, Del Brío et al. (2008) found evidence of increased environmental performance when employers integrate health and safety into environmental protection. However, well-being at work can also be viewed from a broader perspective by including other dimensions. For example, while Anttonen and Räsänen (2009, pp. 17–18) included change management and the organization of work, the support provided to the individual by the work community, and the extent to which individuals find their work meaningful and rewarding, O'Driscoll et al. (2004) proposed to take into account helpful information or advice (informational support), sympathetic understanding and concern (emotional support), clear and helpful feedback (feedback support), and practical assistance (practical support).

Very little research on peer support has been conducted in the specific context of environmental sustainability. However, previous studies provide some interesting clues. It has been suggested that in the context of environmental management systems, sharing tacit knowledge, providing advice and feedback, and offering practical assistance among peers involved in a given industrial process play an important role in achieving environmental sustainability (Boiral 2002; DeJonghe et al. 2009). Although Boiral (2002) and DeJonghe et al. (2009) have not taken into account the ethical care perspective, their findings also give an insight that may help shed light on how care takes place among colleagues. In a study of tacit knowledge in the context of environmental management, Boiral (2002) reported that "new employees can benefit more quickly from the experience accumulated by other employees than by referring to formal documentation. This documentation likewise facilitates the empowerment of these employees" (p. 309). In this example, older workers provide support to new employees by providing helpful information. Another example of the potential support role of colleagues can be found in a more recent empirical study. DeJonghe et al. (2009) conducted a study to identify the factors that explain employee motivation to promote eco-initiatives (defined as any action taken by an employee that she or he thought

would improve the environmental performance of the company) in eco-entrepreneurial companies. DeJonghe et al. (2009) found, among other things, that when employees engage in eco-initiatives, they seek the approval of other people in the workplace (particularly their peers) and that they are motivated by the recognition received from these people. Since sharing knowledge (Boiral 2002) and approval and recognition (DeJonghe et al. 2009) are important dimensions of support (Blau 1964; Rhoades and Eisenberger 2002), the findings discussed above provide a good illustration of how social support occurs among co-workers in the context of environmental concerns.

Perceived co-worker support refers to the extent to which employees believe their peers value their contribution and are concerned about their well-being (Bishop et al. 2000), and is the expression on the amount of peer support employees feel they have received (Mossholder et al. 2005). Commitment to colleagues is defined as the psychological attachment felt by an employee toward other colleagues (Pearce and Herbik 2004). Field studies have found a positive relationship between perceived co-worker support and commitment to colleagues (Paillé 2013)—in other words, the greater the level of perceived co-worker support, the greater the level of commitment to colleagues. When an individual receives support from peers in the form of personal respect, emotional support, or advice, the latter demonstrate the degree to which they are committed to the former. This process contributes to fostering relationships among colleagues, and is consistent with Noddings when she argues that a caring relation "requires the recognition and spontaneous response of the cared-for" (p. 78).

Previous studies have examined the relationship between perceived co-worker support and commitment to co-workers, and job satisfaction. Good relationships with co-workers are an important source of satisfaction. Employee satisfaction with the job is the result of an evaluation of different dimensions of the job (e.g. Bowling et al. 2006). A state of (dis)satisfaction is merely the result of an evaluation process in which employees come to enjoy (or dislike) their experience in the workplace. While a negative evaluation leads to dissatisfaction, a positive evaluation leads to satisfaction. When an individual receives support from colleagues, his or her evaluation of a particular dimension of the job leads to the feeling that co-workers contribute to fulfilling important socio-emotional needs. For ethicists of care, a clean environment is conceived as one of the basic needs of individuals (Hawk 2011). Therefore, if protecting the natural environment is a critical need for an individual, his or her co-workers contribute to fulfilling this need by expressing their loyalty toward him or her if they demonstrate their concern about the importance of caring for the environment. Socio-emotional needs, as well as the need for harming the environment as little as possible, play an important role in the workplace. For example, Armeli et al. (1998) reported findings indicating increased work performance when employers take supportive measures that meet socio-emotional needs in terms of esteem, affiliation, emotional support, and approval. Support from a colleague may have the same result. Empirical evidence of a direct positive relationship has been found between perceived co-worker support and job satisfaction (Chiaburu and Harrison 2008), between perceived co-worker support and commitment to colleagues (Paillé 2013), and between satisfaction with the work group and commitment to colleagues (Karsh et al. 2010). These findings are in line with the ethics of care because considering responsibility as a key moral duty of care, this perspective puts the emphasis on the necessity for those who give the needs to participate in the relationship (Hawk 2011). Care in the workplace expresses a form of loyalty toward other people, in the sense given by Oxley and Wittkower (2011): "actions and commitments beyond those required merely for satisfactory job performance" (p. 228). This suggests that when an employee receives support from colleagues, he or she experiences more satisfying relationships with peers and, in turn, becomes more committed to them. Therefore, an indirect effect is expected between perceived co-worker support and commitment to colleagues through job satisfaction.

Hypothesis 1 Perceived co-worker support and commitment to colleagues are positively related.

Hypothesis 2 Perceived co-worker support and job satisfaction are positively related.

Hypothesis 3 Job satisfaction plays a mediating role between perceived co-worker support and commitment to colleagues.

In the above discussion regarding the first three hypotheses, the emphasis has been put on the effect of perceived support on two key employee attitudes (i.e. commitment and satisfaction). The following sections propose discussing the next two hypotheses and stress on the effect of peer exchange by examining helping behavior as an employee outcome.

Simola (2007) suggested that mutual assistance tied to care activity contributes to establishing what she called a *win–win* context. As an important pillar in ethics of care, as well as in SET, helping others contributes to shaping such a context. Schaninger and Turnipseed (2005) noted that social exchange is based on reciprocity and occurs when a receiver reciprocates by offering the donor something that has value. Ilies et al. (2009) indicated that "employees who benefit from satisfying work environments will be more likely to reciprocate by engaging in citizenship behaviors"

(p. 947). In a social exchange context, individuals may return the favor in the form of organizational citizenship behavior (OCB) (Organ 1990). If the donor is the organization, the employee returns the favor by making extra efforts in the form of civic virtue (defined below). If the donor is a colleague, the employee returns the favor by providing help. Helping others is typically viewed as discretionary behavior (Stamper and Masterson 2002).

