

OCBE mediating the effect of Perceived Organizational Support and Environmental Concerns  
on Environmental Performance at employee level

Sacha Visser (6267912)

Utrecht University

Reviewer: Dr. Bibiana Armenta

Second Reviewer: Dr. Wieby Altink

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Universiteit Utrecht

### **Abstract**

This study examines the importance of organizational citizenship behavior directed towards the environment (OCBE) as a mediating variable. Environmental concerns of employees are expected to have a positive effect on environmental performance (Temminck, Mearns & Fruhen, 2015; Yusliza, Ramayah, Faezah & Khalid, 2020) and that this effect is mediated by OCBE. Subsequently, the social exchange theory (SET) expects perceived organizational support for environmental behavior (POSE) to have a positive effect on environmental performance (Darolia, Kumari & Darolia, 2010) and that this effect is also mediated by OCBE (Netra, & Sintaasih, 2019). This study attempts to answer the following question: i.e., can high levels of involvement in environmental sustainability increase employee's OCBE and environmental performance? To answer this question, an online questionnaire has been set out among Dutch employees ( $N = 128$ ). As expected, environmental concern increases OCBE and OCBE increases environmental performance. Moreover, OCBE mediates the relationship between environmental concerns and environmental performance. Unexpectedly, POSE does not influence OCBE, nor environmental performance. Similarly, no mediation effect of POSE via OCBE on environmental performance was found. To improve an organizations' environmental performance, it is advised to transform the environmental concern of employees into OCBE in the workplace.

*Keywords:* OCBE, environmental performance, environmental concerns, perceived organizational support towards environmental behaviour (POSE), employee-level.

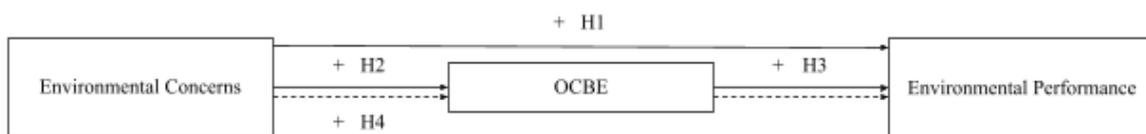
Climate change is the defining issue of our time, and a more urgent topic than ever before. Worldwide there are targets to lower carbon emissions, such as the Paris Agreement (United Nations, n.d; United Nations, 2021). The centerpiece is the European Climate Law, which is in the final stages of negotiation between EU institutions. That will enshrine the goal to reach net zero emissions in 2050 into law, plus a host of measures to achieve it. EU leaders aim to agree on major details in December, with the law to be finalized in 2021 (Peeters, Stallworthy & de Larragán, 2012). Besides top leaders of countries, more and more organizations are involved in sustainable working methods. Similarly, academic research and organizational practice on sustainability have increased over the past two decades (Davis & Challenger, 2015). The involvement of organizations for environmental sustainability differs and ranges from corporate social responsibility to including sustainability into their business models (e.g., social enterprises). However, a large group of organizations wants to increase their environmental performance. Environmental performance is broadly defined as “measurable results of an organization’s management of its environmental aspects” (Haider, 2016). Sustainability laws are changing rapidly and companies will have to adapt. Therefore, a lot of research is currently being done into how companies can improve their environmental performance.

For all levels of involvement, environmentally sustainable work behavior can be considered a specific determinant. Environmentally sustainable work behavior can be defined as “workplace behavior that harms the environment as little as possible, or even benefits the environment” (Steg & Vlek, 2009, p. 309). Such behavior may concern many domains, e.g., energy, water, waste, recycling, transport, purchasing, and product design (Davis & Challenger, 2015). Although the literature regarding workplace environmental sustainability is growing rapidly, it predominantly focuses on top-level corporate social responsibility and less on individual behavior (Bansal & Gao, 2006). Therefore, little is currently known about the impact and contribution that employees can make in terms of improving an organization’s environmental performance (Davis & Challenger, 2015). In the field of organization psychology, performance is known to be related to organizational citizenship behavior (OCB) (Organ, 1997). OCB is employee behavior that is above and beyond the call of duty. It is therefore not rewarded in the context of an organization's formal reward structure (Smith, Organ & Near, 1983). The meta-analyses of Podsakoff, Whiting, Podsakoff and Blume (2009) found that on individual-level OCB’s were positively related to ratings of employee performance. In this study the aim is to investigate whether the conclusion of the meta-

analyses of Podsakoff, Whiting, Podsakoff and Blume (2009) is also valid in the context of environmentally sustainable work behavior. For instance, can high levels of involvement in environmental sustainability increase employee’s organizational citizenship behavior directed towards the environment (OCBE) and environmental performance? In order to answer this question, this research looks at two models. Model 1 focuses on whether environmental concerns of employees have an effect via OCBE on environmental performance, (figure 1). While model 2 focuses on whether the level of employee’s POSE by the organization leads to a better environmental performance and whether OCBE also plays a (mediating) role in this (figure 2). This implies that, regardless of what involvement an organization has in becoming more sustainable, OCBE plays an important role.

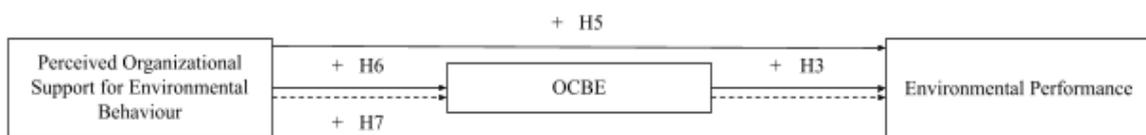
**Figure 1**

*Model 1*



**Figure 2**

*Model 2*



**Model 1**

***The direct relationship between environmental concerns and environmental performance***

Environmental concern is defined as an individual’s awareness and attitude towards the environmental threats facing humanity (Gill et al., 1986). I predict that employees who are more concerned about the environment, act on these concerns and would therefore have a better environmental performance as individuals than employees who do not have environmental concerns. While studied before, the effect of environmental concerns on OCBE and the effect of OCBE on performance. The effect of environmental concerns on environmental performance will be tested for the first time in this research. I predict that

employees' environmental concerns predict the environmental performance of an organization

*Hypothesis 1:* Environmental Concerns positively predicts Environmental Performance.

### ***How employee's environmental concerns increase OCBE***

In order to make an organization more sustainable it is important to look at the impact that employees' environmental concerns have on OCBE (Temminck, Mearns & Fruhen, 2015). Such OCBEs are characterized by workers engaging in voluntary and unrewarded environmental actions that go beyond their job requirements in an organizational setting (Boiral, 2009; Daily et al., 2009). These can range from suggesting solutions aimed at reducing energy consumption in the workplace, to advising co-workers about reducing their environmental impact at work. The research from Temminck, Mearns and Fruhen (2015) investigated the effect of environmental concerns of OCBE and concluded that environmental concerns lead to more OCBE. Several studies have reported environmental concern to lead individuals to engage in ecologically friendly behaviour (Poortinga et al., 2004), such as recycling behaviour (Schultz & Oskamp, 1996) and the adoption of green electricity (Rowlands et al., 2003; Diaz-Rainey and Ashton, 2011; Ozaki, 2011). It is expected that the link between environmental concern and ecologically friendly behaviour in the domestic context also holds true in the work environment, as engaging in environmental gestures at home or in the workplace both depend on voluntary behaviour. Whether at home or work, separating waste into different bins or choosing to travel via public transport is not necessarily easy. Therefore, engaging in such behaviours might benefit from an individual's concern for the environment. The research of Steg and Vlek (2009) confirms this finding, by finding that individual concerns about the environment predict willingness to change small-scale behavior and behavioral intentions. This study proposes that environmental concern is a driver of participation in 'pro-green' behaviours at work. Thus, several studies find support for the positive effect of environmental concerns on OCBE. This effect is expected to be found because the voluntary behaviour as OCBE is driven by this environmental fear. These environmental concerns would be the driver behind small-scale voluntary changes

*Hypothesis 2:* Environmental Concerns is positively related to OCBE.

