Pro-Environmental Employee Engagement: The Influence of Pro-Environmental Organizational, Job and Personal Resources

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Abstract: As organizations continue to respond to the existential challenge that is climate change, the extent to which employees engage in environmental sustainability is critical to that response. This study introduces new measures of pro-environmental employee engagement, pro-environmental job resources and pro-environmental meaningful work. Based on engagement theory, a model is tested that shows how perceived corporate environmental responsibility, pro-environmental job resources (supervisor support, involvement, information) and pro-environmental meaningful work (a personal resource) influence pro-environmental employee engagement. Online self-report survey data were collected through convenience sampling from 285 full-time and part-time employees (aged 18–89 years) working across a range of occupations and organizations in Australia. Data were analyzed using a confirmatory factor analysis (CFA) and structural equation modelling (SEM). In support of the proposed model, CFA and SEM results generally yielded a good fit to the data. Eight of nine proposed direct effects involving corporate environmental responsibility, pro-environmental job resources (modelled as a higher-order construct), pro-environmental meaningful work, and pro-environmental engagement, were significant. All proposed indirect effects within a re-specified model were significant. The final model explained 51% of the variance in pro-environmental job resources; 20% in pro-environmental meaningful work; and 71% in pro-environmental employee engagement. Overall, the results indicate that perceived organizational, job and personal resources play a motivational role in enhancing pro-environmental employee engagement. The study contributes a theory-based model and new measures of employee pro-environmental resources and engagement. The model can be applied to help organizations assess and develop interventions to address the critically important issue of environmental sustainability. Future research directions and study limitations are discussed.

Keywords: pro-environmental employee engagement; pro-environmental engagement model; environmental responsibility; pro-environmental job resources; environmentally sustainable meaningful work

1. Introduction

"Imagine what a force for environmental change if every day or every week, every worker around the world enthusiastically involved themselves in at least one action to advance environmental sustainability."

The climate crisis has prompted organizations around the world to transform their policies, practices, and procedures to become more environmentally responsible [1,2]. Increased market, regulatory, and public pressures are forcing organizations to set and reset ambitious targets to reduce their carbon footprint by reducing waste and emissions. As such, organizations are increasingly enacting, embedding and promoting 'corporate environmental responsibility' as a strategic priority and focus.

In addition to 'top-down' corporate, environmental, strategic initiatives and resourcing, employees also have an important and active role in achieving sustainability outcomes. This is because employees are at the front-line of enacting policies, implementing changes, and providing innovative suggestions and solutions to practical operational problems and

opportunities [3]. Just as with any other strategic initiative, active employee engagement in corporate environmental initiatives and activities is critical to their success [4,5]. Additionally, by suggesting solutions and innovations, by being involved in designing initiatives and accepting changes to working practices and culture, employees contribute directly towards an organization's wider environmental sustainability performance [6]. Organizations, therefore, need to clearly focus on 'the employee experience of environmental sustainability' and ensure that employees have access to information and support, and have opportunities to suggest and participate in environmentally sustainable initiatives [7]. Conservation of Resources theory [8] and engagement theory [9–11] explain how the availability of a range of different resources will serve to motivate employees to become proactively engaged in pro-environmental activities [12,13].

Despite an increasing recognition of the important potential role of employees in corporate social and environmental initiatives [14,15], Hsieh et al. [5] argued that "as key stake-holders with a significant role in relation to CSR, employees have been paid relatively inadequate attention, especially regarding their motivation for and engagement with CSR" (p. 5). There remains "a need for future research on the more active role of employees in CSR relations" [16] (p. 2).

In this paper we introduce the construct of pro-environmental employee engagement. We offer an integrated theoretical framework for understanding how pro-environmental organizational and job resources can help explain the emergence and maintenance of employee pro-environmental engagement. We also propose that the extent to which employees experience their work as pro-environmentally meaningful will, in part, explain the relationships between resources and pro-environmental employee engagement.

2. Pro-Environmental Engagement

Employee engagement has been a focus of attention for business leaders, consultants, and academics for the past thirty years. This is because employee engagement is shown to lead to positive individual and organizational outcomes such as job satisfaction, job commitment, in-role and extra-role performance, and competitive advantage [17–19]. Engagement is defined as a pervasive, positive and fulfilling work-related state of mind characterized by vigour, dedication, and absorption [20]. As such, engaged employees feel motivated and enthusiastic, and are actively involved in their work.

Much of the academic research focused on identifying the factors that predict engagement, was based on engagement theory [11], Job Characteristics theory [21], and variations of the Job-Demands Resources model (JD-R) [22,23]. Kahn [11], for example, proposed the availability of resources (physical, emotional, and psychological) as one of three key enabling conditions for engagement. Similarly, engagement theory and research clearly established that job-related resources, personal resources, and organizational resources influence work engagement. Job resources include supervisor support, autonomy, and feedback [24]. Personal resources include meaningful work and self-efficacy [17,25,26]. Organizational resources include Human Resource management practices, and strategic alignment [27–29].

Beyond referring to an individual employee's experience of their job or work role, researchers also argued in support of 'domain-specific' engagement constructs such as engaging leadership and change engagement, e.g., [30,31]. Similarly, the case can be made for domain-specific constructs such as pro-environmental employee engagement, pro-environmental job resources, and pro-environmental meaningful work.

Pro-environmental employee engagement, as a domain-specific analogue of employee engagement, can be defined as "an enduring and positive work-related psychological state characterized by a genuine enthusiasm and willingness to support, adopt and promote work-related environmental sustainability". This definition captures the essential qualities of positive energy and active involvement that characterize employee engagement [20,32]. As such, and as with employee engagement, pro-environmental employee engagement is a positive and high-arousal construct [33]. Constructs characterized by activated positive

affect imply an action readiness that translates into an enthusiasm and willingness to invest energy and involvement in organizational initiatives [34]. The conceptualization of pro-environmental employee engagement has not previously been proposed nor brought together with organizational, job and personal resources within a coherent and well-validated theoretical framework. In light of the pressing global attention that is being focused on how organizations respond to climate change, the construct of pro-environmental employee engagement is potentially an important dimension of the employee experience [35].

