

The effect of employee's mindfulness on voluntary pro-environment behaviour at the workplace: the mediating role of connectedness to nature

The effect of
EM on VPEB

Received 1 May 2021
Revised 1 September 2021
Accepted 23 December 2021

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Abstract

Purpose – Limited research efforts have been undertaken despite the pivotal role of employees' voluntary behaviours in the success of organizations' environmental sustainability programs. In this context, the present study examined the association between employee's mindfulness (EM) and voluntary pro-environmental behaviour (VPEB) at the workplace, and also the mediating effect of connectedness to nature (CNS) on this relationship.

Design/methodology/approach – Grounded in the re-perceiving theory, a model was developed with EM as an independent variable, CNS as the mediator and employees VPEB at the workplace as the dependent variable. Based on the online responses from 421 employees working in manufacturing as well as services sectors in India, analysis was undertaken by utilizing confirmatory factor analysis, Pearson correlation and the PROCESS macro of Hayes (2017).

Findings – EM was noted to be positively influencing employee's VPEB at the workplace, and the mediation analysis indicated that CNS partially intervenes in this relationship.

Practical implications – Corporate leaders striving to achieve the organization's environmental sustainability goals could strive to build a pro-environment culture at the workplace by developing employees' mindfulness and sense of CNS. As the findings have depicted, this would positively influence employee's VPEB at the workplace which in turn will help organizations in achieving their environmental sustainability goals.

Originality/value – This study is the first to examine how EM through CNS motivates employees to engage in VPEB, especially in the organizations' context. Moreover, the re-perceiving theory of mindfulness was also extended in the organizations' environmental sustainability context.

Keywords Mindfulness, Employee's mindfulness, Voluntary pro-environment behaviour, Connectedness to nature, Workplace pro-environment behaviour, Workplace sustainability, Environmental sustainability, Sustainability, Re-perceiving theory

Paper type Research paper

1. Introduction

As the world of work becomes increasingly uncertain, it is no longer enough for employees to complete their assigned tasks. Organizational success and survival depend on proactivity – anticipatory action taken by employees to have an impact on the self or the environment. (Grant *et al.*, 2009, pp. 31–32).



The future of our planet is being endangered by severe environmental crisis and manifested by unsustainable activities (Kurucz *et al.*, 2017) undertaken by various organizations operating across the globe (Stern, 2000). The role of organizations as a key influencer in the global environmental landscape is widely recognized (Rousseau, 2017), and, as such, organizations are under constant pressure (of various groups e.g. political, non-profit, social, customers, etc.) to overcome the challenges of environmental performances by decreasing their detrimental influence on the environment (Galdeano-Gomez *et al.*, 2008; Weaver *et al.*, 2015).

Moreover, as the potential to preserve the environment by organizations are quite evident (Ones and Dilchert, 2012), organizations across the globe have embraced many environmental management practices (mostly technical and tangible measures) like adopting green technologies, sustainability reporting, auditing and certification, etc. (Boiral *et al.*, 2015; Lu *et al.*, 2017). However, the majority of the organizations have failed to check their detrimental influence on the environment. The reason for this failure is attributed to the organization's inability to recognize the complex nature of the environmental management practices and the technical measures mostly adopted by the organizations (Lulfs and Hahn, 2013) ignoring the role of employees in the success of organizations environmental sustainability initiatives (Blok *et al.*, 2015).

In this vein, the extant scholarly work suggests the role of employees informal and discretionary behaviour in the successes of organizations' environmental management initiatives and have discussed the decisive role of employees' voluntary engagement in organizations environmental sustainability initiatives (Boiral, 2007; Boiral and Paille, 2012; Daily *et al.*, 2009). Within organizations, employees are generally expected to engage voluntarily on environment-friendly issues, and, as such, employees' pro-environmental behaviour (PEB) in the workplace often comprises of discretionary and cooperative actions amongst individuals and groups (Terrier *et al.*, 2016; Weaver *et al.*, 2015). In the words of Chou (2014), voluntary pro-environmental behaviour is "often requested but not demanded from employees" (p. 437), and could also be denoted as "organizational citizenship behaviour for the environment" (Zientara and Zamojska, 2018). As such, organizations are expected to encourage employees to voluntarily partake in the organization's environment-friendly initiatives (Zientara and Zamojska, 2018), ensuring the successful achievement of environmental management goals.

However, despite the crucial role of employees in making environmental initiatives successful, organizations have failed to acknowledge the effectiveness of employees' PEB in organizations' environmental goals (Blok *et al.*, 2015). Nevertheless, according to Muster and Schrader (2011), it seems "many companies are struggling to effectively advance employees' environmental behaviour. A discrepancy between environmental policies and actual behavioural patterns in organizational everyday life has been identified as a challenge" (p. 141), and the possible reason could be the absence of suitable behavioural approaches to encourage such environment-friendly behaviours among employees (Temminck *et al.*, 2015).

Looking into the possible dearth of behavioural approaches in promoting voluntary PEB among employees, the views put forth in recent scholarly literature could be of much interest. According to the scholars, the vital elements for promoting environment-friendly behaviour could be "other-and nature-centeredness" (Dhiman and Marques, 2016), intrinsic motivations (connectedness to nature (CNS)) (Hedlund-de Witt *et al.*, 2014), "self-determined" motivations (Lavergne *et al.*, 2010) or spiritual and ethical values-based business models (Zsolnai, 2015). Following these scholarly views on the factors promoting environment-friendly behaviour, Wamsler (2018) stated about the role of "inner transition" as a prominent "emerging pathway" related to individual's consciousness, bringing about changes in values and behaviours (sustainability-oriented). Wamsler also pointed out the role of spiritual practices, such as mindfulness, in positively influencing environmentally friendly behaviour. The

positive influence of mindfulness in environment-friendly behaviour finds further support by [Ericson et al. \(2014\)](#) in their review article. They stated mindfulness as a pre-requisite of pro-social and compassionate behaviour which seems to act on individuals' positive thinking and behaviour towards the environment. Going ahead, [Ericson et al. \(2014\)](#) even recommend undertaking more studies in this area as "there is much we do not know" (p. 78). Furthermore, scholars like [Hirsh and Dolderman \(2007\)](#) stated that "the root of environmental problems is the human sense of disconnection from nature" (p. 1586) and that CNS could provide a solution to the environmental crisis ([Mayer et al., 2009](#)).