For social exchange theorists (Lavelle et al. 2007) discretionary behaviors at work involve voluntary efforts beyond job requirements. This means that employees should have time to be able to help co-workers. This idea is shared by care ethicists and applied to work settings. For example, Engster (2011) claimed that workers need time in their job to deliver provision of care to others (i.e., co-workers). Oxley and Wittkower (2011) indicated that, as an expression of care among individuals in the workplace, loyalty "involves feelings and a disposition to go above and beyond what is already required by contract" (p. 222). These propositions are consistent with previous contention by Solomon (1998) who suggested that "caring (about people) is not part of a corporate job description" (p. 517). In his seminal paper, Katz (1964) identified discretionary behaviors as one of three essential types of behavior for a functioning organization (the other two being the willingness to enter and remain in a given organization and enjoyment of the job). Twenty years later, Organ and his colleagues (Bateman and Organ 1983; Organ 1988, 1997; Smith et al. 1983) coined the concept of "organizational citizenship behavior" (OCB) to conceptualize discretionary behaviors. Following Organ, OCBs refer to "discretionary individual conduct, not directly or explicitly recognized by the formal system of compensation contributing to the general good functioning of the organization that does not arise from the prescribed role or tasks of the job, in other words, the specific terms of a contract between employees and organizations; this behavior arises rather from personal choices, such that its omission is not generally understood as punishable" (p. 4). Since these early developments, there has been a considerable amount of research on OCB, and many different forms of citizenship behavior have been identified. LePine et al. (2002) identified roughly 40 concepts related to the concept of OCB. More recently, Organ et al. (2006) reconceptualized the original forms of OCB by defining seven types of citizenship (see, in particular, the developments on pp. 243–297). Despite the increasing number of forms of citizenship behavior, OCBs may be said to be directed toward the organization and its members (Podsakoff et al. 2009). OCB directed toward the organization refers to the governance and political life of the organization (Graham and Van Dyne 2006) and to its protection and defense (Van Dyne et al. 1994). OCB directed toward individuals involves superiors (e.g. Rupp and Cropanzano 2002), group members (e.g. Pearce and Herbik 2004), and/or colleagues (e.g. Paillé 2013).

In an integrative overview, Dovidio (1984) proposed to define helping behaviors (based on the perspective of the benefactor, i.e. the donor) "as voluntary acts performed with the intent to provide some benefit to another person. These behaviors may or may not require personal contact with the recipient, and they may or may not involve anticipation of external rewards" (p. 364). In the context of the OCB literature, helping refers to an individual's willingness to provide support to colleagues when the latter experience difficulties in their work (Paillé 2013). Helping may involve different kinds of support according to the specific nature of the problem (emotional, technical, or relational) and can be expressed in many different ways, including altruism ("behavior carried out to benefit another without anticipation of rewards from external sources", Macaulay and Berkowitz 1970), peacekeeping (involving actions that help prevent, resolve, or mitigate unconstructive interpersonal conflict, Podsakoff and MacKenzie 1994), courtesy (which involves anticipatory actions that help someone else prevent a problem, such as providing relevant information in advance, Lavelle et al. 2007), and cheerleading (celebration of co-workers' accomplishments, Organ et al. 2006). All are related to helping co-workers solve or avoid work-related problems (Vilela et al. 2008).

There is little evidence on the potential mediating role of both commitment to colleagues and job satisfaction in the relationship between perceived co-worker support and helping behavior. However, concerning the obligations related to the social exchange process and the norm of reciprocity (Gouldner 1960), it is reasonable to assume that commitment to colleagues and job satisfaction play a mediating role in the relationship. This proposition is consistent with the care ethical perspective, especially when the moral obligation entails genuine loyalty toward others, that is to say, by promoting the caring nature of the personal relationship (Oxley and Wittkower 2011).

Armeli et al. (1998) argued that receiving support (from the organization) "may help fulfill these socioemotional needs and create an obligation to repay the organization with increased performance" (p. 289). As noted above, the meta-analytic findings of Chiaburu and Harrison (2008) indicate a positive relationship between co-worker support and job satisfaction, suggesting that an obligation to reciprocate emerges between peers. This is consistent with Noddings (1984), "our obligation is limited and delimited by relation" (p. 86). In addition, a considerable amount of research, including field studies and meta-analyses, has found that satisfied employees are more willing to help individuals (e.g., Ilies et al. 2009; LePine et al. 2002). Therefore, given that dimensions related to helping behavior contribute to enhancing organizational effectiveness (Podsakoff and

MacKenzie 1997), and consistent with the social exchange framework, the following relationship is expected:

Hypothesis 4 Job satisfaction plays a mediating role between perceived co-worker support and helping behavior.

The forgoing discussion indicates that personal relationships at work entail interdependence between support and commitment and in some instances can be viewed as an expression of care between co-workers. This situation is conducive to the emergence of reciprocity through which moral duties and obligations take place within an organizational setting. In accordance with Noddings (1984) "there is, necessarily, a form of reciprocity in caring" (p. 71). The caring nature of the interpersonal relationship shapes the extent to which an individual feels obligated to be loyal to another (Oxley and Wittkower 2011). Research undertaken in the context of social exchange among co-workers reported findings consistent with the perspective of ethics of care. It has been established a relationship between employee commitment to colleagues and OCB directed toward colleagues (e.g., Ellmers et al. 1998). Typically, these studies have found a positive correlation indicating that the greater the commitment of an employee to their colleagues, the greater the likelihood that they will be willing to help others in their tasks and perform their work. Bishop et al. (2000) reported findings indicating that in a teamwork context, perceived support from team members increases the willingness to engage in OCB via team commitment. Despite their results, Bishop and his colleague (2000) suggested that future research should take better account of OCB toward individuals (i.e. helping behaviors). Finally, based on a social exchange perspective, Paillé (2013) found that commitment to colleagues plays a full mediating role in the relationship between perceived co-worker support and helping behavior among public employees in a service delivery context. Therefore, based on recent findings, the following relationship is expected:

Hypothesis 5 Commitment to colleagues mediates the relationship between perceived co-worker support and helping behaviors.