***How employee' OCBE predicts the environmental performance of an organization***

As previously said, OCBE is an important variable when looking at environmental performance, but why? In a general setting, this question has long been answered. Namely, OCB predicts job performance at the organizational level (Organ, 1997; Podsakoff, Whiting, Podsakoff & Blume, 2009). Similarly, in the context of sustainability, the study of Yusliza, Ramayah, Faezah and Khalid (2020) tested the link for academic staff's OCBE for the environmental performance of a university and found support for this connection. According to Roy et al. (2001), OCBE is an essential factor for the successful implementation of environmental management systems and integrating environment policies with workplace practices. The existing literature has posited that employee engagement in OCBE is one of the key success factors in corporate 'greening' (Ramus & Killmer, 2007; Daily et al., 2009). In addition, Boiral and Paille (2012) have described pro-environmental behaviours under three dimensions: eco-helping, eco-civic engagement, and eco-initiatives. First, eco-initiatives are personal level initiatives of employees for reducing negative environmental impacts at the workplace. This definition overlaps with the definition of OCBE and the research found that OCBE explains 16.9% of the variance in Environmental Performance. Moreover, researchers have studied the OCBE of employees in different sectors. For example, Boiral et al. (2015) studied the impact of managers' OCBE in manufacturing companies and found a significant relationship between a manager's engagement in OCBE and the environmental management practices of his/her organization. Similarly, Paille et al. (2014) examined the pro-environmental behaviours of frontline workers in a Chinese manufacturing organization and empirically proved that OCBE positively influences the environmental performance of that organization. To conclude, several studies show the effect of OCBE on environmental performance and that it occurs in different sectors. Based on the aforementioned findings, the following hypothesis is formulated for this study.

*Hypothesis 3: OCBE is positively related to environmental performance.*

***OCBE as the mediator of environmental concerns on environmental performance.***

This study focuses as one of the firsts on the mediating effect of OCBE between environmental concerns and environmental performance. It is already known that environmental concerns are linked to an increase of OCBE (Temminck, Mearns & Fruhen,

2015), but OCBE is not looked at as a mediator to influence environmental performance. The research of Temminck, Mearns and Fruhen (2015) found that the influence of environmental concerns on OCBE was not mediated by affective organizational commitment. This leaves the question whether the effect of environmental concerns on environmental performance could be directly, fully or partially mediated by OCBE. Thus, no research has been done on this effect before. The mediating effect of OCBE is already supported in combination with other variables, however never tested with environmental concerns (Temminck, Mearns & Fruhen, 2015). This study will provide an answer to the question, if OCBE mediates the effect between environmental concerns and environmental performance. Therefore, the following hypothesis:

*Hypothesis 4:* OCBE mediates the relationship between environmental concerns and environmental performance. Environmental concerns influence via OCBE the environmental performance of an organization.

## **Model 2**

### ***The direct relationship between POSE and environmental performance***

Perceived organizational support is a predictor for organizational performance and its effect would be comparable to POSE predicting environmental performance within the context of sustainability. After an employee shows certain behavior, the organization responds to this behavior in a way that can be perceived as supporting or disapproving their actions. Perceived organizational support reflects the extent to which employees perceive that an organization appreciates its workers' contributions and shows concern about their welfare (Eisenberger et al., 1986). The research of Darolia, Kumari and Darolia (2010) found that perceived organizational support showed highest correlation with job performance compared to non-financial rewards, which have shown modest level association with performance. In the research a stepwise regression was used to identify which variables predicted the job performance best and which organizational support appeared to be the most potent predictor of job performance. This outcome was in close agreement with social exchange theory (SET) views. SET emphasizes that relationships evolve over time into trusting, loyal, and mutual commitments by certain "rules" of exchange. Rules of exchange form a "normative definition of the situation that forms among or is adopted by the participants in an exchange relation" (Emerson, 1976: 351). SET explains how perceived organizational support of employees is

built on positive exchange and can therefore reinforce each other (Konovsky & Pugh, 1994). Positive exchange can be perceived as a reward for a certain behaviour. This mechanism drives the influence on performance. Furthermore, the research of Goodman and Svyantek (1999) found that the fit between employees' desired organizational cultures and their actual organizational cultures predicts contextual performance (e.g., helping behaviors toward other employees or the organization). In other words, this could imply that when an employee shows pro-environmental behaviours that matches the wishes of the organization, this could increase helping behavior such as green behavior towards the organization (e.g., OCBE). In addition, it was found that the warmth of the organization (e.g., the feeling of general good fellowship that prevails in the work group atmosphere; the emphasis of being well liked; the prevalence of friendly and informal social groups) is a predictor for both contextual as task performance (Goodman & Svyantek, 1999). The friendly response of the organization is an important predictor for performance. I predict that this mechanism, which drives perceived organizational support into predicting organizational performance, is also true in the context of sustainability

In sum, the perceived reaction of the organization matters for the employee to show an increase in the desired behavior (Darolia, Kumari & Darolia, 2010). This mechanism reinforces a positive exchange between employees which drives direct influence on the organizational performance (Konovsky & Pugh, 1994). In the context of sustainability, it is interesting to see whether this effect also stands. I predict that perceived organizational support towards the environment (POSE) has a direct positive influence on the environmental performance. This leads to hypothesis 5.

*Hypothesis 5: POSE positively predicts EP.*

### ***How employees' POSE increases OCBE***

Previous research shows that perceived organizational support is positively related to OCB (Eisenberger et al., 1990; Lynch et al., 1999), whereas employees who perceive their organization as not providing sufficient support respond in ways that are destructive to an organization (Gibney et al., 2009). The researches of Netra and Sintaasih (2019) and Lamm et al. (2013) confirmed that organizational support has a positive and significant effect on OCB. The benefits of perceived organizational support often are understood in reciprocal terms. Similarly to the mechanism of SET, an employee who sees the employer as supportive is

likely to return the gesture. When perceived organizational support is high, workers are (under some conditions) more likely to engage in OCB (Lynch, Eisenberger & Armeli, 1999; Moorman et al., 1998), and have a higher job performance (Eisenberger et al., 2001; Randall, Cropanzano, Bormann, & Birjulin, 1999). All the above suggests that perceived organizational support is linked to OCB (Eisenberger et al., 1990; Lynch et al., 1999; Moorman et al., 1998; Netra and Sintaasih, 2019).