Overall, the present study aims to address a gap in the literature by adapting engagement theory [10,11] to test a model proposing positive associations between environmentally relevant organizational, job, and personal resources and pro-environmental engagement. The proposed model is shown in Figure 1 and elaborated below.
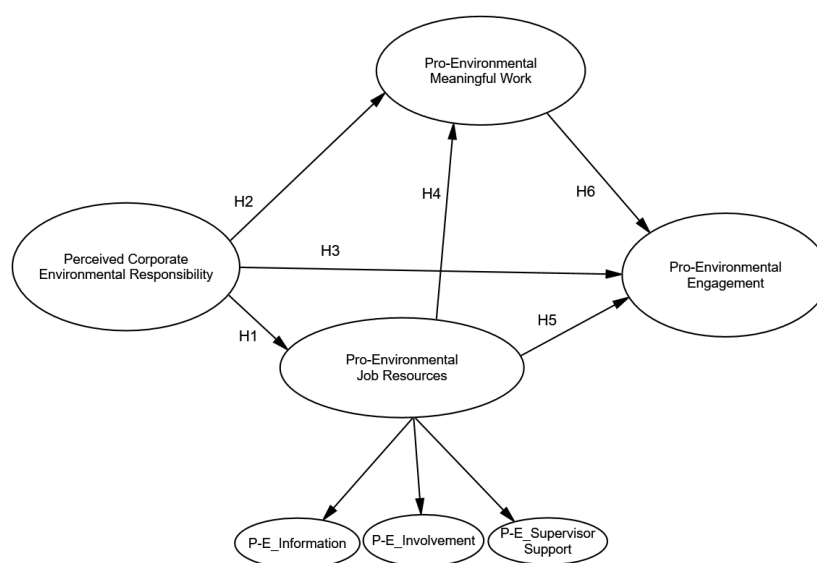
Figure 1. Proposed model.

3. Perceived Corporate Environmental Responsibility

Perceived corporate environmental responsibility (PCER) refers to employee perceptions of organizational initiatives to prioritize, protect, and preserve the natural environment through environmentally sustainable business practices [36,37]. Numerous studies have demonstrated that employee perceptions of Corporate Social Responsibility (CSR) can have a positive impact on important outcomes such as job satisfaction, organizational commitment, perceived meaningfulness of work, and organizational citizenship behavior [14,38–40]. However, CSR researchers have often conflated the environmentally focused (PCER) and socially focused components of CSR when examining the influence of CSR on outcomes [38,40]. As a result, the strength of the associations between perceived corporate environmental responsibility and environmentally orientated employee attitudes and behaviors remains uncertain. The present study contributes to the literature by specifically examining the relationships between perceived corporate environmental responsibility (PCER), conceptualized as an organizational resource, pro-environmental job-resources (P-EJRs), pro-environmental meaningful work; and pro-environmental employee engagement (P-EEE).

With respect to the proposed relationship between PCER and pro-environmental job-resources, studies have shown that organizational resources have a positive effect on job resources such as job autonomy, job variety, and the learning and development opportunities [27]. More specific to environmental sustainability, employee perceptions of CSR were shown to positively be associated with employee perceptions of supervisory support for environmental sustainability [41,42] and involvement in environmentally sustainable initiatives [13,43]. With respect to the proposed relationships between PCER and pro-environmental meaningful work and pro-environmental engagement (see Figure 1),

meaningfulness is proposed as an important mediating mechanism that explains the associations between CSR and outcomes such as engagement [38,44,45]. Drawing from such research and from engagement theory, which recognizes that organizational resources influence job resources, personal resources, and engagement, we hypothesize:

Hypothesis 1: *Perceived corporate environmental responsibility will be positively associated with pro-environmental job resources (conceptualized as a higher-order construct consisting of pro-environmental information, involvement, and supervisor support).*

Hypothesis 2: *Corporate environmental responsibility will be positively associated with pro-environmental meaningful work.*

Hypothesis 3: *Perceived corporate environmental responsibility will be positively associated with pro-environmental employee engagement.*

4. Pro-Environmental Job Resources (P-EJRs)

As previously noted, for top-down organizational CER policies and initiatives to be successful, employees need to have the ability, motivation, and opportunity to contribute to their enactment [46]. Engagement theory [11] and the conservation of resources theory [8] make it clear that, without the availability of adequate resources, employees will be less willing to invest themselves in their work roles, and less willing to become involved in new initiatives. In support of these theories, job resources have consistently been shown to have an important influence on the extent to which employees see their work as meaningful and engaging, and their attitudes to change [3,47,48]. As with supervisor support, involvement and communication were identified as important job resources within the engagement and change literatures [34,49], the present study examines how pro-environmental analogues of such resources relate to pro-environmental meaningful work, and pro-environmental engagement.

Pro-environmental supervisor support (P-ESS), also referred to as perceived supervisory support for the environment [50], refers to how much employees believe their supervisor cares about sustainability, promotes environmentally sustainable practices at work, and provides the resources required for employees to understand, support, and enact environmental initiatives [51]. Paillé et al. showed that pro-environmental supervisor support was positively associated with employee pro-environmental organizational citizenship behavior. Overall, although meta-analytic evidence clearly supports a positive association between supervisor support and meaningful work and work engagement [48,52], more research needs to be conducted to establish whether domain-specific pro-environmental supervisor support has a motivational influence on pro-environmental meaningful work and pro-environmental engagement.

With respect to pro-environmental information as a job resource, a great deal of research confirmed that when employees feel informed about what is happening in their organization and any changes that are occurring, they are more likely to be trusting of senior leadership, committed to their organization, and open to change [53–55]. Similarly, employees who are informed about their organization's environmental objectives, the progression of environmental initiatives, and those whose questions regarding the organization's impact on the environment are answered, are more likely to be engaged and involved in pro-environmental practices and initiatives. More generally, the importance of pro-environmental information plays out at a practical level as organizations increasingly invest in training their employees regarding the benefits and impact of pro-environmental initiatives. Deloitte, for example, recently enrolled all of its employees across the globe in mandatory courses to achieve a better understanding of climate change and environmental sustainability and what they mean for how they conduct their work and how they advise their clients (https://www.personneltoday.com/hr/deloitte-launches-climate-change-learning-for-all-staff/ (accessed on 20 October 2021)). Despite researchers propos-

ing that information, education and training are important prerequisites to employees achieving pro-environmental outcomes [56,57], only a limited amount of research explicitly measured employee perceptions of information about environment sustainability as a job-level resource, or examined its relationship with pro-environmental meaningful work and engagement.

With respect to pro-environmental involvement as a job resource, it is widely acknowledged that if employees are not involved in organizational initiatives and interventions, it is likely that such initiatives will, at least, be sub-optimally successful. This is because a lack of involvement may result in employees perceiving that pro-environmental initiatives are tokenistic and disconnected from their daily activities [7]. Consistent with organizational development and organizational change principles, 'no involvement, no commitment' [58] can equally be expected to apply to the context of pro-environmental practices and initiatives. In support of this contention, employee involvement in pro-environmental initiatives has been found to positively influence employee work behaviors [59], perceptions of meaningful work [60], and employee engagement [50,61]. Acknowledging the importance of both pro-environmental information and involvement, Polman and Bhattacharya [62] argued that to "bolster the "can do" belief and attitude among employees, it is important to invest in educating employees about sustainability as well as to create systems and processes that make it easier for employees to integrate sustainability into their business decisions" (p. 37).