We turn now to our three last hypotheses. From the care ethic standpoint, by helping a co-worker, an individual enables him or her "to develop and maintain as much a possible the innate capabilities that are necessary for social functioning" (Hawk 2011, p. 25). For Hawk, being able to care for one-self and others, and having the opportunity to pursue some conception of the good life appear to be important features allowing individuals to socially function well. Consistent with the win–win context (Simola 2007), we propose that a benefactor of care becomes, in turn, able to care for the natural environment in the form of eco-helping.

In the context of sustainability, determining how employees might be encouraged to perform behaviors that harm the environment as little as possible is an important challenge for contemporary companies. Although there has been little research on what people do in the workplace in order to protect the environment, some studies indicate that employees may engage in pro-environmental behavior in different ways. For example, they may seek to avoid waste and recycle paper (e.g., Lee et al. 1995). In this case, pro-environmental behaviors at work involve gestures related to personal rather than organizational values. For example, at his or her own level, an employee may choose to adopt behaviors that contribute to protecting the natural environment, such as turning off lights before leaving the office, using double-sided printing, or reusing plastic cups rather than putting them in the trash after having a coffee. These simple gestures may not require support from the organization. Rather, these gestures may refer to an individual expression of responsiveness (i.e., act of caring) toward the environment whereby an employee judges that it is his or her moral duty to adopt these responsible behaviors. Moral obligations to act pro-environmentally have been reported as an important driver. When altruistic environmental values are more important than personal values, people are more likely to engage in pro-environmental behavior (Steg and Vlek 2009).

The concept of OCB for the environment (OCBE) has recently emerged in the literature and appears to be a promising avenue for capturing employees' behaviors toward environmental issues in the workplace. A number of scholars (e.g., Boiral and Paillé 2012; Lamm et al. 2013; Lülfs and Hahn 2013) have embedded OCBE in the OCB framework developed by Organ and his colleagues (Organ et al. 2006). OCBE is defined "as voluntary behavior not specified in official job descriptions that, through the combined efforts of individual employees, help to make the organization and/or society more sustainable" (Lamm et al. 2013, p. 165), or as "discretionary acts by employees within the organization not rewarded or required that are directed toward environmental improvement" (Daily et al. 2009, p. 246), or as ''individual and discretionary social behaviors that are not explicitly recognized by the formal reward system and that contribute to a more effective environmental management by organizations'' (Boiral and Paillé 2012, p. 431). Overall, these definitions share the same idea. In other words, OCBEs are discretionary behaviors performed by employees whereby they demonstrate their willingness to cooperate with the organization and its members by performing behaviors that benefit the natural environment.

Boiral and Paillé (2012) showed that OCBE can take three forms: eco-civic engagement, eco-initiatives, and eco-helping. Eco-civic engagement relates to voluntary participation in the environmental programs and activities of the organization. Eco-initiatives are a form of discretionary behavior and involve suggestions for improving environmental practices and performance. Eco-helping involves voluntarily helping colleagues to better integrate environmental concerns in the workplace, and occurs when mutual support among employees contributes to achieving environmental sustainability in work settings (Boiral and Paillé 2012). Encouraging cooperation in order to solve complex problems to reduce pollution, helping colleagues to clean up an accidental spill or empowering new employees are all forms of mutual support among peers.

Daily et al. (2009) argued that "helping behavior directed specifically toward environmental improvement should promote environmental performance in the aggregate" (p. 251), a suggestion further supported by a recent study (Roy et al. 2013). Sander-Staudt (2011b) argued that care provisions contribute to the achievement of organizational performance by impacting positively most indicators such as, among others, employee productivity. This proposition can be extended to environmental concern, since it has been found that OCBE enhances environmental performance (Paillé et al. 2014). Given the positive effect on environmental performance (not examined in this study), it is useful to examine determinants of OCBE. It was noted above that job satisfaction and employee commitment are two important job attitudes in the context of social exchange relationships between peers. Given the relative novelty of the concept of OCBE, little empirical research has been conducted on the relationship between job attitudes and OCBE. Despite the lack of empirical evidence, it has been suggested that satisfied employees (Biga et al. 2012) and employees who are committed to their organization (Daily et al. 2009; Mesmer-Magnus et al. 2012) are more likely to engage in pro-environmental behavior at work (i.e. OCBE). No studies were found in the environmental literature (management and psychology) linking employee commitment to colleagues and pro-environmental behaviors such as OCBE. However, the literature on commitment provides some interesting clues. Riketta and Van Dick (2005) reported meta-analytic findings showing, among other things, that satisfaction with co-workers and altruistic behaviors are better predicted by commitment to colleagues than commitment to the firm. In addition, Ilies et al. (2009) suggested that "individuals will choose to reciprocally benefit the perceived source of their job satisfaction" (p. 947). In other words, if an employee links his or her satisfying work experience with positive relationships with colleagues for whom protecting the environment is an important matter, the former may reciprocate by making efforts to promote environmental sustainability, such as engaging in eco-helping. Therefore, the following relationships are expected:

Hypothesis 6 Job satisfaction and eco-helping are positively related.

Hypothesis 7 Commitment to colleagues and eco-helping are positively related.

The perspective of ethics of care suggests that by acting with the appropriate response, care occurs if, in a workgroup, those who are not especially attentive to environmental issues recognize nevertheless the protection of the environment as an important need of their co-worker(s). Noddings (1984) suggested that "when we care, we consider the other's point of view, his objective needs, and what he expects of us" (p. 24). Mesmer-Magnus et al. (2012) found that group cohesion contributes to creating a stimulating work environment and suggested that in such a context employees' willingness to perform OCB may promote engagement in OCBE. This suggestion has been empirically supported by Lamm et al. (2013), who found a positive and significant relationship between OCB and OCBE. Although they provide important findings on the relationship between OCB and OCBE, Lamm and his colleagues did not specify to what extent OCB toward individuals (i.e. helping) triggers eco-helping. Lamm et al. (2013) computed an overall measure that encompasses a set of items capturing OCB toward individuals and OCB toward the organization, respectively. Therefore, in their findings, part of the variance of OCBE can be explained by the sub-dimension focused on OCB toward individuals.[3]

For care ethicists, when in a particular organizational setting, caring about the environment is not a specific requirement, an important issue is who needs the most help: workers who are less or not environmentally concerned or workers who are environmentally concerned? Taking care of the environment may contribute to achieving social functioning by helping co-workers to better understand what can be (or should be) their moral obligation to act in a responsible way toward the environment. Therefore, in line with the mutual interdependency in the ethical care perspective (Sander-Staudt 2011b), it seems consistent to assume a positive effect on the employee's willingness to support the recipient (i.e., a co-worker) for helping others to develop their environmental concern, in the form of eco-helping. Finally, based on the data provided by Lamm et al. (2013), and in line with Mesmer-Magnus et al. (2012), given that climates of citizenship among individuals in the workplace foster a

[3] Lamm et al. (2013) measured OCB by adapting Williams and Anderson's (1991) original scale, in which half of the items measure OCB toward co-workers.

willingness to help peers on environmental matters, the following relationship is expected:

Hypothesis 8 Helping behavior and eco-helping are positively related.