Thus, from the above discussion, it could be inferred that for the success of environmental management initiatives in an organization, voluntary pro-environmental behaviour (VPEB) of employees play a decisive role. Moreover, as the extant literature in this area are scant and available predominantly as conceptual or theoretical forms, the need for in-depth empirical research is warranted ([Boiral and Paille, 2012](#); [Robertson and Barling, 2013](#); [Ruepert et al., 2016](#)). In this vein, this study examines VPEB of the employees at the workplace through the lens of mindfulness and CNS. By applying the correlational study design, this study explores the influence of employee's mindfulness in the workplace on employees' VPEB through the intervening effect of the sense of CNS. The study aims to combine extant literature on mindfulness and CNS into a comprehensive model and explicate the courses which could positively influence employees to participate voluntarily in environment-friendly behaviour at the workplace.

Furthermore, the present study is conducted in India (among employees working in the organizations operating in India) which is witnessing fast pace industrialization along with its concomitant detrimental environmental problems like pollution, degradation of natural resources, etc. ([Mallet, 2013](#); [Rizvi and Garg, 2020](#)). Also, most of the research in the area of workplace sustainability behaviour has been undertaken in the Western context ([Renwick et al., 2008](#)), and need for similar research in the Indian context has been felt ([Chaudhary, 2020](#)).

Moreover, this study aims to contribute both at the theoretical as well as in the literature of PEB at workplace, mindfulness and CNS. First, it tries to look into the factors driving employees to voluntarily participate in environmentally friendly behaviour at the workplace, which could determine the success of environmentally sustainable initiatives undertaken in organizations and also extend the literature related to the employees' sustainability and PEB ([Kim et al., 2016](#)). Second, it tries to explore the influence of mindfulness on employees' participation in VPEB at the workplace, an area that has hardly been explored ([Patel and Holm, 2018](#)). Third, it explores the sense of CNS as a determining factor of PEBs (such research in an organizational context is being felt) ([Huffman and Klein, 2013](#)). Finally, to the best of our knowledge, this is the first empirical study undertaken to measure the effect of employee's mindfulness on employee's VPEB at the workplace.

2. Theoretical underpinning

The "re-perceiving" meta-mechanism or theory ([Shapiro et al., 2006](#)) is the overarching theory that underpins the hypothesized model in the present study. The re-perceiving theory is further supported by the contemporary neuro-psychological mechanisms or models of "Enhanced Self-Regulation" ([Holzel et al., 2011](#)) and framework of self-awareness, -regulation, and -transcendence "S-ART" ([Vago and Silbersweig, 2012](#)).

Shapiro and colleagues conceptualized the re-perceiving theory of mindfulness that explicates potential mechanisms through which mindfulness initiates positive changes ([Shapiro et al., 2006](#)). According to the re-perceiving theory, the three core elements of mindfulness, namely "on purpose" ("intention"), "paying attention" and "in a particular way" ("attitude") are grounded in [Kabat-Zinn's \(1994\)](#) interpretation of mindfulness as "paying

attention in a particular way: on purpose, in the present moment, and non-judgmentally” (p. 4) are concurrently happening unified development (Shapiro *et al.*, 2006), where “one is able to dis-identify from the contents of consciousness (i.e. one’s thoughts) and view his or her moment-by-moment experience with greater clarity and objectivity” (Shapiro *et al.*, 2006, p. 377). Re-perceiving facilitates other mechanisms like “cognitive, emotional, behavioural flexibility, and value clarification” (Shapiro *et al.*, 2006) and enables individuals to choose more meaningful behaviours in congruence with their intrinsic needs and values (Brown and Ryan, 2003).

Similarly, “enhanced self-regulation” and S-ART models also argued on how mindfulness positively influences an individual’s cognitive, affective and values components to bring in positive behavioural changes. According to Holzel *et al.* (2011), mindfulness acts through elements like “attention regulation”, “body awareness”, “emotion regulation” and “change in perspective on the self”, and that these elements establish a process called “enhanced self-regulation” that bring in the positive effect. Additionally, Vago and Silbersweig (2012) stated that mindfulness influences shift in self-processing developed through “self-awareness (meta-awareness), self-regulation (modulation of behaviour), and self-transcendence (prosocial characteristics). These changes reflect modulation in neurocognitive networks related to intention and motivation, attention and emotion regulation, extinction and reconsolidation, prosociality, non-attachment, and decentering” (for detail, please refer Guendelman *et al.*, 2017, p. 3; Vago and Silbersweig, 2012). Moreover, they further argued that mindfulness enacts by “increased self-transcendence” i.e. “the development of a positive relationship between self and others that transcends self-focused needs and increases prosocial characteristics” (Vago and Silbersweig, 2012, p. 2).

Thus, it could be concluded that the re-perceiving theory complemented by the enhanced self-regulation and S-ART mechanisms or models of mindfulness argue about the role of cognitive, affective and inner values through which mindfulness is thought to bring in positive changes and influence individual behaviours. Based on the re-perceiving theory of mindfulness and other complementing mechanisms along with the existing theoretical and empirical research, the present study proposes that employee’s mindfulness will positively influence the employee’s voluntary PEB at the workplace. Employee’s sense of CNS will also positively influence employee’s VPEB at the workplace and that employee’s sense of CNS would intervene in the association between employee’s mindfulness and employees’ VPEB.

3. Conceptual background and development of hypotheses

The word “mindfulness” was first coined by T.W. Rhys Davids (Dryden and Still, 2006; Gethin, 2011), and a substantial number of different descriptions of mindfulness could be traced in the existing literature. Researchers like Langer (1992) put forth a “scientific socio-cognitive approach” and viewed mindfulness through mindlessness perspective, whereas another set of scholars pioneered by Kabat-Zinn (1990) theorized mindfulness as “moment-to-moment awareness” as it stems from Buddhist-meditation-based philosophy (for details on these two different approaches to mindfulness, refer to Adriansen and Krohn, 2016; Khoury *et al.*, 2017). Moreover, despite Kabat-Zinn’s delineation of mindfulness being underpinned by Buddhist meditation-based philosophy, no particular cultural or religious belief system is needed and is believed to be “a universal human ability embodied to foster clear thinking and open-heartedness” (Trousselard *et al.*, 2014, p. 474).

Mindfulness, in the present study, is underpinned in the mediation-based philosophy of Buddhism and is delineated as “the awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience moment by moment” (Kabat-Zinn, 2003, p. 145). Moreover, mindfulness includes an “affectionate, compassionate quality within the attending, a sense of openhearted, friendly presence and

interest” (Kabat-Zinn, 2003, p. 145). The development of mindfulness within individuals requires a receptive mind and those cognitive and affective components of mindfulness are thought to be woven together and influence each other (Kabat-Zinn, 1990; Shapiro and Schwartz, 2000).