Overall, despite parallel evidence, the evidence in support of the direct influence of pro-environmental information, involvement, and supervisor support on employee perceptions of meaningful work and pro-environmental attitudes is not well established. The present study aims to contribute to the literature by providing short, theory-based measures useful for determining the motivational influence of pro-environmental job resources on pro-environmental meaningful work and engagement. We propose:

Hypothesis 4: *Pro-environmental job resources (information, involvement, supervisor support), conceptualized as a higher-order construct, will be positively associated with pro-environmental meaningful work.*

Hypothesis 5: *Pro-environmental job resources (information, involvement, supervisor support), conceptualized as a higher-order construct, will be positively associated with pro-environmental employee engagement.*

5. Pro-Environmental Meaningful Work

Meaning and purpose are increasingly being recognized as important dimensions of the employee experience in contemporary organizational contexts [63,64]. Increasingly, employees want their work to have a meaning and purpose that will sustain their needs and values. Meaningful work is a psychological state reflecting an employee's judgment that they can make a positive, important, and useful contribution to a worthwhile purpose through the execution of their work [9,52,65,66]. Theoretical perspectives such as job characteristics theory [21] and engagement theory [11] explain the emergence, maintenance, and importance of meaningful work [9,67]. Kahn [11], for example, recognized meaningfulness, along with psychological safety and the availability of resources, as a core condition, or pre-condition, for employee engagement. In support of the theory, meta-analytic studies, e.g., [52] showed meaningful work to be strongly associated with outcomes such as engagement. This is because the experience of meaningfulness will result in employees becoming more willing and motivated to express, employ, and fully invest themselves in their role [11].

Analogous to the association between meaningful work and engagement, we proposed that, when employees feel they make a positive and worthwhile contribution through environmental sustainability practices, they will be more pro-environmentally engaged. That is, they will more likely be enthusiastic and positive about, and be more likely to get

involved in, environmental sustainability initiatives. In partial support of this proposition, Aguinis and Glavas [44] proposed meaningfulness as a key mediating factor that explains the influence of CSR on positive psychological outcomes such as job satisfaction and commitment [38], psychological well-being [68], and employee engagement [69]. We therefore propose:

Hypothesis 6 : *Pro-environmental meaningful work will be positively associated with pro-environmental employee engagement*.

In addition to the direct effects shown in Figure 1, it is proposed that indirect effects will also be observed. This proposition is in line with findings in the engagement literature showing that organizational, job and personal resources have both direct and indirect effects on engagement, e.g. [26,27]. Therefore, we propose:

Hypothesis 7: *Perceived corporate responsibility (PCER), as an organizational resource, will have indirect effects on pro-environmental engagement through pro-environmental job resources and pro-environmental meaningful work*.

This is because PCER provides an 'up-stream' context for how employees experience job resources, the meaningfulness of work, and their pro-environmental engagement. Similarly, we hypothesize:

Hypothesis 8: *Pro-environmental job resources will have an indirect effect on pro-environmental engagement through the employee experience of pro-environmental meaningful work*.

The hypothesis parallels previous research, which showed that meaningful work as a personal resource partially mediates the association between job resources such as job variety and supervisor support, and work engagement [3,9,70]. Additionally, and in parallel, work meaningfulness has been shown to partially mediate the relationship between CSR and organizational commitment [38].

6. Aims

By testing the fit of the proposed model (see Figure 1) and associated hypotheses, this study aims to extend previously reported relationships between CSR, job resources, meaningful work, and work engagement. It does so by exploring the relationships between parallel constructs defined and measured within the domain-specific context of pro-environmental responsibility. As such, the study introduces constructs and measures of pro-environmental engagement and pro-environmental job resources and aims to establish the mechanisms that help explain employees' motivations to engage with environmental responsibility.

7. Methods

Participants and Procedure: Using convenience sampling, participants from the researchers' professional networks were invited via social media or email to participate in an online survey on environmental sustainability and work. The invitation included a Plain Language Statement approved by the first author's ethics committee. Inclusion criteria required participants to be aged 18 years or over, to work a minimum of 15 hours per week, and to have worked for at least three months within an Australian organization of 15 or more employees. Of the 594 responses, 309 participants did not complete more than 10 items before discontinuing the survey, or did not meet the inclusion criteria. Of the 285 participants retained for the analyses, 180 (63%) were female, 101 (35%) male, and 4 (1%) provided no response. Age ranged from 18–89 years ($M = 35.7$), organization size ranged from 15 to 500,000 employees, and employee job tenure ranged from three months to 30 years. Respondents reported their occupational category as a manager or professional (50%), service/administrative (11%), sales (10%), technical/trades (4%), opera-

tor/driver/laborer (2%) and other (22%). Participants reported working full-time (61%), part-time (18%) or casual (18%). A power analysis [71] showed that the sample size used for the analyses (*N* = 285) exceeded the minimum sample size (*N* = 161) needed to test the proposed model (see Figure 1).

7.1. Measures

A subset of 23 items from a 90-item survey measured six constructs reflecting organizational, job and personal pro-environmental resources, and pro-environmental employee engagement. The items were drawn from previously validated scales or adapted from work-related scales to reflect a focus on environmental sustainability. All items were anchored on a seven-point Likert scale (1 = strongly disagree to 7 = strongly agree).

7.1.1. Perceived Corporate Environment Responsibility

Perceived corporate environment responsibility (PCER), as an organizational resource, was measured with four items from Glavas and Kelley's [38] Perceived Corporate Social Responsibility-Environment scale. The items included 'Environmental issues are integral to the strategy of the organization' (see Table 1). Glavas and Kelley reported a Cronbach's alpha of *α* = 0.87 for a scale that included corporate social and environmental responsibility items.

Table 1. Fit Indices for Alternative Measurement and Structural Models.