Method

Sample and Participants

A field study was conducted to examine the relationships between the variables. At the time of the investigation, important requirements for this investigation were that each participant holds a job in a traditional industry (and not in green industry) and that each of them was able to engage in pro-environmental activities on the job on a voluntary basis. Survey forms were sent to 1,500 individuals enrolled during 2012 in executive business programs in a large Mexican university. The participants were invited to participate after reading the general objectives of the study and were informed of the ethical guidelines (ethics, anonymity, and confidentiality).

In total, 535 questionnaires were returned, for a response rate of 35.7 %. Of the 535 completed questionnaires, 86 were excluded, either because of incomplete data or because the respondent was not currently employed. The final sample included 449 participants. 236 respondents were men (52.5 %) and 213 were women (47.5 %). The age of the participants ranged between 21 and 62 years, for an average age of 32.5 years (SD = 6.8 years). The number of years of professional experience ranged between 1 and 42 years, for an average of 11.3 years (SD = 6.7 years). The number of years in the organization ranged from less than 1 to 41 years, for an average tenure of 8.7 years (SD = 9.2).

Measurement

Since the study was conducted in a Spanish-language context, the procedure recommended by Brislin (1980) was followed before sending out the questionnaire. The measurement scales were subjected to a double translation process to eliminate discrepancies (English to Spanish and Spanish to English). The items are measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The complete list of items used in this study appears in the Appendix.

A short four-item version was used to measure perceived co-worker support ($\alpha = 0.90$; mean = 15.17; SD = 3.93). Following Stinglhamber et al. (2006), four high-loading items from the SPOS were selected and adapted to measure perceived support at a colleague level (e.g. "my colleague really cares about my well-being").

The three-item scale (e.g. "I really feel a part of this work group") developed by Bentein et al. (2002) was used to measure commitment to colleagues ($\alpha = 0.93$; mean = 11.74; SD = 3.04).

The four items of the subscale developed by Podsakoff and MacKenzie (1994) were used to measure helping co-workers ($\alpha = 0.75$; mean = 12.03; SD = 2.38). However, consistent with Schnake (1991), intention to help colleagues (rather than behavior) was measured.

The three-item scale developed by Hackman and Oldham (1975) was used to measure job satisfaction ($\alpha = 0.75$; mean = 11.98; SD = 2.81).

The three-item scale (e.g. "I encourage my colleagues to express their ideas and opinions on environmental issues") developed by Boiral and Paillé (2012) was used to measure eco-helping ($\alpha = 0.89$; mean = 9.21; SD = 3.42).

Data Analyses

The two-stage process developed by Anderson and Gerbing (1988) was followed. The first stage involves assessing the measurement model by examining convergent validity, internal consistency, and discriminant validity. The second stage involves estimating the parameters of the hypothesized structural relationships among the latent variables. For both stages, the Chi-square statistic and several other fit indices were used to analyze the data. The root mean square error of approximation (RMSEA), the standardized root mean residual (SRMR), the comparative fit index (CFI), and the non-normed fit index (NNFI) were used. For RMSEA and SRMR, values below 0.05 are expected (Schermelleh-Engel et al. 2003). For CFI and NNFI, values above 0.95 are recommended (Hu and Bentler 1999). Finally, Akaike information criterion (AIC) was also used. When models are compared, the smallest value for the AIC is expected. In addition, the difference should be significant. Following Burnham and Anderson (2002), while a difference of less than 2 indicates no difference between models, a difference between 4 and 7 indicates that the model with the lowest AIC is superior.

Hypotheses 3, 4, and 5 required mediation tests. In this study, mediation was tested using the bias-corrected bootstrap because it is acknowledged for providing a better statistical power (Cheung and Lau 2008). Briefly, mediation (with $n = 5{,}000$ bootstrap resamples) was tested by directly testing the significance of the indirect effect of the independent variable (IV) on the dependent variable (DV) through the mediator (M). Mediation is demonstrated when, on the one hand, the indirect effect is significant and, on the other hand, when the bias-corrected confidence

interval (95 %) does not include zero (Preacher and Hayes 2008; Taylor et al. 2008).

Results

Testing for Common Method Variance

Because self-reports were used for all the items, it was important to test for common method variance (CMV) bias. Podsakoff et al. (2003) indicated that a single-common-method-factor approach is appropriate when the study falls within situation 4 described in their paper (i.e. one rating source, different contexts, and an unidentifiable source of method bias). This widely used method (see, for example, Andrews et al. 2008) requires adding a common factor (latent variable) to the measurement model (Marler et al. 2009). The measurement model with the method factor fitted the data well ($\chi^2 = 272.73$, df = 108, $p = 0.000$; CFI = 0.96; NNFI = 0.96; RMSEA = 0.05; AIC = 362.73). However, the results of the Chi-square difference test indicate that the measurement model (see below) provided a better fit than the measurement model with the method factor, χ^2_{diff} (1) = 8.52, $p = 0.000$. Finally, the measurement model provided a lower value for the AIC (356.16), and ΔAIC = 6.6. This finding indicates a better fit for the measurement model. Therefore, we may conclude that bias due to CMV was not a serious threat.

First Stage: Assessing the Measurement Model

In the process developed by Anderson and Gerbing (1988), the first stage focuses on the measurement model. In the following sections, convergent validity, internal consistency, and discriminant validity are examined.

A confirmatory factor analysis was performed to assess the psychometric properties of the measures. The measurement model included five factors (perceived co-worker support, commitment to colleagues, job satisfaction, intention to help colleagues, and eco-helping) and provided an excellent fit to the data ($\chi^2 = 274.16$, df = 112, $p = 0.000$; CFI = 0.96; NNFI = 0.96; SRMR = 0.04; RMSEA = 0.05; AIC = 356.16). All indicators loaded significantly ($p < 0.001$) on their respective constructs. Thus, convergent validity was evidenced.