Furthermore, a few of the extant studies exploring mindfulness in the context of environmentally friendly behaviour amongst the general population noted that an individual’s mindfulness positively influenced CNS (e.g. Barbaro and Pickett, 2016; Hamann and Ivztan, 2016; Wolsko and Lindberg, 2013). Additionally, a meta-analytic investigation that included 2,435 participants across 12 samples also revealed a noteworthy association between an individual’s mindfulness and CNS (Schutte and Malouff, 2018).

Moreover, extant scholars have argued that individuals’ have a natural and universal inclination towards CNS (Tam, 2013) and that this inclination of being connected to nature could be grounded in human’s evolution of being connected and seeking benefits from such connections (Kahn, 2011). In this vein, existing literature has portrayed CNS in different ways. A scholar like Schultz (2002) has linked it to the “cognitive representation of self”, whereas Mayer and Frantz (2004) argued CNS to be “an individual’s affective and experiential connection” to nature. Moreover, recent scholarly work has revealed the similarity between CNS and values variables, especially those related to relational values which in turn were found to be overlapping with self-transcendence values (for a detailed discussion on the relationship with CNS with relational values, refer to Kleespies and Dierkes, 2020). Similarly, according to Mayer and Frantz (2004), CNS echoes the extent of people’s feelings as being part of nature, and “a deep love and caring for nature which includes a clear recognition of nature’s intrinsic value as well as a personal sense of responsibility to protect it from harm” (Perkins, 2010, p. 456). Moreover, in the words of Nisbet *et al.* (2009), CNS “encompasses one’s appreciation for and understanding of our interconnectedness with all other living things on the Earth... and is also an understanding of the importance of all aspects of nature, even those that are not aesthetically appealing to humans” (p. 718). Thus, it could be inferred that CNS could be related to individuals’ cognitive, affective or values and that people high on CNS tend to show increased PEB (Barbaro and Pickett, 2016; Dutcher *et al.*, 2007; Geng *et al.*, 2015). Although many scholarly works have argued that individuals’ sense of CNS promotes environmentally friendly behaviours (Dutcher *et al.*, 2007; Geng *et al.*, 2015; Nisbet *et al.*, 2009), a dearth of empirical research exploring this idea still exists (Nisbet *et al.*, 2009).

Going ahead, in this study, the conceptualization of VPEB at the workplace is grounded in the “target-based framework” propounded by Williams and Anderson (1991). This framework takes account of “behaviours that benefit the organization in general” (p. 601) and “behaviours that immediately benefit specific individuals and indirectly through this means, contributes to the organization” (p. 602). The “target-based framework” has been recommended by contemporary scholars (Spitzmuller *et al.*, 2008), and based on it, the VPEB at the workplace is explicated as “individual behaviour that is discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate, immediately benefits the natural environment, and indirectly through this means, contribute to the organization and benefits specific individuals” (Robertson and Barling, 2017, p. 58).

3.1 Mindfulness and voluntary pro-environmental behaviours

In two studies comprising participants from students and general population, a higher level of mindfulness was noted to facilitate greater connections with nature fostering behaviour regulation towards more environmentally friendly behaviour (Barbaro and Pickett, 2016). Ericson *et al.* (2014) have also endorsed the influence of mindfulness in enhancing empathy, compassion and non-materialism, which according to them, could further lead to increased PEB. Moreover, in their empirical study conducted in the hospitality sector among guests,

Barber and Deale (2014) found mindfulness to be related to environmentally sustainable behaviour. Mindfulness has also been seen to be considerably associated with various PEBs in the area related to diet, transportation and housing (Brown and Kasser, 2005). Similarly, Studer (2015) noted the role of mindfulness in encouraging individuals toward more sustainable behaviour in the area of food, mobility and living habits. A study by Jacob *et al.* (2009) also confirms the positive association between mindfulness and PEB. Moreover, the re-perceiving theory of mindfulness also argues about the direct as well as indirect (mediating through intervening variables), the positive influence of mindfulness on others' oriented including sustainability-related behaviours (Shapiro *et al.*, 2006). Therefore, we hypothesize that:

H1. Employee mindfulness positively influences employee's VPEB at the workplace.

3.2 Mindfulness and connectedness to nature

Mindfulness could be related to greater CNS (Howell *et al.*, 2011), as it encourages individuals to approach nature through the sense of intrinsic connection (Hedlund-de Witt, 2012). Also, as mindfulness is characterized by openness to experience or experiencing the present moment (Brown and Ryan, 2003), it could lead to a sense of CNS (Nisbet *et al.*, 2009). Moreover, mindfulness positively impacts "attentional capacity" (Mayer *et al.*, 2009) and "internal awareness" (Leary *et al.*, 2008), which relates to higher CNS (Patel and Holm, 2018). In their experimental study involving students, Aspy and Proeve (2017) reported greater CNS amongst individuals involved in mindfulness meditation compared to the controlled group. Similarly, in two empirical studies, Barbaro and Pickett (2016) concluded about mindfulness fostering a stronger connection with the natural environment. Additionally, in a meta-analysis consolidating findings of a connection between mindfulness and CNS, Schutte and Malouff (2018) concluded about the significant association across 12 samples and 2,435 participants. Also, in accordance with the re-perceiving theory, mindfulness is known to bring positive changes by positively influencing an individual's cognitive, affective as well as values components (Shapiro *et al.*, 2006), and thus could be positively associated to CNS. Therefore, we hypothesize that:

H2. Employee mindfulness positively influences employee's sense of CNS.

3.3 Connectedness to nature and voluntary pro-environmental behaviours

CNS is emphasized as a remedy to the world's environmental crisis (Rezapouraghdam *et al.*, 2018), as focussing only on the own "selves" instead of the "community" (Hinds and Sparks, 2008), and disconnection from nature, is thought to be the root cause of environmental problems (Hirsh and Dolderman, 2007). The existing literature suggests the importance of intrinsic motivations in promoting PEB (Lavergne *et al.*, 2010) and CNS, as grounded in Schwartz *et al.*'s (2001) "self-transcendent value" (intrinsic value) orientation, echoes the level of individual feeling as being part of nature (Mayer and Frantz, 2004).

Moreover, in their scholarly work, Geng *et al.* (2015) concluded about the positive effect of CNS in promoting environment-friendly behaviour, and individuals high on CNS were noted to endorse environment-friendly behaviour and treat the environment in a humane way (Nisbet *et al.*, 2009). Additionally, intrinsic motivation in the form of CNS seems to influence PEB (Hedlund-de Witt *et al.*, 2014), particularly at the workplace where PEBs are mostly voluntary (De Groot and Steg, 2009). Therefore, we hypothesize that:

H3. Employee's sense of CNS positively influences employee's VPEB at the workplace.