Model	χ^2	*df*	χ^2/df	TLI	CFI	RMSEA (95% CI)	SRMR
Measurement Models							
Proposed	767.334	215	3.569	0.892	0.908	0.095 (0.09, 0.10)	0.06
Respecified	322.227	120	2.685	0.937	0.951	0.077 (0.007, 0.09)	0.04
Null	4262.665	153	27.861	-	-	0.308 (0.30, 0.32)	-
Single factor	1528.756	135	11.324	0.616	0.661	0.191 (0.18, 0.20)	0.11
Structural Models							
Proposed	334.439	126	2.654	0.938	0.949	0.076 (0.07, 0.09)	0.05
Respecified	334.498	127	2.634	0.939	0.950	0.076 (0.07, 0.09)	0.05

Note: CFI = comparative fit index; TLI = Tucker–Lewis index; RMSEA = root mean square of approximation; 95% CI = confidence interval; SRMR = standardized root mean residual.

7.1.2. Pro-Environmental Job Resources

Pro-environmental involvement was measured with four items adapted from Benn, Teo and Martin [61] and Albrecht et al. [9]. Items included "I have opportunities to be involved in initiatives aimed at improving our environmental impact." Benn et al. reported a Cronbach's alpha of *α* = 0.81 for a similar scale. Pro-environmental supervisor support was measured with three items adapted from Albrecht et al. [9,27]. Items included "the person I report to actively encourages me to come up with ways to work in a more environmentally sustainable way." Albrecht et al. [27] reported a Cronbach's alpha of *α* = 0.94 for a similarly constructed scale. Pro-environmental information was measured with four items adapted from Albrecht et al. [9]. Items included: "I am clearly informed about the reasons underlying proposed environmental sustainability initiatives." Albrecht et al. [9] reported a Cronbach's alpha of *α* = 0.85 for their similarly constructed scale.

7.1.3. Pro-Environmental Meaningful Work

Pro-environmental meaningful work was measured with four items adapted from Spreitzer [72] and Glavas and Kelley [38]. An example item included: "Environmental sustainability practices at work make me feel that I am making a positive contribution." Glavas and Kelley reported a Cronbach's alpha of *α* = 0.97 for a similar scale.

7.1.4. Pro-Environmental Work Engagement

Pro-environmental work engagement was measured with four items adapted from Utrecht Work Engagement Scale (UWES-3) [73] and Albrecht and Connaughton [34]. Example items, reflecting the definition previously proposed, include: "I am enthusiastic about

environmental sustainability initiatives in this organization" and "I strive as hard as I can to contribute positively to environmental sustainability initiatives in this organization."

7.2. Data Analytic Strategy

A two-stage approach was applied to the analyses [74]. Firstly, confirmatory factor analysis (CFA) was conducted to assess the goodness of fit of the measurement model. The fit for proposed and alternative models was determined with reference to recommended criteria [75]: chi-square (χ^2 not significant), ratio of chi-square to degrees of freedom (χ^2/df) ≤ 2; Tucker–Lewis index (TLI) ≥ 0.95; comparative fit index (CFI) ≥ 0.95; standardized root-mean-square residual (SRMR) ≤ 0.08; and root-mean-square error of approximation (RMSEA) ≤ 0.05 with 90% confidence intervals. Less stringent criteria were also proposed: $\chi^2/df \leq 3$, RMSEA ≤ 0.08 [75]. Irrespective of the fit indices used, Anderson and Gerbing noted that the fit of any proposed measurement model rarely meets criteria without some degree of re-specification. As such, modification indices can be examined to determine if fit can be improved by deleting items that most contribute to model misspecification. The CFA analysis strategy also included assessing the influence of common method variance [76].

The second step in the two-step approach involved using structural equations modelling (SEM) to test the fit of the proposed model (see Figure 1). Fit was assessed using the same fit indices as applied to the CFA. As a final step in the data analysis process, relative weights analysis (RWA) [77] was conducted to specify the percentage contribution of the first-order predictor variables in explaining the variance in pro-environmental engagement. RWA decomposes the total variance explained in an outcome variable into the individual percentage contributions of a set of predictors [78].

8. Results

8.1. Measurement Model

The proposed measurement model, with each construct modelled as a first-order construct, did not yield a fully acceptable fit, $\chi^2 = 767.334$, $df = 215$, $p > 0.001$, $\chi^2/df = 3.569$, TLI = 0.892, CFI = 0.908, SRMR = 0.06, RMSEA = 0.095 (90% CI: 0.088–0.102). Nevertheless, the standardized factor loadings for all items were significant ($p < 0.001$), ranging from 0.61 to 0.93, and exceeded the recommended criterion of 0.50 for retention in measurement models [76]. As per recommendations [74], the model was respecified based on an examination of the modification indices reported in the AMOS output. Bearing in mind that at least three items are required to define a construct [79], one item that most contributed to model misspecification was deleted from each of the four-item scales.

The respecified model yielded an improved fit, with all indices at or close to their recommended criterion, $\chi^2 = 322.227$, $df = 120$, $p > 0.001$, $\chi^2/df = 2.685$, TLI = 0.937, CFI = 0.951, SRMR = 0.0452, RMSEA = 0.077 (90% CI: 0.067–0.087). Although the CFI and the SRMR were at, or better than, the recommended cut-off values, the chi square ratio, TLI, and RMSEA were slightly outside of recommended fit criteria but nevertheless met less stringent criteria (TLI ≥ 0.93, RMSEA ≤ 0.08). The fit statistics were clearly superior to a one-factor model and the null model provided for comparison purposes (see Table 1). Moreover, given that the modification indices did not suggest a meaningful improvement to model fit, and given that rule-of-thumb, cut-off fit criteria need not be too strictly applied [80,81], the respecified model was accepted as representing an acceptable fit to the data. It is noteworthy that, consistent with recommended practice, no error terms were correlated in the proposed or respecified models to improve model fit. Gerbing and Anderson [82] argued that the "uncritical use of correlated measurement errors without theoretical justification is shown to lead merely to more acceptable fit while obfuscating a more meaningful theoretical structure" (p. 572).

The standardized factor loadings for all items in the respecified model were significant ($p < 0.001$), ranging between 0.62 and 0.95 (see Table 2). Although univariate skew (absolute values ranging between 0.02 and 0.98) and kurtosis (absolute values ranging between 0.22

and 1.245) were within the recommended range [83], Mardia's coefficient (89.429) suggested issues with respect to multivariate non-normality. Additionally, Bollen-Stine bootstrapping procedures (*p* = 0.002) also suggested issues with respect to the distributional properties of the sample. Nevertheless, given that maximum likelihood estimation is relatively robust to minor violations of multivariate non-normality [84,85], given that fit indices were mostly at or better than criterion values, and although a caveat was acknowledged with respect to the distributional properties of the data, the respecified model could reasonably be accepted.

Table 2. Items and Standardized Loadings Included in the Respecified CFA Model.