Research shows that this effect also holds truth in the context of sustainability. A previous study by Ramus and Steger (2000) found employees' POSE to be positively related to employees' willingness to develop and promote eco-initiatives. Rewarding an employee for good environmental performance enhances his/her commitment towards environmental responsibility (Daily and Huang, 2001) and encourages him/her to engage in OCBE (Govindarajulu & Daily, 2004). Green rewards for promoting OCBE among employees may include financial and non-financial benefits, such as incentives for recycling, allowing flexible work schedules and telecommuting to reduce travel cost, providing free bicycles or pollution-free vehicles or linking promotion opportunities with environmental performance (Jackson et al., 2011). Besides, rewards that combine both monetary and non-monetary incentives, are seen as more effective in boosting employee engagement in environmental activities (Renwick et al., 2013). This explains why it is important to look at non-monetary rewards, like POSE, for increasing environmental performance. Therefore, based on the current academic literature, the extent to which employees perceive 'green' behaviours as being supported by the organization is likely to be a promoter of OCBE and motivate employees to engage in them. Therefore, I predict that POSE will positively relate to OCBE.

*Hypothesis 6: POSE is positively related to OCBE*

***OCBE as the mediator of POSE on environmental performance.***

OCB is known to be a partial mediator between perceived organizational support and organizational performance. The research of Darolia, Kumari and Darolia (2010) found that perceived organizational support showed a strong correlation with job performance. Moreover, research found that organizational support has a positive and significant effect on OCB (Eisenberger et al., 1990; Lamm et al., 2013; Lynch et al., 1999; Netra & Sintaasih, 2019) and that OCB has a positive and significant effect on employee performance (Darolia, Kumari & Darolia, 2010; Netra & Sintaasih, 2019). Additionally, organizational citizenship

behavior is proven to be a partial mediation of the effect of organizational support on employee performance (Netra, & Sintaasih, 2019). In sum, OCB partially mediates between perceived organizational support and organization performance.

This study investigates whether the same mediating effect can be expected from OCBE. In particular, the mediation effect of OCBE between POSE and environmental performance. The following studies support the mediating effect of OCBE on environmental performance. Pinzone et al. (2016) proposed that Green HRM practices stimulated OCBE, while Daily et al. (2009) noted that OCBE leads to environmental performance. Hence, OCBE is advocated as a means to translate Green HRM practices to improvements in environmental performance. Specifically for this research, I predict that POSE predicts environmental performance via OCBE. OCBE is expected to be a partial mediator, similar to the mediation effect of OCB between perceived organizational support and organizational performance. This leads to hypothesis 6.

*Hypothesis 7: OCBE partially mediates the relationship between POSE and environmental performance. POSE influence via OCBE the environmental performance of an organization.*

### **Inclusive- and exclusive criteria**

A number of criteria were associated with appropriateness for participation in this study. The first inclusion criterion comes from ethical considerations; participants were required to be at least 18 years old. Second, all participants had to work at least 8 hours a week. This criterion was included because people without work cannot fill in contemporary personal experience in the questionnaires. If this is not done, the results would be biased. Lastly, the participants need to be employees, to measure the impact of employees on their organizational performance.

### **Participants**

The required sample size (N) has been calculated with a power analysis in G \* Power 3.1.9.4 (Faul et al., 2007). With a power of .80, a significance level of  $\alpha = .05$ , an average effect size of  $f^2 = .11$ , and a number of two predictors the required sample size is estimated a priori at 89. The effect size is based on the research by Anwar et al. (2020) and the research by Temminck, Mearns and Fruhen (2015).

To recruit the participants, a snowball sample was used, starting from my own network. The questionnaire was released online via social media channels, namely Facebook, Instagram and WhatsApp. A total of 231 participants were recruited. Of the total group, incomplete data, failure to meet inclusion criteria or refusal of informed consent was removed. After the data clean-up, 128 participants (55%) remain. Of which, 45 men and 83 women participated, with an average age of 30.36 years ( $SD = 11.79$  years; range 19-60 years). 28 participants had high school or equivalent as their highest completed level of education, 63 participants had a bachelor's degree (e.g., BA, BSc), 35 participants had a master's degree (e.g., MA, MSc, MEd), 1 participant had a Doctorate (e.g., PhD, edD) and 1 participant had another form of education.

### **Procedure**

Participants came to the online questionnaire via a shared link. The online questionnaire could be completed remotely at any time via a mobile phone or computer. On the first page, the purpose and background of the study was told: information about what was expected from the participant, such as the inclusion criteria, and that the study consisted of brief questions which took approximately 10 minutes to complete. References were made to the possible advantages and disadvantages of the study and the confidentiality of data processing. Finally, it was told that participation was voluntary, and information would be treated anonymously and confidentially. Below the page, the informed consent could be signed. Next, participants were asked a number of questions about demographic data, including age, gender, level of education and the number of working hours per week. According to the article of Marquart-Pyatt (2012) these are important demographics: "At the individual level, education, age, and gender affect environmental concerns.". The demographic questions were followed by the first scale, in which the level of POSE was measured. This was followed by the Organizational Citizenship Behavior Towards the Environment Scale. Subsequently, the last two scales; the New Ecological Paradigm Scale was requested, and then the Environmental Performance Scale was measured. At the end, participants received a short debrief, in which they were expressed gratitude for participating in the experiment and briefly explained the content of the research.

### **Measures**

All answers were given on a 7-point Likert scale of 1 (*totally disagree*) to 7 (*totally agree*). The total questionnaire is shown in appendix A.

#### ***Environmental Performance***

The Environmental Performance Scale was used (Anwar, Mahmood, Yusliza, Ramayah, Faezah & Khalid, 2020) to measure the environmental performance of an organization. The questionnaire consisted of fourteen items. An example item was: "At my work, initiatives are tasks to implement long-term environmental policies.". A high scale score means that the employee in question awards their organization a high environmental performance. A low scale score means that the employee finds their organization scoring low on environmental performance. The questionnaire was highly reliable,  $\alpha = .92$ .

### ***OCBE***

The Organizational Citizenship Behaviour Towards the Environment Scale (OCBE; Temminck, Mearns & Fruhen, 2015) was used to measure the level of employees' OCBE. The questionnaire consisted of seven items. An example item was: " I make environmental suggestions to improve work procedures.". A high scale score means that the employee shows a lot of OCBE in their organization. A low scale score means that the employee shows little OCBE in their organization. The questionnaire was highly reliable,  $\alpha = .91$ .

### ***POSE***

The Perceived Organizational Support for Employee Environmental Behaviour Scale (POSEEB; Temminck, Mearns & Fruhen, 2015) was used to measure the level of employees' POSE. The questionnaire consisted of seven items. An example item was: " The organization values my environmental contribution.". A high scale score means that the employee finds that their organization shows a lot of support for their environmental behavior in their organization. A low scale score means that the employee finds that their organization shows little support for environmental behavior in their organization. The questionnaire was highly reliable,  $\alpha = .89$ .

### ***Environmental Concerns***

The New Ecological Paradigm Scale (NEP; Dunlap et al., 2000) was used to measure the level of employees' environmental concerns. The questionnaire consisted of fourteen items. An example item was: "We are approaching the limit of the number of people the earth can support.". A high scale score means that the employee has a lot of environmental concerns. A low scale score means that the employee has little environmental concerns. The questionnaire was moderately reliable,  $\alpha = .52$ .