Furthermore, from the above discussion including both the theoretical as well as empirical studies, it could be inferred that individual's mindfulness positively influences an individual's

sense of CNS which in turn also positively influences PEB and that sense of CNS could be intervening the association between mindfulness and PEB. Additionally, across 2 studies involving 360 university students and 296 participants from the general population, [Barbaro and Pickett \(2016\)](#) noted the mediating role of CNS between individuals' mindfulness and environment-friendly behaviour. Moreover, grounded in the re-perceiving theory ([Shapiro et al., 2006](#)), the mediation effect of the sense of CNS in the association between individuals' mindfulness and environment-friendly behaviour could also be supported. Thus, it seems that a higher level of employee's mindfulness at the workplace could be positively influencing PEB at the workplace and that this relationship would be mediated by the employee's sense of CNS. Therefore, we hypothesized that:

H4. Employee's sense of CNS mediates the association between employee's mindfulness and employee's VPEB at the workplace.

3.4 Theoretical model

Grounded in the theory and the conceptual as well as the empirical studies (as discussed in the preceding sections), the hypothesized model (along with the results) is as shown in [Figure 1](#). The model comprises of employee's mindfulness as an exogenous construct, employee's VPEB at the workplace as an endogenous construct, and employee's sense of CNS as the mediating variable.

4. Methodology

4.1 Instrument designing

The instrument was divided into four sections to capture the information about demographic variables along with the other three variables of interest. Section one comprised of demographic questions capturing information about gender, age, education, industry, hierarchy, years in the job and location. Section two consisted of five items on mindfulness along with an attention check question in the end. Section three comprised six items of CNS, and the last section was having ten items to capture responses for employee's VPEB. All the three measures utilized in the present study to design the instrument have been borrowed from extant literature wherein reliability and validity of these measures have already been established. Moreover, as the responses were slated to be collected from the respondents at a single point of time, a few procedural measures, as advocated by [Podsakoff et al. \(2003\)](#), to address the "common method variance" (CMV) were undertaken. The CMV being a probable validity threat ([Podsakoff et al., 2003](#)) is delineated as "the amount of spurious covariance shared among the variables because of the common method used in collecting data" ([Buckley](#)

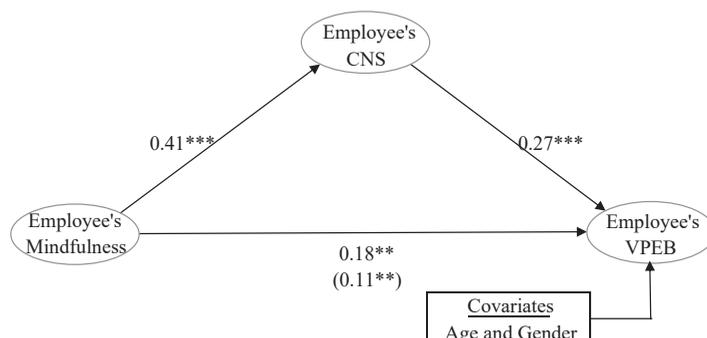


Figure 1.
The conceptual model
along with the results
(result in parentheses
shows indirect effect)

et al., 1990). First, the “anonymity and confidentiality” of the personal information were assured to the participants to circumvent the worries linked to social desirability. Additionally, the items related to each variable were placed on a different sheet of the survey and an “attention check” question was also included. These were specifically done to avoid participants from speculating the linkage between independent and dependent constructs (Newman *et al.*, 2016; Podsakoff *et al.*, 2003; Rizvi and Garg, 2020).

The employee’s mindfulness as the independent variable was measured using the five items short-form of “Mindfulness Attention and Awareness Scale”, a self-rating scale with substantial reliability and validity supports (Carlson and Brown, 2005; Van Dam *et al.*, 2010). This short scale is based on the most widely used 15 items Mindfulness Attention and Awareness Scale–“MAAS”–which is grounded in traditional Buddhist meditation-based philosophy and was originally conceptualized and developed by Brown and Ryan (2003). The prospective respondents i.e. employees self-rated their mindfulness using the five items of the short-form of MAAS on a five-point Likert response scale where “1” represents “never” to “5” as “always”. The sample items are “I do jobs or tasks automatically, without being aware of what I’m doing”, and “I find myself doing things without paying attention”. As the items are reverse-coded, the responses were reversed in the analysis such that the larger scores reflect the higher level of employee’s mindfulness. Existing studies have noted acceptable alpha values, and the scale in this study also yields a higher Cronbach alpha value (0.83) that is much above the acceptable threshold value of 0.7 (Cronbach, 1951).

The mediator in the present study, i.e. employee’s sense of CNS, was measured by six items short type of “Nature Relatedness” NR-6 scale. This abridged version along with the NR scale comprising of 21 items was originally developed by Nisbet *et al.* (2009). The NR measure is “a self-report measure designed to assess the affective, cognitive, and physical relationship individuals have with the natural world” (Nisbet *et al.*, 2009, p. 719) and was developed to capture individual’s differences in their level of CNS. No items in the NR-6 scale are reverse-scored and all the six self-rated items were marked on a five-point Likert response scale where “1” represents “strongly disagree” to “5” as “strongly agree”. The sample items are “I always think about how my actions affect the environment”, and “I feel very connected to all living things and the Earth”. Existing studies have noted Cronbach alpha values greater than the acceptable threshold value (>0.7), and the NR-6 measure in this study also showed a higher alpha value of 0.85.

Employee’s VPEB as the dependent variable was measured using the “Organizational Environmental Citizenship Behaviour/Organizational Citizenship Behaviour for the Environment”–OCBE–scale. This scale has been conceptualized by Robertson and Barling (2017) and was deliberately chosen in the present study to measure employee’s voluntary PEB. The OCBE scale was originally conceptualized and developed keeping in mind to capture employee’s VPEB at their workplace in different types of industries including manufacturing and services. Moreover, this scale could be utilized among different job types across different hierarchies (for details on this scale, please refer to Robertson and Barling, 2017). None of the items of the “Organizational Citizenship Behaviour for the Environment” scale is reverse-scored, and the prospective respondents rated their voluntary environmental friendly behaviour using the ten self-rated items on a five-point Likert response scale where “1” represents “never” to “5” as “always”. The sample items are “I help my co-workers be environmentally friendly at work”, and “At work, I reduce the amount of energy I use”. Here, in this study, a higher alpha value (0.90) was obtained confirming good internal consistency.

4.2 Sampling and data collection process

The present study is based on the responses from the individuals who were working in either manufacturing or the services organizations operating across different regions in India.