For each construct, Table 1 reports the composite reliability (CR), which estimates the extent to which a set of latent construct indicators share in their measurement of a construct, the average variance extracted (AVE), which gives the proportion of total variance explained by the latent variable, and Jöreskog's ρ. Hair et al. (1998) recommended threshold values for CR and AVE above 0.70 and 0.50, respectively. Fornell and Larcker (1981) recommended that Jöreskog's ρ should be above the 0.70 threshold. Following Fornell and Larcker (1981) and Hair et al. (1998), the CR values ranged from 0.95 to 0.98, and the AVE values from 0.51 to 0.83. In addition, Jöreskog's ρ ranged from 0.75 to 0.93. Therefore, for each construct, internal consistency was satisfactory.

Table 1 Measurement model ($N = 449$)

Variables	CR	Jöreskog' ρ	AVE
Perceived colleague support	0.98	0.89	0.67
Commitment to the colleagues	0.98	0.93	0.83
Helping behavior (intention)	0.95	0.75	0.51
Eco-helping behavior	0.97	0.89	0.74
Job satisfaction	0.98	0.90	0.75

CR composite reliability; *AVE* average variance extracted

Discriminant validity was assessed by comparing, for each pair of constructs, the average of their respective AVE and their shared variance. Following Fornell and Larcker (1981), if for two given constructs the average AVE is higher than the shared variance, the discriminant validity of the two constructs is evidenced. Table 2 shows that for each pair of constructs, the requirement was met. Therefore, the results indicate that discriminant validity was evidenced.

Second Stage: Estimating the Research (Structural) Model and Testing the Hypotheses

Before testing the hypothesized relationships among the variables shown in Fig. 1, the means, standard deviations, and bivariate correlations were computed. For each variable, the means, standard deviations, and coefficient alphas are reported above in the measurement section. Table 3 shows the bivariate correlations.

Using AMOS (Arbuckle 2009), the model tests were based on the covariance matrix and were estimated using maximum likelihood estimation. The research model fitted the data well, $\chi^2 = 370.76$, df = 232, $p = 0.000$; CFI = 0.97; NNFI = 0.97; SRMR = 0.05; RMSEA = 0.04).

Hypothesis 1, which predicted a positive relationship between perceived co-worker support and commitment to colleagues, was supported by the data ($\beta = 0.435$, t value = 8.814, $p < 0.001$). Hypothesis 2, which predicted a positive relationship between perceived co-worker support and job satisfaction, was also supported ($\beta = 0.659$, t value = 12.849, $p < 0.001$).

Hypothesis 3 predicted that job satisfaction mediates the relationship between perceived co-worker support and commitment to colleagues. Following Cheung and Lau (2008), bootstrapping procedures were used to test the

Table 2 Results of discriminant validity

Pair of constructs	Pearson correlation (R)[a]	Shared variance (R^2)	AVE average
PCS versus commitment	0.679**	0.461	0.750
PCS versus intention to help others	0.344**	0.118	0.540
PCS versus eco-helping	0.112*	0.012	0.705
PCS versus job satisfaction	0.595**	0.354	0.710
Commitment versus intention to help others	0.402**	0.161	0.670
Commitment versus eco-helping	0.155**	0.024	0.785
Commitment versus job satisfaction	0.694**	0.481	0.790
Intention to help others versus eco-helping	0.260**	0.067	0.625
Intention to help others versus job satisfaction	0.322**	0.103	0.630
Eco-helping versus job satisfaction	−0.020	0.000	0.745

** $p < 0.01$; * $p < 0.05$; *PCS* perceived colleague support

[a] see Table 3

Table 3 Correlation matrix

	Mean	SD	PCS	CC	JS	HELP	ECO-H
PCS	15.1	3.9	–	–	–	–	–
CC	11.7	3.0	0.679**	–	–	–	–
JS	11.8	2.8	0.595**	0.694**	–	–	–
HELP	12.0	2.4	0.344**	0.402**	0.322**	–	–
ECO-H	9.2	3.4	0.112*	0.155**	−0.020	0.260**	–

** $p < 0.01$; * $p < 0.05$; *PCS* perceived co-worker support; *CC* colleague commitment; *JS* job satisfaction; *HELP* intention to help others; *ECO-H* eco-helping

mediating effects, and 5,000 bootstrap samples were used to generate the results. In the model with job satisfaction as a mediator (H1), the standardized direct effect of PCS on commitment to colleagues is 0.435. The 95 % bias-corrected confidence intervals for this direct effect are between 0.312 (lower bound) and 0.556 (upper bound), with a p value <0.002 for the two-tailed significance test. The standardized indirect effect of perceived co-worker support on commitment to colleagues through job satisfaction was 0.339. The 95 % bias-corrected confidence intervals for this indirect effect are between 0.247 (lower bound) and 0.347 (upper bound), with a p value < 0.001 for the two-tailed significance test. These results lead to the conclusion that the relationship between perceived co-worker support and commitment to colleagues was partially mediated by job satisfaction. It was estimated that job satisfaction accounted for 41.6 % of the variance (indirect effect/total effect; 0.339/0.819). Thus, hypothesis 3 was supported.

Hypothesis 4 predicted that job satisfaction mediates the relationship between perceived co-worker support and helping behavior. The data showed no significant relationship between job satisfaction and helping behavior ($\beta = 0.042$, t value $= 0.495$, *ns*). Given that one of the requirements was not met for the mediation tests (see Holmbeck 1997), this result leads to the conclusion that no support was found for hypothesis 4.

Hypothesis 5 predicted that commitment to colleagues mediates the relationship between perceived co-worker support and helping behaviors. In the model with commitment to colleagues as a mediator, the standardized direct effect of perceived co-worker support on helping behavior is 0.136. The 95 % bias-corrected confidence intervals for this direct effect are between −0.025 (lower bound) and 0.314 (upper bound), with a p value <0.09 for the two-tailed significance test (beyond the generally accepted cut-off of 0.05). Since the 95 % bias-corrected confidence interval contains zero, following Shrout and Bolger (2002), commitment to colleagues was not found to mediate the relationship between perceived co-worker support and helping behaviors. Thus, no support was found for hypothesis 5.