Scale	Item	Loading
	Perceived Corporate Environmental Responsibility (PCER)	
* PCER1	Environmental issues are integral to the strategy of the organization.	
PCER2	Addressing environmental issues is integral to the daily operations of the organization.	0.83
PCER3	This organization takes great care that our work does not hurt the environment.	0.88
PCER4	The organization achieves its short-term goals while staying focused on its impact on the environment.	0.90
	Pro-Environmental Job Resources	
Involvement		
P-E INV1	I get enough opportunities to be involved in initiatives aimed at improving our environmental impact.	0.92
P-E INV2	I have opportunities to participate in the planning of environmental sustainability initiatives.	0.95
P-E INV3	I have opportunities to suggest ways to improve our environmental sustainability and environmental impact.	0.80
*P-E INV4	I have opportunities to offer ideas about how to improve our environmental performance.	
Supervisor Support		
P-E SS1	The person I report to is supportive of environmental sustainability.	0.77
P-E SS2	The person I report to is helpful to me in learning about how to work in a more environmentally sustainable way.	0.92
P-E SS3	The person I report to actively encourages me to come up with ways to work in a more environmentally sustainable way.	0.87
Information		
P-E INFO1	I am clearly informed about the reasons underlying proposed environmental sustainability initiatives.	0.88
P-E INFO2	I am informed about our organization's environmental objectives.	0.89
* P-E INFO3	I am regularly informed about how environmental initiatives are progressing.	
P-E INFO4	Information I receive adequately answers any questions I may have regarding the impact our organization has on the environment.	0.90
	Pro-Environmental Meaningful Work	
P-E MW1	Environmental sustainability at work makes the work I do more meaningful for me.	0.91
P-E MW2	Environmental sustainability practices at work make me feel that I am making a positive contribution.	0.88
* P-E MW3	Environmentally sustainable practices in my role usually results in a positive outcome for our clients or customers inside or outside the organization.	
P-E MW4	Job activities that are environmentally sustainable are personally meaningful to me.	0.62
	Pro-Environmental Employee Engagement	
P-EEE1	I am enthusiastic about environmental sustainability initiatives in this organization.	0.78
* P-EEE2	I feel energized about our environmental sustainability practices.	
P-EEE3	I feel positive about the environmental sustainability implications of my job.	0.79
P-EEE4	I strive as hard as I can to contribute positively to environmental sustainability initiatives in this organization.	0.76

Note. * deleted from respecified measurement model.

Common method bias (CMB) was tested by examining the change in factor loadings after the addition of a common latent factor to the respecified measurement model [75]. The additional common latent factor resulted in a decrease in standardized loadings ranging from 0.001 to 0.33 across the items included in the model. Overall, given that the average decrease in standardized loadings was a very modest 0.05, that the difference in loadings for only two of the 18 items was greater than 0.2, and given that all factor loadings remained statistically significant, the results suggest that common method bias was not overly influential [75].

In the proposed model, the covariance between environmentally sustainable supervisor support, information and involvement was hypothesized to be explained by a higher-order construct—pro-environmental job resources. The Target Coefficient 2 (TC^2) [86], calculated to assess the validity of the higher-order modeling, resulted in a TC^2 value

that clearly met the recommended criterion of being close to one [86]. Therefore, the TC^2 result, along with the strong loadings of the first-order factors (see Figure 2) supported the proposed higher-order modelling.
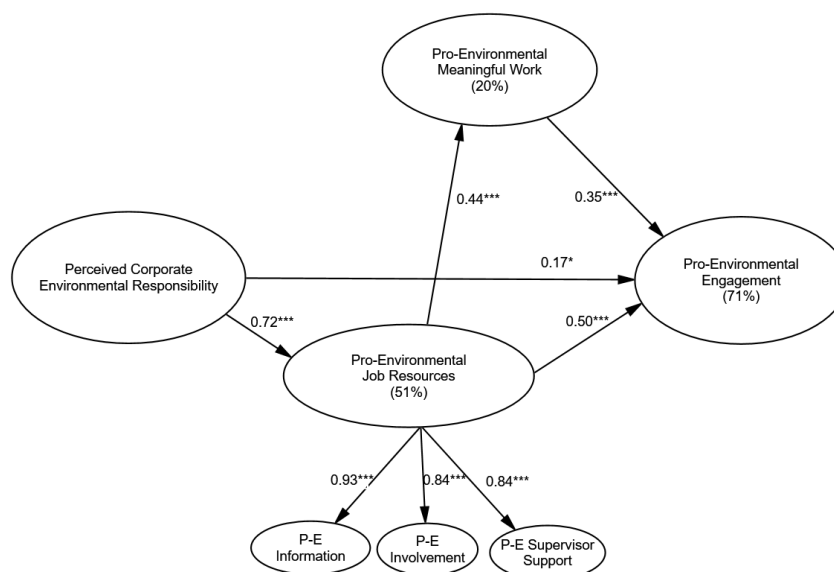
Figure 2. Respecified model (standardized estimates). P–E = Pro-Environmental. Items and errors not shown for ease of representation. Percent variance explained in parentheses. * $p < 0.05$, *** $p < 0.001$.

The means, standard deviations, internal consistency reliabilities, and correlations for the respecified measurement model are shown in Table 3. Cronbach's alpha for each variable exceeded the generally accepted criterion of 0.80, thereby suggesting internal consistency [87]. None of the bivariate correlations were strong enough to suggest problems with multicollinearity [88].

Table 3. Descriptive Statistics, Correlations and Cronbach's Alpha for Constructs in the Respecified Model (N = 285).

Variables	*M*	SD	1	2	3	4	5	6
1. PCER	4.35	1.66	*0.90*					
2. P-E supervisor support	4.22	1.58	0.63 *	*0.89*				
3. P-E involvement	3.74	1.81	0.58 *	0.70 *	*0.92*			
4. P-E information	3.84	1.74	0.66 *	0.76 *	0.79 *	*0.92*		
5. P-E Meaningful work	5.32	1.33	0.36 *	0.44 *	0.26 *	0.38 *	*0.84*	
6. P-E Engagement	4.79	1.37	0.69 *	0.67 *	0.60 *	0.72 *	0.45 *	*0.82*

Note. * Significant at $p < 0.001$. Cronbach's alpha italicized and bold on the diagonal. PCER = Perceived corporate environmental responsibility; P-E = Pro-environmental.

8.2. Structural Model

Having established the measurement model, the second step of Anderson and Gerbing's [74] two-step approach involved testing the proposed relationships between the latent constructs. The proposed structural model yielded an acceptable fit (see Table 1). All but one of the proposed paths were statistically significant. The path from perceived corporate environment responsibility (PCER) to pro-environmental meaningful work was not significant.