Similar sampling frame wherein respondents working in a variety of industries (including manufacturing and services sectors) were targeted in a recent Indian study exploring firms' environmental sustainability and performance (Gupta and Gupta, 2020), and also in a study exploring the effects of leadership on employees' environmental friendly behaviour (Robertson and Carleton, 2018). Moreover, by utilizing both convenient and snowball sampling (participants were requested to share the link with their colleagues and a similar sampling strategy was used in a recent organization sustainability-related studies. For details, please see, Gupta and Gupta, 2020; Rizvi and Garg, 2020) procedure, around 900 employees working at various levels, executive to top management, were contacted directly through LinkedIn. Social media platform like LinkedIn was chosen as it assures data reliability (King *et al.*, 2014), and also an existing study researching green aspects of organizations in the Indian context has deployed LinkedIn to collect data from the employees (Rizvi and Garg, 2020).

The survey was open for around 8 weeks (March–April 2019) and was designed and administered using Survey Monkey, a widely used online survey platform (<https://www.surveymonkey.com>) (Gallicano *et al.*, 2012). The respondents first read the survey brief followed by the consent to participate. Then they recorded their demographic information related to gender, age, education, job location and industry, years of experience and level/hierarchy. These were followed by the measure of mindfulness and an attention check question. Then responses related to questions on the sense of CNS and employee's VPEB were recorded.

4.3 Data cleaning and analysis plan

Data cleaning and analysis were undertaken utilizing SPSS and AMOS 23 software (Trivedi *et al.*, 2017). First and foremost, data cleaning was carried out and responses were screened for incomplete and unengaged or “straight-lining” issues (Reiter, 2015). Second, all three measures were evaluated for scale validation using exploratory factor analysis (EFA). An Eigenvalues >1 and a standard factor loading greater than 0.5 were considered for factor extraction (Field, 2013). The “Kaiser–Meyer–Olkin” (KMO) value greater than 0.6 (Kaiser, 1974) along with the significant results for “Bartlett's test of sphericity” were considered (Bartlett, 1954) for sample adequacy. Moreover, confirmatory factor analysis (CFA) which adequately estimates the validity and reliability of the variables along with the hypothesized model fitness was undertaken. Tests for “convergent validity” and “discriminant validity” using the approaches of Fornell and Larcker (1981) were done. As reported in the extant literature, model fit indices, namely “Chi-square/df”, “Goodness of Fit Index” (GFI), “Tucker–Lewis Index” (TLI), “Incremental Fit Index” (IFI), “Comparative Fit Index” (CFI) and “Root Mean Square Error of Approximation” (RMSEA) were considered. The acceptable values of these indices (“Chi-square/df < 3; GFI, CFI, TLI, IFI >0.90 and RMSEA <0.08”), as argued in the existing literature, suggesting good fit were considered (Hair *et al.*, 2010). Also to check for CMV in the responses, Harman's one-factor test was run, and as argued in the existing literature, if the value of the total variance explained by a single factor scores less than 50%, the data are thought to be free from CMV issues (Podsakoff *et al.*, 2003).

Furthermore, Pearson bivariate correlations were reported for assessing the association between the constructs of interest. The strength of the association was accessed based on the criteria laid down by Cohen (1988), such that a value of 0.10 indicates small, 0.30 indicates medium and 0.50 indicates large associations. PROCESS macro of Hayes (2017) was utilized to test the hypotheses and the mediation effect, and the suggested values, namely path coefficients, std. errors, *t*, *p* and confidence intervals were reported. Additionally, as the age and gender of the respondents are reported to influence environment-friendly behaviours (e.g.

Jain and Kaur, 2006; Lee, 2009), demographic variables namely age and gender were controlled in all of the analyses.

5. Analysis and findings

5.1 Demographic characteristics

A total of 445 respondents attempted the survey, out of which 24 responses were discarded because of the incomplete, unengaged (responses with standard deviation values < 0.5) or “straight-lining” concerns (Reiter, 2015). After data cleaning, 421 responses were considered fit for further analysis. The respondents’ demographic information indicated that around 70% of the respondents were employed in services sectors and the remaining 30% were engaged with manufacturing organizations. Moreover, the sample comprised of 72.2% male and 27.8% female, and that 82.9% of respondents belong to the Gen Y/Millennial cohort (born between 1981 and 94), 16.4% were Gen X (born 1961–80), and the remaining 0.7% were baby boomers (born 1946–60) (for a detailed description on age categories, please see Brosdahl and Carpenter, 2011). Further, 28.7% of respondents were graduates, 67% were postgraduates and 4.3% were having higher research degrees like MPhil/PhD. Respondents were predominantly located (place of job) in South India (63.2%), followed by North (14.5), West (10.9), East (8.9) and remaining from the central and northeast. Regarding job tenure, 54.6% of the respondents had experience of around 5 years, 21.6% between 6 and 10 years, 21.8% with 11–15 years, and the remaining around 11% had job experience in between 16 and 30 years. Amongst the respondents, 22.6% were holding executive/non-managerial positions, 26.4% were positioned as entry-level managers, 42% as middle-level managers and the remaining around 9% were holding Top/C-Suite level positions at the time of attempting the survey. A few of the recent research in the area of workplace environment-friendly behaviour and

Variable- description		N	%
Gender	Male	304	72.2
	Female	117	27.8
Generation cohort	Gen Y/Millennial	349	82.9
	Gen X	69	16.4
	Baby boomer	3	0.7
Education	Under graduate	121	28.7
	Post graduate	282	67.0
	MPhil/PhD	18	4.3
Employment sector	Services	295	70.07
	Manufacturing	126	29.93
Present job position	Executive	95	22.6
	Entry-level manager	111	26.4
	Middle-level manager	177	42
	Top management	38	9
Job tenure (Years)	Up to 5	230	54.6
	6–10	91	21.6
	11–15	54	12.8
	16–30	46	11.0
Job location	East	37	8.8
	West	46	10.9
	North	61	14.5
	South	266	63.2
	Central	5	1.2
	North-east	6	1.4

Table 1.
Demographic characteristics of the sample (N = 421)

sustainability practices reported similar characteristics for their samples (e.g. Rizvi and Garg, 2020; Singh *et al.*, 2019; Ture and Ganesh, 2018). For the demographic characteristics of the sample, please see Table 1.