Hypothesis 6 predicted a positive relationship between job satisfaction and eco-helping. Although a significant relationship was found between job satisfaction and eco-helping, contrary to the prediction the relationship was negative rather than positive ($\beta = -0.390$, t value $= -3.946$, $p < 0.001$). Therefore, hypothesis 6 was not supported by the data.

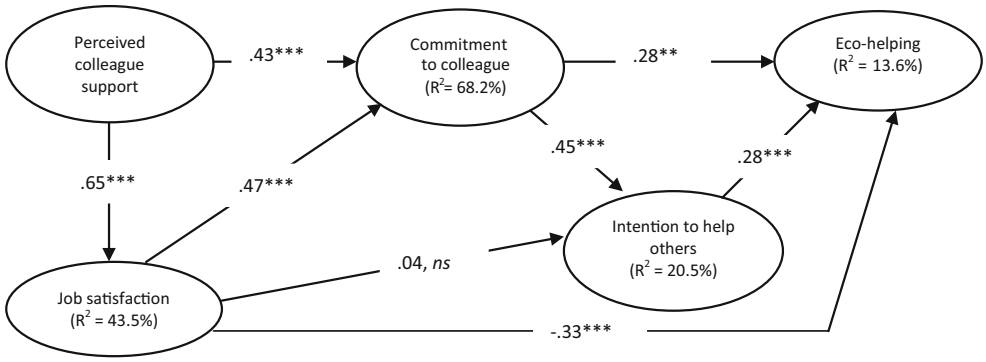

Fig. 2 Final model. *Ns* non-significant; ***$p = 0.000$; **$p = 0.001$

Table 4 Bootstrap analysis of the direct and indirect effects ($N = 449$)

IV	Mediators	VD	β standardized direct effect	β standardized indirect effect	Standardized error	95 % confidence interval	
						Lower	Upper
PCS	→	JS	0.65	–	0.03	0.57	0.73
JS	→	CC	0.47	–	0.06	0.34	0.59
PCS	→	ECO-H	–	0.10	0.04	0.02	0.19
CC	→	ECO-H	0.28		0.09	0.10	0.47
PCS	→ JS →	CC	(0.65 × 0.47)	0.30	0.04	0.23	0.40
PCS	→ JS → CC →	ECO-H	(0.65 × 0.47 × 0.28)	0.08	0.04	0.02	0.19

PCS perceived co-workers support; *JS* job satisfaction; *CC* commitment to the colleagues; *ECO-H* eco-helping

Hypothesis 7, which predicted a positive relationship between commitment to colleagues and eco-helping, was supported by the data ($\beta = 0.284$, t value $= 3.236$, $p < 0.001$).

Finally, hypothesis 8, which predicted a positive relationship between helping behavior and eco-helping, was supported by the data ($\beta = 0.286$, t value $= 4.470$, $p < 0.001$).

Additional Analyses

The research model shown in Fig. 2 suggests that two long chain mediations or a set of mediators in series (Taylor et al. 2008) need to be examined. The first long chain mediation consists of a three-path mediational model (i.e. perceived co-worker support → satisfaction → commitment → eco-helping) and requires testing the extent to which job satisfaction and commitment to colleagues mediate the relationship between perceived co-worker support and eco-helping. The second long chain mediation consists of a four-path mediational model (i.e. perceived co-worker support → satisfaction → commitment → intention to help others → eco-helping) and requires examining whether job satisfaction, commitment to colleagues, and intention to help others mediate the relationship between perceived co-worker support and eco-helping. However, of the two possible mediations, only one was examined. Among other requirements, Holmbeck (1997) stated that all paths "should be significant in the directions predicted" (p. 602). Thus, since the relationship between job satisfaction and eco-helping was negative rather than positive, the second long mediation chain was not tested.

Using the bootstrap procedure with $n = 5{,}000$ resampling, the product (i.e. the indirect effect) of the three regression coefficients between perceived co-worker support and eco-helping through the mediators (i.e. job satisfaction and commitment to colleagues) was calculated (see Fig. 2). Table 4 summarizes the bootstrap estimates for the direct and indirect effects, standard errors, and confidence intervals. The mediation from perceived co-worker support through job satisfaction and commitment to colleagues to eco-helping is significant ($0.65 \times 0.47 \times 0.28 = 0.08$), since the value zero is not included in the 95 % confidence interval (lower bound $= 0.02$; upper bound $= 0.19$). In addition, it was estimated that the percentage of the total effect of perceived co-worker support on eco-helping mediated through job satisfaction and commitment to colleagues was approximately 62 %.

Discussion

Findings

The purpose of this study was to use the social exchange framework through the lens of ethics of care to explore the extent to which pro-environmental behavior in the workplace is encouraged by relationships among co-workers. To achieve this objective, data were collected to test a model linking perceived co-worker support, employee job satisfaction, commitment to colleagues, helping behavior, and eco-helping. The findings indicate that employees are encouraged to engage in eco-helping when they experience relationships with their peers. This study makes several contributions.

First, in this paper we sought to connect social exchange with ethics of care, since they share numerous core tenets. Consistent with Becker (2012) who stated that ethics of care in terms of moral issues "cannot just be analyzed and determined in a general and abstract way" (p. 27), we tried to offer interesting insight into how individual virtues contribute to shaping a good life by supporting and helping co-workers to care about the natural environment. In particular, our findings indicate that when individuals feel supported by their co-workers, they are more prone to express their loyalty toward the latter by giving them the attention they need about their environmental concern (i.e., eco-helping). As such, social exchange offers connections with process implied in ethics of care, since peer support, commitment to colleagues and helping, and eco-help refer to caring about, expression of loyalty, and the basic needs, respectively. It is important however to keep in mind that this connection must be regarded as an attempt rather than a definitive proposition. Although we recognize that the expression of ethics of care among employees within a workgroup remains an underlying perspective, our research suggests that receiving caring attention from others fosters individual fulfillment when their basic needs toward the natural environment are taken into account. As such, caring attention reflects a moral disposition that can strengthen the social exchange among co-workers. In addition, with the adoption of the care ethical perspective for studying social exchange in a context of environmental sustainability, the present research has attempted to fill a gap. In addition, to date, scant research has addressed how firms can take into account the natural environment through the lens of the ethics of care. Sama et al. (2004) and, to a lesser extent, di Norcia (1996) have been the first to consider that organizations can adopt a care ethical perspective toward the natural environment. However, in their respective papers, these scholars have regarded organizations in a monolithic manner. Our research has sought to sketch out the usefulness of the combination of social exchange among peers with the care ethical perspective.