A respecified model, having deleted the path from PCER to P-E meaningful work, yielded marginally improved fit: χ^2 = 334.498, df = 127, χ^2/df = 2.634, p = < 0.001, TLI = 0.939, CFI = 0.950, SRMR = 0.0493, RMSEA = 0.076 (90% CI: 0.066–0.086), with the indices again being at or close to the recommended criteria. The modification indices did not indicate any theoretically justifiable changes that might result in an improved fit, and the more parsimonious respecified model was accepted. As shown in Figure 2, all

direct effects in the respecified model were significant at $p < 0.001$. As predicted, PCER had a significant direct effect on higher-order pro-environmental job resources ($\beta = 0.72$, $p < 0.001$) and a more modest direct effect on pro-environmental engagement ($\beta = 0.17$, $p = 0.022$). Pro-environmental job resources had a significant direct effect on both pro-environmental meaningful work ($\beta = 0.44$, $p < 0.001$) and pro-environmental engagement ($\beta = 0.50$, $p < 0.001$). Pro-environmental meaningful work had a direct effect on pro-environmental engagement ($\beta = 0.35$, $p < 0.001$. The model explained 51% of the variance in pro-environmental job resources, 20% of the variance in meaningful work, and a substantial 71% of the variance in pro-environmental engagement.

Beyond direct effects, the results of bias corrected bootstrapping procedures showed that perceived corporate environment responsibility (PCER) had a positive indirect effect on both pro-environmental meaningful work and pro-environmental engagement through pro-environmental job resources ($\beta = 0.317$, $p < 0.001$; $\beta = 0.465$, $p < 0.001$, respectively). The effect of PCER on pro-environmental meaningful work was fully mediated by pro-environmental job resources. The effects of pro-environmental job resources on pro-environmental engagement were both direct and indirect via pro-environmental meaningful work ($\beta = 0.154$, $p < 0.001$).

A post hoc relative weights analysis (RWA) [77] was conducted to determine the relative importance of the first-order constructs as predictors of pro-environmental engagement. The RWA results showed that the five first-order predictor variables explained 56% of the variance in pro-environmental engagement. Pro-environmental meaningful work explained 29% of the total variance, pro-environmental information explained 22%, perceived corporate environmental responsibility explained 19%, pro-environmental supervisor support explained 15.5%, and pro-environmental involvement explained 14%. Given that none of the confidence intervals for the relative weights straddled zero, the relative weights for all five predictors were statistically significant.

9. Discussion

Although a number of organizational, job and personal resources have been shown to influence pro-environmental attitudes and behaviors, the impact of domain specific pro-environmental resources on domain specific work-related attitudes has received little research attention. The study contributes to the literature by introducing pro-environmental engagement as a potentially important new construct that reflects employee enthusiasm and involvement in environmentally sustainable practices. The study also proposed new measures of domain specific measures of pro-environmental job resources and meaningful work. Confirmatory factor analyses provided clear support for the measurement properties of the newly developed scales. The present study further contributes to the literature by assessing the impact of corporate environmental responsibility, pro-environmental job resources, and pro-environmental meaningful work on pro-environmental engagement. Given the global imperative concerning environmental sustainability, the constructs and the measures can potentially be used to baseline assess and benchmark the extent to which employees are actively willing to invest their energy in environmental initiatives.

Drawing from engagement theory, structural equation modeling was used to examine whether corporate environmental responsibility, pro-environmental job resources (operationalized as a higher-order factor incorporating environmentally sustainable supervisor support, involvement, and information) and meaningful work had direct and indirect effects on pro-environmental engagement. The final structural model (see Figure 2) yielded good fit and explained a large proportion of variance in pro-environmental engagement (71%). Consistent with hypotheses one and three, perceived corporate environmental responsibility was positively associated with pro-environmental job resources (consisting of pro-environmental information, involvement, and supervisor support) and pro-environmental employee engagement. Furthermore, and consistent with hypothesis seven, perceived corporate environmental responsibility also had an indirect effect on pro-environmental engagement through pro-environmental job resources and pro-

environmental meaningful work. The results suggest that the extent to which environmental issues are perceived by employees to be integral to the strategy and daily operations of an organization therefore provide an important 'up-stream' context for how employees experience pro-environmental job resources, the meaningfulness of work, and pro-environmental engagement. The results derived using domain specific measures of pro-environmental job resources, meaningful work and engagement, parallel results from the engagement literature, e.g., [27]. The results also extend the environmental sustainability literature by suggesting that a well-researched engagement theory can be applied to the context of work-related environmental sustainability.

Contrary to hypothesis two, and although having a significant indirect effect, perceived corporate environmental responsibility was not directly associated with pro-environmental meaningful work. This non-significant result can, in part, be explained with reference to proximal or distal influence [89]. Proximal factors are those aspects of the work environment that influence the everyday functioning of individual employees and their teams [90], while distal factors are the contextual and system-level aspects of the work environment that are relatively remote to the everyday functioning of individual employees and teams. As per the effects shown in Figure 2, perceived corporate environmental responsibility as an organizational resource is likely to have a stronger influence on more proximal variables (i.e., pre-environmental job resources) than on more distal personal resources and outcomes such as pro-environmental meaningful work and engagement. Additionally, and as suggested by the significant indirect effect, the relatively strong effect of pro-environmental job resources on pro-environmental meaningful work may have absorbed any direct influence of perceived corporate environmental responsibility.

Consistent with hypotheses four, five and eight, pro-environmental job resources (information, involvement, supervisor support) were shown to be directly and indirectly associated with pro-environmental meaningful work and pro-environmental employee engagement. These research findings make a number of contributions to the literature. Firstly, the confirmatory factor analytic output showed that the first-order measures of the pro-environmental job resources demonstrated acceptable psychometric properties. Secondly, the validity of pro-environmental job resources as a higher-order model was statistically established. The higher-order modelling is consistent with previous research suggesting that the antecedents and outcomes associated with a range of domain-specific job resources can be tested in what would otherwise be complex statistical models. Additionally, the findings contribute to the existing engagement and environmental sustainability literatures by providing evidence that environmentally sustainable job resources operate via teleological pathways to positively influence domain-specific employee engagement. That is, through the availability of pro-environmental resources, employees are more likely to perceive that they make a positive contribution and that their pro-environmental work is meaningful. The results, therefore, add to the significant body of literature that highlights the intrinsic value of meaningful work and its impact on employee wellbeing, motivation and performance.