### **Data-analyses**

To analyze the data, it was imported into SPSS Statistics 24 (IBM. Corp., Armonk, New York). First, the data was cleaned up by deleting the incomplete data. Six items were

placed in a negative direction. These scores have been pooled from 1 to 7, 2 to 6, 3 to 5, 4 to 4, 5 to 3, 6 to 2 and 7 to 1. Scale scores were then calculated (appendix B, table 2). After that, using Cronbach's alpha, reliability analyses were carried out for the four scales mentioned above. Subsequently, the assumptions for correlation, regressions and meditations were checked (appendix B, table 1). In addition, correlations have been calculated between the variables; POSE, EC, OCBE, EP and the demographic age (table 1). When checking for correlations between variables, some findings were made. OCBE and age are negatively related  $r(126) = -.21, p = .018$ . This means that when employees get older, they show less OCBE. The next finding was that EC and OCBE are related  $r(126) = .28, p = .001$ . This tells us that not only when environmental concerns increase OCBE follows, but also the other way around. Employees who show more OCBE will have more environmental concerns. The correlations and regressions were performed using SPSS Statistics 24 (IBM. Corp., Armonk, New York) and the meditations performed using hayes' PROCESS macro (2013).

**Table 1**

*Means (M), Standard deviations (SD), and two tailed Pearson's Correlations between the variables*

	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. Age	30.36	11.79	-				
2. OCBE	3.82	1.25	-.21*	-			
3. EC	3.25	.39	-.04	.28**	-		
4. POSE	4.23	.47	.09	.11	.12	-	
5. EP	4.05	1.25	-.15	.28**	.14	.00	-

*Note.* N = 128, \*  $p < .05$ , \*\*  $p < .01$ .

## Results

### Model 1

#### *Hypothesis 1*

With the intention to estimate the proportion of variance in environmental concerns directly to environmental performance, a standard multiple regression analysis (MRA) was performed.

Prior to interpreting the results of the MRA, several assumptions were evaluated. First, stem-and-leaf plots and boxplots indicated that each variable in the

regression was normally distributed, and free from univariate outliers for environmental performance. Second, inspection of the normal probability plot of standardised residuals as well as the scatter plot of standardised residuals against standardised predicted values indicated that the assumptions of normality, linearity and homoscedasticity of residuals were met. Third, Mahalanobis distance did not exceed the critical  $X^2$  for  $df = 2$  (at  $\alpha = .001$ ) of 13.82 for any cases in the data file, indicating that multivariate outliers were not of concern. Fourth, relatively high tolerance for the predictor in the regression model indicated that multicollinearity would not interfere with our ability to interpret the outcome of the MRA.

Environmental concerns accounted for a non-significant 2% of direct influence of environmental concerns on environmental performance of the organization,  $R^2 = .02$ , adjusted  $R^2 = .01$ ,  $F(1, 126) = 2.65$ ,  $p = .106$ . Unstandardised ( $B$ ) and standardised ( $\beta$ ) regression coefficients are reported as follows,  $B$  [95% CI] = .458 [-0.098, 1.014] and  $\beta = .144$ . Thus, environmental concerns do not directly predict environmental performance and hypothesis 1 is rejected.

### ***Hypothesis 2***

With the aim to estimate the proportion of variance of environmental concerns to OCBE, a standard multiple regression analysis (MRA) was performed. Prior to interpreting the results of the MRA, several assumptions were evaluated. First, stem-and-leaf plots and boxplots indicated that each variable in the regression was normally distributed, and free from univariate outliers. Second, inspection of the normal probability plot of standardised residuals as well as the scatter plot of standardised residuals against standardised predicted values indicated that the assumptions of normality, linearity and homoscedasticity of residuals were met. Third, Mahalanobis distance did not exceed the critical  $X^2$  for  $df = 2$  (at  $\alpha = .001$ ) of 13.82 for any cases in the data file, indicating that multivariate outliers were not of concern. Fourth, relatively high tolerance for the predictor in the regression model indicated that multicollinearity would not interfere with our ability to interpret the outcome of the MRA.

Environmental concerns accounted for a significant 7% of direct influence of environmental concerns on OCBE of employees,  $R^2 = .07$ , adjusted  $R^2 = .07$ ,  $F(1, 126) = 10.538$ ,  $p = .001$ . Unstandardised ( $B$ ) and standardised ( $\beta$ ) regression coefficients are reported as follows,  $B$  [95% CI] = .887 [0.346, 1.427] and  $\beta = .278$ . Thus hypothesis 2 is supported. EC is positively related to OCBE.

### ***Hypothesis 3***

With the purpose of testing for the relationship between OCBE and environmental performance. First, the size and direction of the linear relationship between OCBE and environmental performance was addressed, and a bivariate Pearson's product-moment correlation coefficient ( $r$ ) was calculated. The bivariate correlation between these two variables was positive and moderate  $r(126) = .28, p = .002$ .

Prior to calculating  $r$ , the assumptions of normality, linearity and homoscedasticity were assessed, and found to be mostly supported. Specifically, the Shapiro-Wilk test found that environmental performance was normally distributed, however OCBE was not normally distributed. On the other hand, a visual inspection of the normal Q-Q and Detrended Q-Q plots for each variable confirmed that both were normally distributed. Similarly, visually inspecting a scatterplot of OCBE scores against environmental performance confirmed that the relationship between these variables was assumingly linear and clearly heteroscedastic.

#### ***Hypothesis 4***

In model 1, was tested whether OCBE explains the relationship between environmental concerns and environmental performance. The path coefficients, the standard errors, t-values and p-values for the structural model using a 5,000- sample re-sample bootstrapping procedure were reported (Ramayah et al., 2018). Also, based on the criticism of Hahn and Ang (2017) that p-values are not a good criterion for testing the significance of hypothesis, a combination of criteria including p-values, confidence intervals, and effect sizes were used. Figure 3 shows the paths between the variables in model 1 and table 2 shows a summary of the variables used to test the hypotheses developed.

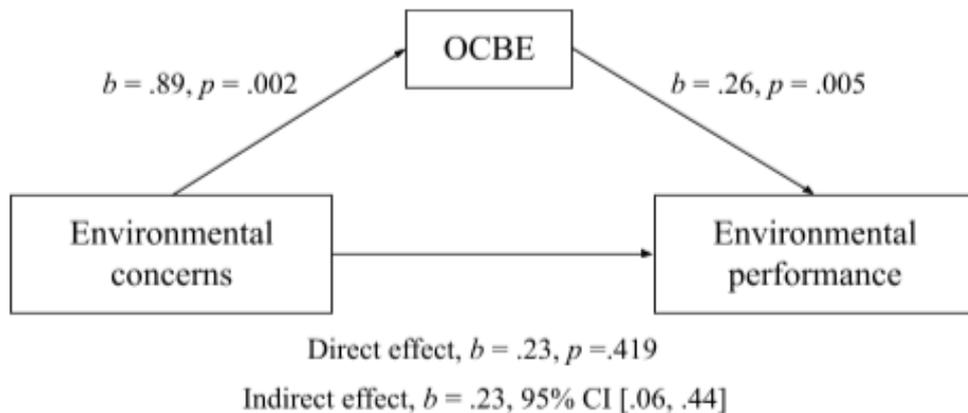
The following results were obtained from the mediation analyses of model 1. First, environmental concerns non-significantly predicts environmental performance even with OCBE in the model,  $b = .23, 95\% \text{ CI } [-.33, .79], t = .81, p = .419$ . Therefore, hypothesis 1 is rejected. Then, the effect of environmental concerns on OCBE was tested. The  $R^2$  was .08, which shows that environmental concerns explain 8% of the variance in OCBE. EC,  $b = .89, 95\% \text{ CI } [.35, 1.43], t = 3.25, p = .002$ , positively significant predicts OCBE, thus hypothesis 2 is supported. Next, the effect on OCBE on environmental performance was examined. OCBE significantly predicted environmental performance,  $b = .26, 95\% \text{ CI } [.08, .43], t = 2.87, p = .005$ . This had an  $R^2$  of .08, which indicates that OCBE explains 8% of the variance in environmental performance which gives support for hypothesis 3. To test hypothesis 4 of model 1, bootstrapping the indirect effect was conducted. following the suggestions of Preacher and Hayes (2004, 2008). If the confidence interval does not straddle a 0, then the