Second, the study examined pro-environmental behaviors in a work setting. In so doing, this study fills a gap in the literature. Pro-environmental behaviors in the workplace are less studied than pro-environmental behavior in private settings. A number of studies have emphasized this discrepancy (e.g. Lo et al., 2012; Ones and Dilchert, 2012a). Previous research in work settings has provided evidence of personal pro-environmental initiatives (Bissing-Olson et al., 2013) and specific actions that help to reduce resource consumption at work (Lamm et al. (2013). By focusing on eco-helping behavior, this study adds to the literature on pro-environmental behavior at work. Eco-helping behavior reflects mutual support among employees in the area of environmental sustainability (Boiral and Paillé, 2012). Finally, in this study, eco-helping involves efforts beyond job requirements and, as such, is conceptualized as pro-environmental behavior toward individuals in the workplace. However, when studying eco-helping as pro-environmental behavior, it is important to consider the nature of the industry. Ones and Dilchert (2012b) proposed to distinguish between jobs in green industries and jobs in traditional industries. Following Ones and Dilchert (2012b), while in green industries eco-helping is an explicit part of the job, in traditional industries it is not. Therefore, depending on the industry (i.e. green or traditional), eco-helping may or may not be viewed as pro-environmental behavior. This caveat should be kept in mind when studying pro-environmental behavior at work.

Third, by using the tenets of SET, this study fills a gap in the environmental literature (Craddock et al. 2012) by providing data indicating that the social exchange framework is appropriate for studying pro-environmental behaviors in the workplace. Research on pro-environmental behaviors in public or private settings uses either the norm-activation model (the triggering role of moral norms), the theory of planned behavior (the role of rational choice), or value-belief-norm theory (the driving role of personal values) (Bamberg and Möser 2007). Andersson et al. (2005) failed to adapt value-belief-norm theory to explain sustainability behavior in an organizational setting. The results of this study suggest that the social exchange framework may be an interesting alternative for research on the underlying processes of pro-environmental behaviors in the workplace. Although we recognize that in the environmental literature great efforts have been made to identify the reasons why employees are willing to help their firm to achieve sustainability (for a review, see Renwick et al. 2013), these previous studies have emphasized drivers that cannot be linked to the social exchange framework. As noted in the introduction, few theoretical and empirical studies have focused on organizational commitment (Andersson et al. 2005; Lamm et al. 2013), organizational support (Lamm et al. 2013; Ramus and Steger 2000), supervisor support (Daily et al. 2009; Ramus

and Stegers 2000), and trust in top management (Andersson et al. 2005), i.e., concepts associated with SET. In this study, except for the significant negative relationship between job satisfaction and eco-helping, all the variables typically related to SET are associated with pro-environmental behavior (i.e. eco-helping). These results suggest that taking into account exchange relationships in the workplace contributes to explaining engagement in environmental sustainability in work settings.

Fourth, our findings add to the literature on social exchange between co-workers. To the best of our knowledge, this study is the first to provide findings that help to better understand how exchange occurs between peers in the context of environmental sustainability in work settings. Boiral and Paillé (2012) suggested that the willingness to engage in OCBE-eco helping "presupposes a climate of mutual aid" (p. 422). Our findings indicate that a climate of mutual support can be achieved by fostering exchange relationships between peers. In accordance with the principles of social exchange, receiving support from colleagues is an important step that triggers the exchange process. This is an essential condition for creating a positive climate that fosters individual pro-environmental actions and behaviors.

In addition, the study found a significant positive relationship between intention to help others and OCBE-eco helping. Although this result is consistent with data provided by Lamm et al. (2013), the latter emphasized the link between (an overall measure of) OCB consisting of extra efforts toward individuals and the organization, and OCBE reflecting specific actions designed to reduce resource consumption. Despite these findings, it is difficult to determine the extent to which helping others explains pro-environmental behaviors. Therefore, our findings provide additional insights by showing that the willingness to provide support to a colleague in order to help them overcome difficulties at work (helping) contributes to helping colleagues better integrate environmental concerns in the workplace (eco-helping).

Finally, a significant negative relationship was found between job satisfaction and eco-helping. Somewhat surprisingly, this result suggests that when employees are satisfied with their job, they are less likely to engage in pro-environmental behaviors in the workplace. Dangelico and Pujari (2010) found that the origin of internal environmental orientation derives from the personal commitment of top management and managers. Bearing these results in mind, several reasons may explain this unexpected result. These explanations are also compatible with perceived organizational obstruction, defined by Gibney et al. (2009) as an "employee's belief that the organization obstructs, hinders, or interferes with the accomplishment of his or her goals" (p. 670). First, previous findings indicate that relationships between leaders and employees are positively related to job satisfaction (Janssen and Van Yperen 2004). In addition, lack of support from managers has been identified as a major obstacle to pro-environmental behavior (Ramus 2001; Govindarajulu and Daily 2004). Therefore, despite their willingness to develop relationships with subordinates, if managers are not convinced of the need to act in order to protect the natural environment, the sense of job satisfaction may have an undesirable effect on pro-environmental behaviors (implying a negative rather than a positive relationship). Second, the data were collected among participants working in firms without a formal environmental protection strategy. In such a context, employees engage in pro-environmental behavior at work at their own level. The support literature (Armeli et al. 1998) indicates that employers may support their staff and recognize their contributions through specific decisions and actions designed to improve the work environment. Consistent with SET, if employees are satisfied with their work environment, they will tend to reciprocate by engaging in OCB toward the organization and toward individuals. However, our study found no significant relationship between job satisfaction and OCB toward individuals (i.e. intention to help others). Therefore, one possible explanation is that for employees, it may be difficult to link good working conditions and pro-environmental behaviors. The perspective of ethics of care may also explain the negative effect of satisfaction on eco-helping. Care ethicists claim that individual satisfaction derives from the perception that basic needs have been fulfilled. Individuals who need care and depend on others to receive it are vulnerable (Tronto 1993) because, despite their good will, those who deliver care can give an inappropriate response. Vulnerability in the context of taking care of the environment is perhaps less obvious. However, it can be assumed that encouraging others to adopt a responsible environmental attitude could be risky for an employee if his or her co-workers have any moral obligations to respect or sustain the environmental cause. It can be also assumed that if an individual feels that his or her needs for the environment are not well fulfilled by his or her co-workers, it may be difficult for him or her to express eco-helping.