5.2 Scale validation

All three measures in the present study were evaluated utilizing EFA. Results from the EFA revealed that the MAAS short-scale kept its original structure and presented one factor with five items, explaining 65.64% of the variance. The estimates from the KMO for the sample adequacy was 0.835 (chi square = 726.60, df = 10), and the results for Bartlett’s test of sphericity was significant ($p < 0.001$). The factor loading showed no case of dimensionality and indicated that five items, each with the standard factor loading in the range of 0.768–0.863, loaded onto one factor. Similarly, results from the EFA revealed that the NR-6 scale also kept its original structure and presented one factor with five items, explaining 62.46% of the variance. The estimates from the KMO for the sample adequacy was 0.864 (chi square = 804.36, df = 10), and the results for Bartlett’s test of sphericity was significant ($p < 0.001$). The factor loading showed no case of dimensionality and indicated that five items (one item was dropped due to loading less than 0.5), each with the standard factor loading in the range of 0.752–0.832, loaded onto one factor. Furthermore, the OCBE scale did not keep its original structure, three items were removed, and the remaining seven items were loaded to a single factor explaining 63.79% of the variance. The estimates from the KMO for the sample adequacy was 0.896 (chi square = 1682.63, df = 21), with significant results for Bartlett’s test of sphericity ($p < 0.001$). The factor loading showed no case of dimensionality and indicated that seven items, each with the standard factor loading in the range of 0.748–0.842, loaded onto one factor.

5.3 Descriptive statistics and correlations

The descriptive statistical values of mean, std. deviation and Cronbach alpha coefficients for all the three variables of interest indicated high internal consistency. All three variables yield alpha values in the range of 0.83–0.90 which is much above the acceptable threshold value of 0.7 (Cronbach, 1951). Please see Table 2 for descriptive statistics.

Pearson bivariate correlations were reported for assessing the association between the constructs, and the strength of the association was accessed based on the criteria laid down by Cohen (1988) (please refer to sub-section 4.3 for detailed values). Significant medium positive correlations emerged between variables of interest in the present study. Employee’s mindfulness indicated the highest correlation with employee’s sense of CNS ($r = 0.36$, $p < 0.01$) and vice versa. Moreover, employee’s mindfulness also showed a positive correlation with employee’s VPEB ($r = 0.25$, $p < 0.01$). Similarly, a significant medium correlation also

	Mean	Std. Dev.	Cronbach alpha	CR	AVE	1	2	3
Employee’s mindfulness (EM)	3.91	0.80	0.83	0.87	0.57	<i>0.754</i>		
Employee’s sense of connectedness to nature (CNS)	3.90	0.77	0.85	0.84	0.51	0.366**	<i>0.714</i>	
Employee’s voluntary pro-environmental behaviour (VPEB)	3.30	1.06	0.90	0.89	0.51	0.253**	0.318**	<i>0.714</i>

Note(s): ** $p < 0.01$ level (two-tailed); the italics numbers at the end of each row are square roots of AVE

Table 2. Descriptive statistics, correlations and discriminant validity

emerged between an employee's sense of CNS and an employee's VPEB ($r = 0.318, p < 0.01$). Please see [Table 2](#) for correlations values.

5.4 Confirmatory factor analysis

The initial CFA results could not support the measurement model fit and subsequently one item from OCBE (item number OCBE-4 showing high "standardized residual covariance" and large "modification indices") was dropped. The final measurement model CFA output supported the model fit. The indices obtained were chi-square/df = 2.211, GFI = 0.937, TLI = 0.953, IFI = 0.961, CFI = 0.960 and RMSEA = 0.054, and as all the model fit indices were above the suggested threshold values, the model was considered as a good fit ([Hair et al., 2010](#)).

Furthermore, to verify the constructs' validity, convergent as well as discriminant validity was checked ([Campbell and Fiske, 1959](#)). Convergent validity was verified using the items factor loadings as well as variables "Average Variance Extracted" (AVE) estimates. The factor loading for employee mindfulness range between 0.678 and 0.804, for the sense of CNS, ranged between 0.657 and 0.831, and for OCBE ranged from 0.600 to 0.817. Since values for all the factor loadings and the AVE for the scales were above 0.50, and alpha and composite reliability (CR) were also higher than the threshold value of 0.7 (please see [Table 2](#)), convergent validity is supported ([Fornell and Larcker, 1981](#)). Additionally, discriminant validity was tested by equating the square root estimate of the AVE (provided in diagonal) with the correlations of the subsequent variables in the same rows and columns (please see [Table 2](#)). The discriminant validity was supported because the square root estimates of the AVE were larger than the variable correlations ([Fornell and Larcker, 1981](#)).

5.5 Common method variance

The CMV being a probable validity threat in social science research ([Podsakoff et al., 2003](#)) and as grounded in existing literature ([Du et al., 2007](#); [Podsakoff et al., 2003](#)), CMV in the responses was checked by utilizing "Harman's single factor" score. The resulting yield was that a total variance to a single factor was 30.27%, which is well within the standard threshold limit of below 50%. Thus CMV seems not to be affecting the data in the present study ([Akdogan and Cimsir, 2019](#); [Du et al., 2007](#); [Podsakoff et al., 2003](#)).

5.6 Mediation analysis

Direct relationships were examined between employee's mindfulness and employee's workplace VPEB ([H1](#)), employee's mindfulness and employee's sense of CNS ([H2](#)), employee's sense of CNS and employee's VPEB at the workplace ([H3](#)), and the mediating effect of employee's sense of CNS on employee's mindfulness and the employee's VPEB at the workplace relationship ([H4](#)).

Bootstrapping (5,000 samples) method using the PROCESS macro by [Hayes \(2017\)](#) on SPSS 23 was used along with the Model 4 of PROCESS macro, related to the mediation analysis was applied.

The findings revealed that the employee's mindfulness (EM) significantly and positively influenced employee's VPEB at the workplace ($B = 0.18, t = 3.55, p < 0.05$, [Table 3](#)), EM significantly and positively influenced employee's sense of CNS ($B = 0.41, t = 9.33, p < 0.001$, [Table 3](#)), and employee's sense of CNS significantly and positively influenced employee's VPEB at the workplace ($B = 0.27, t = 5.50, p < 0.001$, [Table 3](#)). Therefore, the results of the analysis support the hypotheses [H1](#), [H2](#) and [H3](#).