conclusion can be made that significant mediation exists. As shown in Table 3, the indirect effect of environmental concerns via OCBE on environmental performance,  $b = .23$ , 95% BCa CI [.06, .44], was significant. The confidence intervals bias-corrected 95% also did not show any intervals straddling a 0, thus not conforming the hypotheses. Thus, hypothesis 4 was supported.

In sum, hypothesis 1 was rejected. However, hypotheses 2, 3 and 4 are supported. Therefore, the indirect effect of environmental concerns via OCBE on environmental performance within model 1 is considered to be true.

**Figure 3**

*Model 1; environmental concerns as a predictor of environmental performance, mediated by OCBE.*



*Note.* The confidence interval for the indirect effect is a BCa Bootstrapped CL based on 5000 samples.

**Model 2**

***Hypothesis 5***

To estimate the proportion of variance in POSE directly to environmental performance, a standard multiple regression analysis (MRA) was performed. Prior to interpreting the results of the MRA, several assumptions were evaluated. First, stem-and-leaf plots and boxplots indicated that each variable in the regression was normally distributed, and free from univariate outliers for EP. The exception was POSE with six univariate outliers, however none of the participants’ answers were needed to remove. All answers were their perception and in a range of a normal opinion. Second, inspection of the normal probability plot of standardised residuals as well as the scatter plot of standardised residuals against

standardised predicted values indicated that the assumptions of normality, linearity and homoscedasticity of residuals were met. Third, Mahalanobis distance did exceed the critical  $X^2$  for  $df = 2$  (at  $\alpha = .001$ ) of 13.82, indicating that multivariate outliers were a concern. The outcomes were checked for Cook's Distance  $> 1$ . There were no outcomes greater than 1 and therefore was chosen to ignore the multivariate outliers. Fourth, relatively high tolerance for the predictor in the regression model indicated that multicollinearity would not interfere with our ability to interpret the outcome of the MRA.

POSE accounted for a non-significant 0% of direct influence of POSE on environmental performance of the organization,  $R^2 = .00$ , adjusted  $R^2 = -.01$ ,  $F(1, 126) = .00$ ,  $p = .998$ . Unstandardised ( $B$ ) and standardised ( $\beta$ ) regression coefficients are reported as follows,  $B$  [95% CI] = .004 [-0.464, 0.471] and  $\beta = .001$ . Thus, POSE does not directly predict environmental performance and hypothesis 5 is rejected.

### ***Hypothesis 6***

To estimate the proportion of variance of POSE by employees on OCBE, a standard multiple regression analysis (MRA) was performed. Prior to interpreting the results of the MRA, several assumptions were evaluated. First, stem-and-leaf plots and boxplots indicated that each variable in the regression was normally distributed, and free from univariate outliers for OCBE. The exception was POSE with six univariate outliers, however none of the participants' answers were needed to remove. All answers were their own perception of reality and could represent normal, but more extreme opinions. Second, inspection of the normal probability plot of standardised residuals as well as the scatter plot of standardised residuals against standardised predicted values indicated that the assumptions of normality, linearity and homoscedasticity of residuals were met. Third, Mahalanobis distance did exceed the critical  $X^2$  for  $df = 2$  (at  $\alpha = .001$ ) of 13.82, indicating that multivariate outliers were a concern. The outcomes were checked for Cook's Distance  $> 1$ . There were no outcomes greater than 1 and therefore was chosen to ignore the multivariate outliers. Fourth, relatively high tolerance for the predictor in the regression model indicated that multicollinearity would not interfere with our ability to interpret the outcome of the MRA.

POSE accounted for a non-significant 1% of direct influence of POSE on OCBE of employees,  $R^2 = .01$ , adjusted  $R^2 = .00$ ,  $F(1, 126) = 1.40$ ,  $p = .238$ . Unstandardised ( $B$ ) and standardised ( $\beta$ ) regression coefficients are reported as follows,  $B$  [95% CI] = .279 [-0.187, 0.745] and  $\beta = .105$ . Thus, POSE does not predict OCBE and hypothesis 6 is rejected.

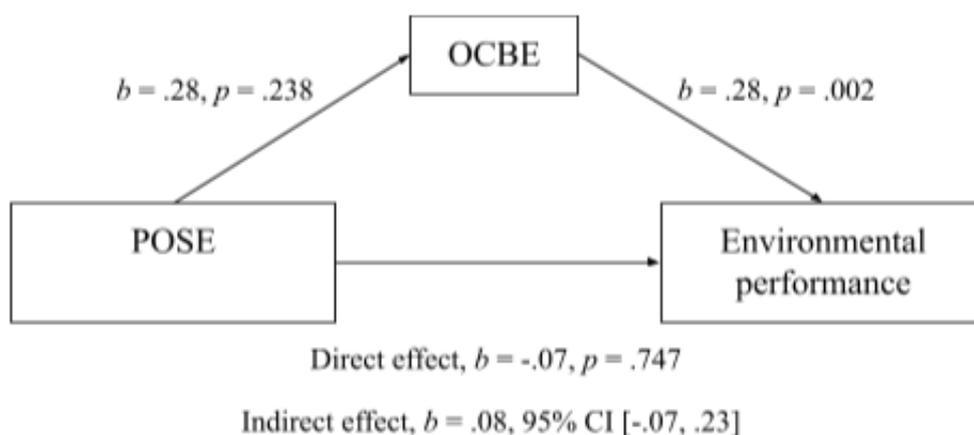
### ***Hypothesis 7***

In model 2, was tested whether OCBE explains the relationship between POSE and environmental performance. First, POSE non-significantly predicts environmental performance even with OCBE in the model,  $b = -.07$ , 95% CI  $[-.53, .38]$ ,  $t = -.32$ ,  $p = .747$ . Therefore, hypothesis 5 is rejected. Then, the effect of POSE on OCBE was tested, see figure 4. The  $R^2$  was .01, which shows that POSE explains 1% of the variance in OCBE. POSE,  $b = .28$ , 95% CI  $[-.19, .75]$ ,  $t = 1.18$ ,  $p = .238$ , non-significant predicted OCBE, thus hypothesis 6 is rejected. Next, the effect on OCBE on environmental performance was examined. OCBE significantly predicts environmental performance,  $b = .28$ , 95% CI  $[.11, .45]$ ,  $t = 3.23$ ,  $p = .002$ . This had an  $R^2$  of .08, which indicates that OCBE explains 8% of the variance in environmental performance which gives support for hypothesis 2. This confirms that the relationship between OCBE and environmental performance also exists in model 2. To test hypothesis 7 of model 2, bootstrapping the indirect effect was conducted. As shown in table 2, the indirect effect of POSE via OCBE on environmental performance,  $b = .08$ , 95% BCa CI  $[-.07, .23]$ , was non-significant. The confidence intervals bias-corrected 95% also did show intervals straddling a 0, thus not conforming the hypotheses. Thus, hypothesis 7 was rejected.