Practical Implications

Environmental scholars often argue that environmental concerns in organizational settings need the participation of each employee at all levels (Boiral 2002; Paul and Nihan 2012). Previous research in the field of environmental management has highlighted the role of top management and managers in achieving environmental sustainability. Measures implemented to provide support to employees have been identified as promoting the achievement of sustainability in the workplace. This study suggests that support among peers contributes to achieving sustainability.

Following Keysar (2005), the challenge of sustainable development is to translate its principles into practice. Managers may consider perceived co-worker support as an important input for promoting pro-environmental behaviors at work. More specifically, they could focus on various characteristics of the workplace environment that encourage employees to support their peers. Practices that foster cohesion among employees should be considered. For example, high levels of job enrichment, broad employee participation, and extensive communication may be used as human resource strategies to foster peer cohesion (Proença, 2010).

Schwartz (2001) indicated that even though a code of ethics within a given organization has a great potential to influence employees' behavior, its existence does not guarantee their compliance. This raises the question whether ethics of care related to the particular issue of individuals' environmental concern can (or not) be incorporated as a code of business ethics. Victor and Cullen (1988) claimed that codes contribute to an ethical climate strictly based on the ethical criteria of the principle whereas ethical climate concerned by caring focuses mainly on ethical criteria of benevolence (Victor and Cullen 1988). Ethics of care should be thought out in term of embodiment of traits, characteristics, or virtues (Wicks 1996), where action is guided by a moral responsiveness imperative to a situation focused on the relationship (Gilligan 1982; Noddings 1984). In the context of social sustainability, Simola (2012) proposed that "embodied care" can be shaped through two processes: the propagation of acts of caring among people, and the promotion of culture of care within the organization. We believe that Simola's proposition can also be applied to environmental sustainability.

Our research suggests that inculcating caring values among peers within a workgroup is an important step for protecting the natural environment. To be efficient, Sama et al. (2004) suggested that taking care of the natural environment necessitates a community of practice. To do so, firms should integrate care as an important corporate virtue (Sander-Staudt 2011b). This means that the engagement of leaders and managers is also needed and may contribute to initiating the moral conditions leading to the emergence of care in the workplace. Top management has the moral responsibility to promote the natural environment as an important cause by incorporating it into the business model (Sama et al. 2004). Line managers should be aware that their subordinates should have adequate time to take care of the others (Engster 2011). Interestingly, care ethicists indicate that giving time to workers in the short run is not incompatible with profits in the long run (e.g., Engster 2011; Sander-Staudt 2011b). One reason is that employees' loyalty is an expression of an act of caring (i.e., receiving-giving) (Oxley and Wittkower 2011) and that loyalty increases work-related outcomes such as, among others, employee retention, job performance, and ethical behaviors (Schaninger and Turnipseed 2005).

Limitations and Future Research

Despite contributing to the environmental literature, this study is not without limitations. First, in order to contribute to the environmental literature, this study used SET by focusing on relationships between peers. For explaining an unexpected result (i.e. the negative relationship between job satisfaction and eco-helping), in the previous section we suggested that the organization or the manager (or both) may interfere. Following several recent studies (e.g. Lavelle et al. 2007; Schaninger and Turnipseed 2005), future research could examine how employees are encouraged to engage in pro-environmental behavior when they have relationships with their organization, their leader, and their co-workers. In so doing, by taking into account care perspective not only among peers, but also encompassing top managers and line managers, future research may help to explain how multi-foci social exchange fosters engagement in behaviors that promote environmental sustainability. Second, in this paper, we focused on eco-helping as a pro-environmental behavior. Eco-helping reflects employees' willingness to support others in the workplace to perform actions that harm the environment as little as possible. Eco-helping is one pro-environmental behavior among others. Other forms of pro-environmental behavior include eco-civic engagement, eco-initiative, and limiting resource consumption (Bissing-Olson et al. 2013; Boiral and Paillé 2012; Lamm et al. 2013; Lee et al. 1995). Future research could examine the extent to which these forms are distinct. Third, although a number of methodological precautions were taken to limit the effects of common variance bias and to ensure the validity of the research model, it is important to recognize that the data were collected using a cross-sectional design. Therefore, future research could extend the findings by collecting data using a longitudinal design. Finally, it is important to notice that the results generated by the study are based on data collected among Mexican employees. They may not be easily generalized to other cultural contexts.

Conclusion

The main purpose of this study was to contribute to the environmental management literature by demonstrating the important role of co-workers in achieving environmental sustainability. Through the lens of ethic of care, the social exchange framework was used as a theoretical guideline to

investigate how perceived support and commitment among peers serve to promote engagement in pro-environmental behaviors that help colleagues to take better account of environmental issues in their work. It is hoped that the results of this study will help firms to become greener.

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Appendix: Scale Items

Perceived colleague support (Stinglhamber et al. 2006)

My colleagues appreciate my contribution.
My colleagues consider my opinions and values.
Help is available from my colleagues when I have a problem.
My colleagues really care about my well-being.

Affective commitment to the colleagues (Bentein et al. 2002)

I really feel a part of this work group.
I am proud to be a member of this work group.
My work group means a lot to me personally.

Job satisfaction (Hackman and Oldham 1975)

Generally speaking, I am very satisfied with my job.
I am generally satisfied with the kind of work I do.
Most of my colleagues appreciate their job.

Helping others (Podsakoff and MacKenzie 1994)

I give my time to help colleagues who have work-related problems.
I willingly take time out of my own busy schedule to help new colleagues.
I 'touch base' with others before initiating actions that might affect them.

Eco-helping (Boiral and Paillé 2012)

I spontaneously give my time to help my colleagues take the environment into account in everything they do at work.
I encourage my colleagues to adopt more environmentally conscious behavior.
I encourage my colleagues to express their ideas and opinions on environmental issues.

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