Consistent with hypothesis six, pro-environmental meaningful work had a significant direct effect on pro-environmental engagement. The results, therefore, corroborate the increased focus on the relationship between meaningful work and employee engagement evident in the research and practice in the areas of corporate social responsibility and human resource practices [44,45]. It is increasingly being recognized that the extent of organizational competitive advantage and sustainability is conditional upon contexts where employee needs for purpose and engagement are met [9,91].

Overall, the results suggest that employees who are pro-environmentally engaged appear to be motivated by pro-environmental organizational, job and personal resources. The results indicate that perceived corporate environmental responsibility stimulates employee engagement in environmental sustainability through pro-environmental job resources and meaningful work. Consistent with a systems perspective, relative weights analysis showed that all five of the first-order predictors in the model explained a significant variance in

pro-environmental engagement. Given that the RWA showed all five first-order predictors were significant predictors of pro-environmental engagement, and the significant direct and indirect effects, the results suggest the need to address the issue of resourcing employee engagement in environmental sustainability in an integrated and holistic manner. Therefore, a range of top-down and bottom-up approaches are likely to be important to an effective environmental sustainability response [6].

10. Practical Implications

The study provides an enhanced understanding of how different categories of pro-environmental resources can contribute to employees feeling enthusiastic about environmental sustainability and striving to contribute positively to environmental sustainability initiatives. The results potentially provide organizations with a range of strategies to improve employee pro-environmental engagement. For example, at the organizational level, a clearly defined and clearly communicated sustainability strategy underpinned by integrated Human Resource Management (HRM) practices that supports the strategy will help employees understand how and why their work is connected to the strategy [41,91,92].

At the job level, coaching and training programs, which aimed to increase the capability of supervisors to support employees' engagement in environmentally sustainable initiatives, could be implemented as a useful intervention [93]. Coaching supervisors to effectively set goals and provide feedback was shown to motivate employees to more actively participate in environmental sustainability programs [94]. Furthermore, coaching conversations could help enable employees to enhance and share their knowledge of environmental sustainability opportunities and to design and develop a range of environmentally sustainable initiatives in their role [95]. More generally, employees may be more positively predisposed to engage in environmentally sustainable initiatives if they receive clear, practical, and timely information and have opportunities to craft the way they carry out their work in more sustainable ways [93]. The provision of environmentally sustainable job resources can inform employee experiences of pro-environmental meaningful work and pro-environmental engagement.

With respect to measurement issues, the research offers new psychometrically defensible measures of three pro-environmental job resources; a measure of pro-environmental meaningful work; and a measure of pro-environmental engagement. The measures can potentially be used in surveys to complement and broaden the current focus on corporate social responsibility. The measures will enable the application of more fine diagnostics to identify what may help or hinder the likelihood of employees engaging in sustainability initiatives. As such, surveys can be administered to assess the extent to which employees perceive that the organization has resources in place that are conducive to pro-environmental engagement. Participative survey feedback processes can then be used to help identify improvement opportunities and to better build sustainable pro-environmental engagement capability.

11. Limitations and Future Research

Despite the use of relatively rigorous methods of data analysis to provide new insights into the relationships between pro-environmental organizational resources, job resources, meaningful work and engagement, a number of limitations need to be acknowledged. Firstly, the use of cross-sectional data limits the extent to which causality can be determined. Although structural equations modeling largely supported the proposed relationships in the model, future studies using longitudinal data are needed to verify the proposed causal and potentially reciprocal relationships [26].

A second limitation concerns the use of self-report measures. Self-report data introduces the prospect of common method bias [75]. However, the necessary and legitimate use of self-report measures is generally well accepted when assessing employee attitudes and perceptions that would otherwise be difficult to assess objectively [96]. Irrespective of

the general limitations of self-report data, statistical tests undertaken to assess the influence of common method bias demonstrated that the effect was very modest.

Another limitation centers on the generalizability of the findings. The participants were sampled from a range of different organizations. In future studies it would be useful to obtain data from discrete organizations in different industry sectors to better assess multi-level effects, and to test the generalizability of the model across different organizational contexts.

Despite a recent proliferation in research on employee pro-environmental attitudes and behavior, and beyond the suggestions for future research already noted, more research needs to be conducted. Although the current research provided support for the relevance of environmentally sustainable job resources within an integrated engagement framework, it is possible that additional organizational factors such as pro-environmental organizational climate, strategic alignment, HR processes and pro-environmental engaging leadership could also impact employee perceptions of pro-environmental job resources, meaningful work and engagement [15,31,45,56]. Additional pro-environmental job resources (e.g., co-worker support) and job demands (e.g., change fatigue), and additional personal resources (e.g., PsyCap), may also help explain variation in the variables included in the model. Research directed toward these possibilities could usefully be conducted with newly developed, domain-specific pro-environmental measures. Additional research would also be useful for addressing the influence of pro-environmental engagement on downstream outcomes such as pro-environmental citizen behavior, as well as more objective environmental indices of organizational environmental performance. Importantly, theory-based interventions should be conducted and evaluated to determine the relative impact of different resources on pro-environmental engagement and its outcomes.

12. Conclusions

Overall, this study contributes to the organizational sustainability and engagement studies by introducing the construct of employee pro-environmental engagement as a domain-specific analogue of employee engagement. Pro-environmental engagement was defined as "an enduring and positive work-related psychological state characterized by a genuine enthusiasm and willingness to support, adopt and promote work-related environmental sustainability". The study tested a model showing how pro-environmental engagement is influenced by pro-environmental organizational, job and personal resources. As such, the study is one of the first to consider the associated impact of environmentally sustainable organizational resources on domain-specific pro-environmental engagement within an integrated theoretical framework.

The demonstrated direct and indirect relationships suggest that organizations which promote environmentally sustainable resources at an organization level and job level are more likely to have employees who experience their work as pro-environmentally meaningful and are more likely to be pro-environmentally engaged. Organizations may therefore be able to harness the very considerable latent energy held by employees to more effectively meet self-imposed or externally imposed sustainability targets and to contribute to an environmentally sustainable future.