In sum, hypotheses 5, 6 and 7 are rejected. Only hypothesis 2 was supported in model 2. Therefore, model 2 is considered to be incorrect.

**Figure 4**

*Model 2; POSE as a predictor of environmental performance, mediated by OCBE.*



*Note.* The confidence interval for the indirect effect is a BCa Bootstrapped CL based on 5000 samples.

**Table 2**

*Statistical test of the direct and indirect effects between the variables analyzed as two separate models.*

	<i>Effect (b)</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>95% CI [LL, UL]</i>
<b>Model 1</b>					
EC on EP (direct effect; H1)	.23	.28	.81	.419	[-.33, .79]
EC on OCBE (H2)	.89	.27	3.25	.002	[.35, 1.43]
OCBE on EP (H3)	.26	.09	2.87	.005	[.08, .43]
EC on EP (indirect effect; H4)	.23	.10	-	-	[.06, .44]
<b>Model 2</b>					
POSE on EP (direct effect; H5)	-.07	.23	-.32	.747	[-.53, .38]
POSE on OCBE (H6)	.28	.24	1.18	.238	[-.19, .75]
OCBE on EP (H2)	.28	.09	3.23	.002	[.11, .45]
POSE on EP (indirect effect; H7)	.08	.08	-	-	[-.07, .23]

*Note.* POSE = perceived organizational support for the environment, EP = environmental performance, OCBE = organizational citizenship behaviour towards the environment, EC = environmental concerns.

### Discussion

The aim of this study was to identify whether high levels of involvement in environmental sustainability (e.g., environmental concerns and POSE) increase employee’s OCBE and environmental performance. Inspired by the studies of Temminck, Mearns & Fruhen, (2015) and Anwar, Mahmood, Yusliza, Ramayah, Faezah & Khalid (2020), the influence of POSE and environmental concerns on environmental performance through OCBE were empirically investigated in this study.

The results show that environmental concerns on itself do not influence environmental performance. Oppositely, environmental concerns ensure that employees’ OCBE is relatively high. It was subsequently found that when employees show OCBE, this ensures a better environmental performance of the entire organization. Lastly, it was found that this effect is indirectly via OCBE.

Unexpectedly, POSE does not have a direct effect on environmental performance. This means that the organization’s experience of support for environmental initiatives has no effect on the final environmental performance of the organization. Also, POSE on OCBE has no effect. Experiencing support for environmental initiatives from the organization does not

cause employees to show more OCBE. Finally, POSE did not predict the level of environmental performance of the organization via OCBE. In sum, environmental concerns is a more important variable than POSE in the context of predicting environmental performance via OCBE.

## **Implications**

### ***Model 1***

In rejection of hypothesis 1, environmental concerns did not predict environmental performance directly. This means that the environmental concerns on itself do not necessarily change performance. However, it makes sense that the fear must first be converted into certain 'green' behaviors in order to measure an outcome like environmental performance. So, this is not one-on-one.

Consistent with hypothesis 2, employees with more environmental concerns show more OCBE. This confirms the research of Temminck, Mearns and Fruhen (2015) and other studies (Poortinga et al., 2004; Schultz & Oskamp, 1996; Rowlands et al., 2003; Diaz-Rainey & Ashton, 2011; Ozaki, 2011), who pointed out that environmental concerns lead individuals to engage in ecologically friendly behaviour. Hence, the link between environmental concern and ecologically friendly behaviour holds true in the work environment, like Steg & Vlek (2009) reported. This study claims that environmental concern is a driver of participation in 'pro-green' behaviours at work.

In support of Hypothesis 3, OCBE predicts environmental performance. This finding is in line with the study of Yusliza, Ramayah, Faezah and Khalid (2020). In existing literature, it is claimed that OCBE is essential for integrating environment policies with workplace practices and one of the key success factors in corporate 'greening' (Roy et al., 2001; Ramus and Killmer, 2007; Daily et al., 2009). This research supports this claim. In addition, Boiral and Paille (2012) described pro-environmental behaviors and found that OCBE explains 16.9% of the variance in Environmental Performance. This research did not find the same degree of variance, namely that OCBE explains 8% of the variance in environmental performance. However, both studies imply that OCBE has a serious impact on environmental performance (Boiral & Paille, 2012). Thus, this study found that employees' OCBE seriously impacts environmental performance in an organization and is therefore an important variable in corporate 'greening'.

In support of Hypothesis 4, this study found that the effect of environmental concerns on environmental performance is fully mediated by OCBE. The research of Temminck,

Mearns and Fruhen (2015) left the question open if OCBE could mediate environmental concerns on environmental performance. This question whether OCBE could mediate environmental concerns on environmental performance has been answered in this study, since it does. OCBE plays an important role as mediator and fully mediates between environmental concerns and environmental performance. This finding adds new information to science and is a good addition to the model of Temminck, Mearns and Fruhen (2015). In their model, it was investigated whether environmental concerns influence OCBE. The authors tried to explain how OCBE contributes to a reduced environmental impact of organizations. This research adds the information that environmental concerns predict not only OCBE, but also environmental performance. Which can be better to measure whether it contributes to reducing the environmental impact of organizations. This finding is interesting when you hire new employees, because workers with more environmental concerns will lead to better environmental performance as a company. If the environmental performance of the company needs to improve, it may be beneficial to pay attention to this when applying for applications. This is a relatively cheap way to get better environmental performance. Namely, the mechanism investigated is based on voluntary behaviour of employees and does not have to be rewarded with money. In conclusion, this research adds new information to the model of Temminck, Mearns and Fruhen (2015). It provides a better way to measure if environmental concerns contribute to reducing the environmental impact of organizations. This information is especially interesting when organizations want to reduce the environmental impact of their organization in a low-cost way.

### ***Model 2***

On the other hand, not in line with hypothesis 5, POSE does not predict environmental performance directly. It was argued that the effect found from the research of Darolia, Kumari & Darolia (2010) that perceived organizational support correlates highly with job performance, would also apply in a sustainable context. This argumentation was based on the SET as an underlying mechanism. However, this assumption was not correct. Current research does not support this reasoning. For that reason, the POSE does not matter for the employee to show an increase in the environmental performance of their organization.

Future research could focus more on ways of rewarding for more sustainable outcomes instead of POSE, to reinforce this research. According to Govindarajulu and Daily (2004), a well-designed reward system can be helpful for promoting employees to perform sound environmental practices. According to Herzberg (1966), work rewards refer to the intrinsic

and extrinsic benefits that workers receive from their jobs. Rewards can be a reinforcement to continuously motivate and increase commitment from workers to be environmentally responsible.