Furthermore, for testing [H4](#), the association between EM and employee's sense of CNS ($B = 0.41, t = 9.33, p < 0.001$, [Table 3](#)), and of employee's sense of CNS and employee's VPEB

The effect of EM on VPEB

Predictor	Outcome	B (SE)	95% CI	t-value
<i>Total effect</i>				
Employee mindfulness (X)	Employee VPEB (Y)	0.29 (0.04)	[0.20, 0.38]	6.21***
<i>Direct effect</i>				
Employee mindfulness (X)	Employee CNS (M)	0.41 (0.04)	[0.32, 0.49]	9.33***
Employee CNS (M)	Employee VPEB (Y)	0.27 (0.05)	[0.17, 0.37]	5.50***
Employee mindfulness (X)	Employee VPEB (Y)	0.18 (0.05)	[0.08, 0.27]	3.55**

Predictor	Mediator	Outcome	B (SE)	95% CI
<i>Indirect effect</i>				
Employee mindfulness (X)	Employee CNS (M)	Employee VPEB (Y)	0.11 (0.02)	[0.06, 0.16]

Predictor	Mediator	Outcome	B (SE)	Z	P
<i>Indirect effect (Sobel test)</i>					
Employee mindfulness (X)	Employee CNS (M)	Employee VPEB (Y)	0.11 (0.02)	4.895	0.0000

Table 3. Mediation analysis for employee's VPEB at the workplace as a dependent variable

Note(s): B = coefficient; SE = standard error; CI = confidence interval; ** $p < 0.05$; *** $p < 0.001$; Bootstrap sample size = 5000

at the workplace ($B = 0.27, t = 5.50, p < 0.001$, Table 3) indicated positive results. The direct influence of EM on employee's VPEB at the workplace ($B = 0.18, t = 3.55, p < 0.001$, Table 3) was also noted positive. The bias-corrected estimate of the indirect influence of EM on employee's VPEB at the workplace was significant ($B = 0.11, 95\% \text{ CI } [0.06, 0.16]$). Also, Sobel's test confirmed a significant indirect effect (Sobel $Z = 4.895, p < 0.001$). Thus, mediation of H4 was supported. Figure 1 depicts the tested model along with the results.

6. Discussion

The role of an organization as a key influencer in the global environmental landscape is widely recognized (Rousseau, 2017), and organizations are expected to check on their environmental detrimental impact (Galdeano-Gomez et al., 2008; Weaver et al., 2015). To meet the environmental expectations, organizations across the globe have embraced various environmental sustainability practices (Boiral et al., 2015; Lu et al., 2017) but unfortunately with little success. The reasons for the failure of the environmental management initiatives have been attributed to organizations' inability to recognize the complex nature of environmental management practices and the adoption of only technical measures to tackle the environmental issues (Lulfs and Hahn, 2013). In this vein, scholarly work suggests embracing the voluntary role of employees' in the success of organizations environmental sustainability initiatives (Boiral, 2007; Boiral and Paille, 2012; Daily et al., 2009), but it seems organizations have failed to acknowledge the effectiveness of employees' workplace PEB (Blok et al., 2015). Moreover, organizations are not focussing much on promoting such VPEB adoption among employees, and the possible reason could be the absence of suitable behavioural approaches to encourage PEBs among employees (Temminck et al., 2015). Additionally, extant scholars have stated the need for empirical research investigating "how environmentally sustainable behaviours within organizations can be encouraged" (Robertson and Barling, 2013, p. 186).

Looking into the possible dearth of behavioural approaches in promoting voluntary environmental friendly behaviour among employees, and the promising role of mindfulness (Wamsler, 2018; Patel and Holm, 2018) and CNS in providing a solution to the environmental

crisis (Mayer *et al.*, 2009) at the workplace, the primary goal of this study was to examine how the EM could influence employee's VPEB at the workplace. To this end, this study tested a model and explored the effect of EM on employees' VPEB at the workplace through the role of the sense of CNS as a mediator. By utilizing the correlational study design, utilizing responses from 421 employees working in organizations operating in India, the present study noted strong support for the conceptualized model, and the results offer significant contributions particularly to the area of organizational environmental sustainability and broadly to the organizational behaviour literature.

The results of the present study advance the understanding of the organizational environmental sustainability in several ways. First, although extant studies have stated about the positive association between individual's mindfulness and PEBs and that mindfulness encourages individuals to participate in environment-friendly behaviours (Amel *et al.*, 2009; Barbaro and Pickett, 2016; Brown and Kasser, 2005; Ericson *et al.*, 2014; Wamsler, 2018), there is no empirical study that has tried exploring the influence of EM on VPEB of the employees within organizations (Patel and Holm, 2018). The model conceptualized here supported that the EM positively influences employee's VPEB at the workplace i.e. the employees experiencing a higher level of mindfulness demonstrated more commitment towards the environmentally friendly behaviours at the workplace. Moreover, this positive association between EM and employee's environmental friendly behaviour at the workplace is in accord with the re-perceiving theory (Shapiro *et al.*, 2006) and is also aligned with a few other existing studies (Barbaro and Pickett, 2016; Wamsler, 2018).

Second, the results also support the positive association between employee's sense of CNS and employee's VPEB at the workplace i.e. the employees high on sense of CNS revealed more commitment towards environmentally friendly behaviours at the workplace. This positive relationship compliments extant studies that have supported the role of CNS in driving individuals towards environment-friendly behaviours in general (Lavergne *et al.*, 2010; Osbaldiston and Sheldon, 2003; Zibarras and Ballinger, 2011) and also the employees' VPEB at the workplace in particular (De Groot and Steg, 2009).

Third, the findings also affirmed the mediating role of employee's senses of CNS on the association between EM and employee's VPEB at the workplace. The results showed that the sense of CNS partially mediates the association between EM and employees VPEB at the workplace. This result is in accord with the re-perceiving theory (Shapiro *et al.*, 2006) and also the empirical study by Barbaro and Pickett (2016) wherein across two studies the intervening role of CNS between individuals' mindfulness and environment-friendly behaviour were noted. However, the present study is significantly different and expands on the studies of Barbaro and Pickett (2016), as in the present study, the total effect of the mindfulness contribution to PEB has been examined (as suggested by Barbaro and Pickett, 2016) and moreover, the hypothesized model has been exclusively tested in the context of workplace PEB.

Fourth, this study opines to a few of the determinants to employee's VPEB at the workplace and identified EM and employee's sense of CNS as a potential antecedent of employee's VPEB at the workplace. Moreover, this study contributes to the existing literature on sustainability at the organizations level by describing the culture and conditions through which voluntary PEBs could be nurtured. The results of this study assert that nourishing the spiritual needs, such as mindfulness, of the employees along with their sense of CNS, could help in creating an encouraging environment at the workplace. Such an encouraging environment would bring about a shift in employee's values and behaviours, wherein employees exhibit enhanced voluntary environment-friendly behaviour.

Finally, this study contributes to the organizational behaviour literature in broader ways. The present study identified mindfulness and sense of CNS as an antecedent of VPEB at the workplace, asserting that the higher level of mindfulness and sense of CNS could have a

spillover effect on the organizational milieu and positively affect employee's behaviours. Extending this outcome, EM and sense of CNS could be investigated as antecedents to other significant organizational variables such as organizational citizenship behaviours, sustainability behaviours and leaders' workplace behaviours, especially those related to organizational sustainability.

7. Implications

The present study results exhibit both theoretical and practical implications. Both academicians and practitioners are in need of insights about the influence individual's mindfulness could have on the employee's VPEB in the organizations. As the success of environmental sustainability programs at the organization level becomes a prominent factor across the globe and the role of employees being decisive in such environmental friendly programs, researching the role of mindfulness in influencing such VPEB is warranted. This study investigates the relationship between employees' mindfulness, sense of CNS and VPEB at the workplace and in exploring so, new insights which could be interesting to both academia and organizations have been reported.

7.1 Theoretical contributions

This study has explored employee's VPEB at the workplace through the lens of mindfulness in light of the re-perceiving theory. The proposed conceptualization and reported findings supplement the current research in the area of workplace sustainability as follows.

The first strength of the present study is related to the principal mechanism that explicates employees' goals to participate in environment-friendly behaviours at the workplace. To the best of our knowledge, this study is the first to examine and describe this pathway, especially in the organizations' context. The data configure well with the related theories on how employees' mindfulness and sense of CNS influence employees' voluntary participation in environment-friendly behaviour at the workplace. The second strength is that it relates to the association of mindfulness with the environmental sustainability matters in organizations and enriches extant understanding by examining the antecedents of voluntary PEB at the workplace. Mindfulness being regarded as a universal and secular phenomenon, the espousal of approaches to disseminate mindfulness at the organization could prove critical in the success of sustainability programs. The third strength of this study is that it extends the re-perceiving theory in the context of employee's PEBs at the workplace. Finally, the present study complements the emerging area of research related to mindfulness (Dane, 2011; Patel and Holm, 2018; Reb *et al.*, 2014) and PEB (Afsar *et al.*, 2016; Paille and Boiral, 2013; Rezapouraghdam *et al.*, 2018), especially at the workplace.

7.2 Practical implications

The results of the present study recommend a few practical suggestions for top management, organization leaders and managers wishing to motivate their employees to voluntarily contribute to the environment-friendly behaviours at the workplace.

As the findings indicated the positive influence of employees' mindfulness on environmental friendly behaviour, organizations must nurture a culture which could enhance employees' mindfulness. As PEBs exhibited by the employees at the workplace is mostly discretionary, mindfulness programs could be used to augment employees' mindfulness. The increased levels of mindfulness in turn would influence employees' embrace pro-environmental initiatives and also exhibit environmental friendly behaviours at the workplace. Organization leaders might look for enhancing employees' mindfulness levels by engaging mindful trainers and encouraging employees to practice in activities like yoga

and meditations which are known to enhance mindfulness. Similarly, [Patel and Holm \(2018\)](#) have suggested organizations disseminate “mindfulness-based training programs” at the workplace as such programs could support workplace PEB. Additionally, periodic mindfulness enhancement programs in the form of outdoor activities like trekking, rafting and camping in the woods could be used to enhance employees’ mindfulness which could further lead to environment-friendly behaviour at the workplace.

Moreover, the results of the present study supported a positive relationship between CNS and environmentally friendly behaviour. Also, the existing literature supports that CNS in the form of experiencing nature could enhance individuals’ mindfulness and environment-friendly behaviours. Therefore, organizations campus and the individuals’ workplace along with the cafeteria, production facilities, meeting halls, etc. should integrate nature-friendly architecture to accommodate natural plants and greenery. Such nature-friendly ambience could in turn have a positive influence on mindfulness levels as well as environment-friendly behaviours at the workplace ([Hamann and Ivtzan, 2016](#)).

Apart from benefitting organizations, the findings of this study are also helpful to many professionals. Mindfulness practitioners and trainers can look for consulting assignments and be the change inducer in the organizations as imparting mindfulness training to the employees could help in enhancing employee’s workplace PEBs and thus could help the organization to achieve their environmental sustainability goals. Additionally, architects and interior designers can help organizations in building nature-friendly facilities and greening the organization campus which in turn could positively augment employee’s environment-friendly behaviour in the organization.

Moreover, we propose and expect that any organization looking forward to achieving their environmental sustainability goals should strive to build a pro-environment culture at the workplace by developing employees’ mindfulness and sense of CNS. This, in turn, would positively influence employee’s environment-friendly behaviour at the workplace which could further support organizations in achieving their environmental sustainability goals.

8. Limitations and future research directions

Despite being the first of its kind study, the present study has a few limitations, which could be plugged in by future researchers, creating stimulating avenues for future research. First and foremost, as unidimensional constructs of mindfulness, CNS and VPEB have been used to test the hypotheses, future studies could think of utilizing multidimensional measures (e.g. “Comprehensive Inventory of Mindfulness Experiences”, scale, conceptualized by [Bergomi et al., 2013](#); the “Nature Relatedness” scale developed by [Nisbet et al., 2009](#)) wherein even a sub-dimension wise relationship, offering extended insights, could be examined. Second, the present study findings were established on cross-sectional data and future research should undertake longitudinal studies, explicating causal relationship, on how employees’ mindfulness changes over time and its effect on VPEB at the workplace and CNSs. Additionally, longitudinal studies would also open the avenue for scholars to look into the possibilities of reverse causal ordering. Especially a reverse causal model wherein employee’s sense of CNS influences EM and employee’s VPEB. Third, as convenient and snowball sampling was considered, the related limitations such as representativeness issues and the possible selection bias could not be ruled out. Future research should look into considering random sampling leading to an extended generalization of the results. Fourth, responses from employees associated with diversified sectors were considered in this study and future research could collect data from a single sector, either services or manufacturing, to garner in-depth sectorial insights. Moreover, employees’ self-rated their VPEB at the workplace and possibly could have overrated themselves. Future studies might look to collect data from either co-worker rating other employees or team leaders rating their subordinates’

environmental friendly behaviours at the workplace. Finally, more mediators like empathy, pro-socialness, universalism, etc., and even moderators like perceived environmental effectiveness or self-compassion might also affect the association between the variables. Future, studies could look at identifying and researching prospective mediators and moderators.

Despite the aforementioned limitations, the findings of the present study about the influence of EM on employee's VPEB at the workplace and the intervening role of employee's sense of CNS are promising for both the researchers and the practitioners. As existing literature depicts, mindfulness could be enhanced with the help of various mindfulness interventions, organizational leaders should look into the deployment of mindfulness enhancement programs at the workplace. This would encourage employees to voluntarily embrace environment management initiatives at their workplace and will help organizations in achieving their environmental sustainability goals.

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