Studies found contrasting findings about which types of rewards creates the most environmentally responsible employees. First, monetary rewards may be one of the strongest motivators for inducing employees to participate in environmental improvement efforts. Research suggests that monetary rewards significantly affect job satisfaction and work motivation (Lawler, 1973). Second, in contrast, research also suggests that employees are not likely to be motivated by money all the time. In fact, innovative non-monetary rewards like paid vacations, time off from work, favored parking, or gift certificates can be quite effective in encouraging employees (Bragg, 2000; Govindarajulu & Daily, 2004). There is anecdotal evidence that some businesses are stimulating environmental activities through non-monetary rewards. Some employees may be more motivated by recognition and praise than other factors. In a nationwide study, employees admitted that they would do their best if their input was recognized (Jeffries, 1997). Research indicates that employees expect appreciation from supervisors, colleagues and even their families for their effort (Miller, 1991) and, often, praise beats out monetary rewards (Kohn, 1993). An empirical study by Ramus (2001) has shown that supervisory behaviors that encouraged daily praise and environmental awards were ranked as being among the most important factors for environmental innovativeness and problem solving by employees. Indeed, studies show contrary results, where multiple forms of reward seem to work. So, an interesting question for future research would be to investigate which form of reward works the best for increasing the environmental performance of an organization.

Also, not in line with hypothesis 6, POSE did not predict OCBE. There is a lot of evidence for the relationship between POS and OCB (Eisenberger et al., 1986; Eisenberger et al., 1990; Lynch et al., 1999; Netra and Sintaasih, 2019). For that reason, I expected to find a similar effect between POSE and OCBE. This turned out not to be supported.

One explanation for this could be that employees in organizations do not feel called upon to make the company more sustainable. Often in medium to large firms there are teams that are responsible for making the organization more sustainable. It does not feel right for employees who are not on that sustainability team to come up with green initiatives. This is actually about the extent to which employees are empowered for sustainability. Authors

Leitch et al. (1995, p. 72) described employee empowerment as: "...the importance of giving employees both the ability and the responsibility to take active steps to identify problems in the working environment that affect quality or customer service and to deal effectively with them.". In order to ensure that more OCBE is shown by all employees of the organization, it will be necessary to investigate which forms of employee empowerment work for this. One way that management can encourage employee empowerment is by changing the form of the organization. The traditional top-down organization inhibits employee empowerment; instead, a flatter, horizontal organization should be in place to encourage employee empowerment. Organizations need to shift to a more open form of participative management in order to empower their employees (Mallak and Kurstedt, 1996). Workers can contribute more effectively when management moves the decision power down to the employees, allowing them the freedom and power to make suggestions and implement good environmental practices (Wever & Vorhauer, 1993). Empowered employees who have autonomy and decision-making power are also more likely to be more involved in the improvement of the environment. In short, employee empowerment can be a better underlying construct to explain an increase in OCBE than POSE and is recommended to further investigate in future research.

Consistently with hypothesis 3 in model 1, the correlation between OCBE and environmental performance was significant in model 2 as well. This confirms the research of Yusliza, Ramayah, Faezah and Khalid (2020) again. This was expected based on studies that have measured OCBE of employees in different sectors (Boiral et al., 2015; Paille et al., 2014) and found that OCBE does predict environmental performance apart from which sector or circumstances it is measured. Thus, OCBE does predict environmental performance in both models and is again supported.

With fail, hypothesis 7 was not supported. POSE does not indirectly predict environmental performance via OCBE. Again, reasoning that the mediating effect of OCB between POS and organizational performance (Darolia, Kumari & Darolia, 2010; Eisenberger et al., 1986; Eisenberger et al., 1990; Goodman & Svyantek, 1999; Lynch et al., 1999; Netra and Sintaasih, 2019), could be adopted within a sustainability context was not supported. However, studies had emphasized the mediating role of OCBE (Daily et al., 2009; Pinzone et al., 2016). This is supported by the findings of current research. However, POSE appears not to be the right predictor of environmental performance via OCBE (Pinzone et al., 2016) proposed that Green HRM practices stimulated OCBE. Perhaps, measuring employees' POSE

may not give a better picture of the degree of sustainability initiatives than focusing on the actual Green HRM practices of the organization. Measuring actual Green HRM practices could predict OCBE, and it would be interesting to measure Green HRM practices in combination with reward and employee empowerment. So, for future research these combinations of predictors are better to focus on than POSE. In addition, model 2 is not supported. However, OCBE is an important advocate for environmental performance.

The practical implication that follows from current research is that environmental concerns of employees is important for the degree of OCBE shown by employees. Increased sizes of employees' OCBE are beneficial for an organization to increase environmental performance. If an organization wants to increase environmental performance, the organizations could focus on creating morally conscious employees towards nature. In this way, the environmental performance can improve without changing the job description or paying extra for it. Contrastingly, what seems to be less important is how employees experience organizational support for "green" behavior. One explanation for this could be that employees in organizations do not feel called upon to make the company more sustainable. This is actually about the extent to which employees are empowered for sustainability. In order to ensure that more OCBE is shown by all employees of the organization, it will be necessary to investigate which forms of employee empowerment work for this. In sum, in order to obtain a better environmental performance as an organization, it seems more important to focus on the concerns that workers have about the environment than POSE by employees.

For follow-up research, it may be interesting to look at ways in which employees' environmental concerns can be used to get employees to show more OCBE. It could be that those environmental concerns of employees influences their participation in Green HRM practices and thus has an influence on the degree of OCBE shown. This process could be examined in future research in order to provide more concrete advice to companies that want to improve their environmental performance in a targeted and relatively inexpensive way. So, based on the outcomes of this study it would be interesting to have a follow-up study that investigates ways in which employees' environmental concerns can be used to get employees to show more OCBE.

### **Limitations and future directions**

Despite the contributions of the paper, there are some noteworthy limitations that need to be addressed. First, the participant population was relatively young ( $M = 30.36$ ,  $SD = 11.79$ ), and as shown in the results of this research age negatively is related to OCBE. Future studies should take note that this could cause distorted results when the results are generalized to the entire working population. Second, the questionnaire to measure environmental concerns had a modest reliability ( $\alpha = .52$ ). It was examined whether removing individual items would result in a higher reliability, this was not the case. This can reduce the reliability of the results. Third, some additional information was not requested, such as the sector where the participant works, organization size and how important sustainability is for the organization of the employee. Other studies had already indicated that the link between OCBE and environmental performance occurs in different sectors (Boiral et al., 2015; Paille et al., 2014). Current research could have confirmed this better and made this claim for other variables in the models, if included. Current research does not include organization size. However, research showed that the size of the firm plays a role in the firm's CSP (Dierkes and Coppock, 1978; Trotman and Bradley, 1981). Larger firms receive a high level of attention from the general public, which may, in turn, "encourage" the firms to have a higher level of CSP. It is wise to include this in follow-up research. In hindsight, it also seems to have been better to take into account the imposed opinion of a company. Namely, the investigation of Goodman and Svyantek (1999) reports that the fit between employees' desired organizational cultures and their actual organizational cultures predicts contextual performance (e.g., helping behaviors toward other employees or the organization). This could imply that when an employee shows pro-environmental behaviours and this matches the wishes of the organization this could increase helping behavior such as green behavior towards the organization (e.g., OCBE). Also, when externally imposed opinions are imposed but correspond to their own values, this does not constitute resistance in participation (Legault et al., 2007). On the contrary, the process could lead to a higher OCBE. Last, with this survey study high internal validity is guaranteed, nonetheless it is in addition interesting for organizations to see the outcomes of a field study, as they have a greater predictive value (Reynolds & Livingston, 2012). Therefore, it is valuable to do field studies on this topic. Thus, there are areas for improvement in this research and lessons to be learned for future studies, especially including work sector, firm size and the imposed opinion of an organization into the demographic questions would be recommended for future studies.

### **Conclusion**

In conclusion, it turned out that OCBE is an important mediator for the effect of environmental concerns on environmental performance. OCBE fully mediates this effect and is therefore an important pillar to address for organizations that want to improve their environmental performance. The feature of an employee to worry about the environment is important to increase the environmental performance of an organization in a relatively inexpensive way. For organizations with this goal, it is interesting knowledge to use in their hiring process. Hence, OCBE mediating environmental concerns and environmental performance is an interesting new finding.

However, POSE had no direct effect on an organizations' environmental performance. Also, POSE did not appear to have an effect on OCBE. In line with that, OCBE did not mediate the effect of POSE on environmental performance. However, in this compensation of variables OCBE was found to have an effect on environmental performance, just as expected. Other variables could be more interesting to look at when investigating the mediating role of OCBE on environmental performance. Therefore, POSE is less important to improve the environmental performance of organizations.

The starting points to improve an organizations' environmental performance are therefore to convert the environmental concerns of employees into OCBE in the workplace and other variables that increase the OCBE. Since OCBE on environmental performance is a clear effect that persists with other variable combinations. In this way, organizations can become more sustainable in a targeted and relatively inexpensive way and work on achieving the goal of having zero emissions by 2050.

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**Appendix**

**Section A**

This appendix provides an overview of all the questionnaires that will be used for this study. To be found are the demographic questions, the Perceived Organizational Support for Employee Environmental Behaviour Scale (POSEEBS), the Organizational Citizenship Behaviour Towards the Environment Scale (OCBT), the New ecological paradigm scale (NEPS) and the scale for Environmental performance (EP).

First of all, demographic data will be requested, namely: age, the number of hours of activity per week, gender and education level (table 1).

**Table 1**

*Demographic questions*

Scale	Dimension	Scale number	Statements
DQ	Age	1.	What is your age?
	Working hours	2.	How much hours a week do you work?
	Sex	3.	What is your sex?
	Education level	4	What is the highest level of education you have completed?

*Note.* \* These statements are reversed.

The Perceived Organizational Support for Employee Environmental Behaviour Scale (POSEEBS) is then used to measure how much support employees experience from the company they work for (table 2).

**Table 2**

*Perceived Organizational Support for Employee Environmental Behaviour Scale (POSEEBS; Temminck, Mearns & Fruhen, 2015)*

Scale	Dimension	Scale number	Statements
POSEEBS		1.	The organization values my environmental contribution.
		2.	The organization fails to appreciate any of my environmental efforts. *
		3.	My organization would ignore any complaint, from me, relating to their harmful environmental practices. *
		4.	My organization really cares about my views on the environment.
		5.	Even if I did the best environmentally friendly job possible, my organization would fail to notice. *
		6.	The organization takes pride in my environmental accomplishments at work.
		7.	The organization shows very little concern for my environmental opinions. *

*Note.* \* These statements are reversed.

The Organizational Citizenship Behaviour Towards the Environment Scale (OCBTES) is used to measure the level of OCBE on individual level (table 3).

**Table 3**

*Organizational Citizenship Behaviour Towards the Environment Scale (OCBTES; Temminck, Mearns & Fruhen, 2015)*

Scale	Dimension	Scale number	Statements
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OCBTES	1.	I make environmental suggestions to improve work procedures.
	2.	I make suggestions to improve the organization's environmental performance.
	3.	I try to draw management's attention to potentially environmentally unfriendly activities.
	4.	I try to make innovative environmental suggestions to improve the organization.
	5.	I inform management of potentially environmentally irresponsible policies and practices.
	6.	I am willing to speak up when policy or rules do not contribute to the achievement of the organization's environmental goals.
	7.	I suggest revisions to work practices to achieve the organization's environmental objectives.

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*Note.* \* These statements are reversed.

This study then also measures on an individual level how much an employee's concern is about the environment. This is done with the New ecological paradigm scale (NEPS) (table 4).

**Table 4**

*New ecological paradigm scale (NEPS; Dunlap et al., 2000)*

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Scale	Dimension	Scale number	Statements
NEPS		1.	We are approaching the limit of the number of people the earth can support.
		2.	Humans have the right to modify the natural environment to suit their needs.

3. When humans interfere with nature it often produces disastrous consequences.
4. Human ingenuity will insure that we do NOT make the earth unlivable.
5. Humans are severely abusing the environment.
6. The earth has plenty of natural resources if we just learn how to develop them.
7. Plants and animals have as much right as a human to exist.
8. The balance of nature is strong enough to cope with the impacts of modern industrial nations. \*
9. Despite our special abilities humans are still subject to the laws of nature.
10. The so-called "ecological crisis" facing humankind has been greatly exaggerated. \*
11. The earth is like a spaceship with limited room and resources.
12. The balance of nature is very delicate and easily upset.
13. Humans will eventually learn enough about how nature works to be able to control it.
14. If things continue on their present course, we will soon experience a major ecological catastrophe.

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*Note.* \* These statements are reversed.

Finally, the environmental performance of a company is measured with the Environmental Performance (EP) scale, (table 5).

**Table 5**

*Environmental performance (EP; Anwar et al., 2020)*

Scale	Dimension	Scale number	Statements
EP		1.	At my work, initiatives are taken to implement long-term environmental policies.
		2.	At my work, initiatives are taken to implement environmental management systems (such as ISO 14001 or other types of environmental management systems).
		3.	Energy conservation practices are promoted at my workplace (including reminders for energy savings, turning off computers and lights when not using.)
		4.	At my work, initiatives are taken to provide alternative energy (such as solar energy panels).
		5.	At my work, practices related to reducing water consumption is implemented (Including efficient showerheads and irrigation systems or rainwater harvesting systems).
		6.	At my work, recycled products consumptions classified by type (such as using three types of dustbins, i.e., paper, glass, and plastic).
		7.	At my work, waste from canteens is collected in food waste collector and properly disposed of (e.g., sustainable arcade campaign, composting program, etc.).
		8.	At my work, practices related to reducing the use of private vehicles are implemented (such as bicycling or car-free day, etc.).
		9.	At my work, practices related to reducing noise for each building are implemented (e.g., no use of vehicle horn at work).
		10.	At my work, initiatives are taken to reduce pollution from greenhouse gas emissions.

11. At my work, non-compliance with environmental laws cause sanctions (e.g., fine on smoking or vaping at work).
12. At my work, biodiversity is protected from degradation (such as maintaining gardens, protecting animal species, avoid waste discharge in water bodies, etc.).
13. At my work, activities to promote environmental awareness are arranged (for example energy saving campaigns, conferences, and community programs).
14. At my work, research projects on environmental topics are conducted (environmental ethics, sustainable energy management, climate change, etc.).

*Note.* \* These statements are reversed.

**Section B**

**Table 1**

*Number of participants (N), means (M) & standard deviations (SD) in total*

	Total		
	<i>N</i>	<i>M</i>	<i>SD</i>
POSE	128	4.23	.47
EC	128	3.25	.39
OCBE	128	3.82	1.25
EP	128	4.05	1.25