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References

1. Chia, A.; Kern, M.L.; Neville, B.A. CSR for Happiness: Corporate determinants of societal happiness as social responsibility. *Bus. Ethics: Eur. Rev.* **2020**, *29*, 422–437. [CrossRef]
2. Lozano, R. Are companies planning their organizational changes for corporate sustainability? An analysis of three case studies on resistance to change and their strategies to overcome it. *Corp. Soc. Responsib. Environ. Manag.* **2013**, *20*, 275–295. [CrossRef]
3. Ahmed, U.; Abdul Majid, A.; Al-Aali, L.; Mozammel, S. Can meaningful work really moderate the relationship between supervisor support, coworker support and work engagement? *Manag. Sc. Lett.* **2019**, *9*, 229–242. [CrossRef]
4. Bartunek, J.M.; Rousseau, D.M.; Rudolph, J.W.; DePalma, J.A. On the receiving end: Sensemaking, emotion, and assessments of an organizational change initiated by others. *J. Appl. Behav. Sci.* **2006**, *42*, 182–206. [CrossRef]
5. Hsieh, Y.-C.; Weng, J.; Pham, N.T.; Yi, L.-H. What drives employees to participate in corporate social responsibility? A personal characteristics—CSR capacity—organizational reinforcing model of employees' motivation for voluntary CSR activities. *Int. J. Hum. Resour. Manag.* **2021**. [CrossRef]
6. Davis, M.C.; Coan, P. Organizational Change. In *The Psychology of Green Organizations*; Barling, J., Robertson, J., Eds.; Oxford University Press: Oxford, UK, 2015; pp. 244–274.
7. Boiral, O.; Paillé, P. Organizational citizenship behavior for the environment: Measurement and validation. *J. Bus. Ethics* **2012**, *109*, 431–445. [CrossRef]
8. Hobfoll, S.E.; Halbesleben, J.; Neveu, J.-P.; Westman, M. Conservation of resources in the organizational context: The reality of resources and their consequences. *Annu. Rev. Organ. Psychol. Organ. Behav.* **2018**, *5*, 103–130. [CrossRef]
9. Albrecht, S.L.; Green, C.; Marty, A. Meaningful work, job resources, and employee engagement. *Sustainability* **2021**, *13*, 4045. [CrossRef]
10. Bakker, A.B.; Demerouti, E. Job demands-resources theory. In *Wellbeing: A Complete Reference Guide*; Chen, P.Y., Cooper, C.L., Eds.; Wiley-Blackwell: Hoboken, NJ, USA, 2014; Volume III, pp. 37–64.
11. Kahn, W. Psychological conditions of personal engagement and disengagement at work. *Acad. Manag. J.* **1990**, *33*, 692–724. [CrossRef]
12. Aboelmaged, M. The drivers of sustainable manufacturing practices in Egyptian SMEs and their impact on competitive capabilities: A PLS-SEM model. *J. Clean. Prod.* **2018**, *175*, 207–221. [CrossRef]
13. Cheema, S.; Afsar, B.; Al-Ghazali, B.M.; Maqsoom, A. How employee's perceived corporate social responsibility affects employee's pro-environmental behavior? The influence of organizational identification, corporate entrepreneurship, and environmental consciousness. *Corp. Soc. Responsib. Environ. Manag.* **2020**, *27*, 616–629. [CrossRef]
14. Gond, J.; El Akremi, A.; Swaen, V.; Babu, N. The psychological microfoundations of corporate social responsibility: A person-centric systematic review. *J. Organ. Behav.* **2017**, *38*, 225–246. [CrossRef]
15. Norton, T.A.; Zacher, H.; Ashkanasy, N.M. Organizational sustainability policies and employee green behavior: The mediating role of work climate perceptions. *J. Environ. Psychol.* **2014**, *38*, 49–54. [CrossRef]
16. Onkila, T.; Sarna, B. A systematic literature review on employee relations with CSR: State of art and future research agenda. *Corp. Soc. Responsib. Environ. Manag.* **2021**, 1–13. [CrossRef]
17. Borst, R.; Kruyen, P.; Lako, C.; de Vries, M. The attitudinal, behavioral, and performance outcomes of work engagement: A comparative meta-analysis across the public, semipublic, and private sector. *Rev. Public Pers. Admin.* **2019**, *40*, 613–640. [CrossRef]
18. Saks, A. Antecedents and consequences of employee engagement revisited. *J. Organ. Eff. People Perform.* **2019**, *6*, 19–38. [CrossRef]
19. Schneider, B.; Yost, A.; Kropp, A.; Kind, C.; Lam, H. Workforce engagement: What it is, what drives it, and why it matters for organizational performance. *J. Organ. Behav.* **2017**, *39*, 462–480. [CrossRef]
20. Schaufeli, W.; Bakker, A. Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. *J. Organ. Behav.* **2004**, *25*, 293–315. [CrossRef]
21. Hackman, R.; Oldham, G. Motivation through the design of work: Test of a theory. *Organ. Behav. Hum. Exp.* **1976**, *16*, 250–279. [CrossRef]
22. Demerouti, E.; Bakker, A.; Nachreiner, F.; Schaufeli, W. The job demands-resources model of burnout. *J. Appl. Psychol.* **2001**, *86*, 499–512. [CrossRef]
23. Bakker, A.; Demerouti, E. The Job Demands-Resources model: State of the art. *J. Manag. Psychol.* **2007**, *22*, 309–328. [CrossRef]
24. Crawford, E.; Lepine, J.; Rich, B. Linking job demands and resources to employee engagement and burnout: A theoretical extension and meta-analytic test. *J. Appl. Psychol.* **2010**, *95*, 834–848. [CrossRef] [PubMed]
25. Van Wingerden, J.; Derks, D.; Bakker, A. The impact of personal resources and job crafting interventions on work engagement and performance. *Hum. Resour. Manag.* **2017**, *56*, 51–67. [CrossRef]
26. Xanthopoulou, D.; Bakker, A.; Demerouti, E.; Schaufeli, B. The role of personal resources in the job demands-resources model. *Int. J. Stress Manag.* **2007**, *14*, 121–141. [CrossRef]
27. Albrecht, S.L.; Breidahl, E.; Marty, A. Organizational resources, organizational engagement climate, and employee engagement. *Career Dev. Int.* **2018**, *23*, 67–85. [CrossRef]

28. Barrick, M.R.; Thurgood, G.R.; Smith, T.A.; Courtright, S.H. Collective organizational engagement: Linking motivational antecedents, strategic implementation, and firm performance. *Acad. Manag. J.* **2015**, *58*, 111–135. [CrossRef]

29. Biggs, A.; Brough, P.; Barbour, J.P. Strategic alignment with organizational priorities and work engagement: A multi-wave analysis. *J. Organ. Behav.* **2014**, *35*, 301–317. [CrossRef]

30. Albrecht, S.L. Employee engagement and engagement in change: A research agenda. In *A Research Agenda for Employee Engagement in a Changing World of Work*; Meyer, J.P., Schneider, B., Eds.; Edward Elgar: Cheltenham, UK, 2021; pp. 155–172.

31. Schaufeli, W. Engaging leadership in the job demands-resources model. *Career Dev. Int.* **2015**, *20*, 446–463. [CrossRef]

32. Macey, W.H.; Schneider, B. The meaning of employee engagement. *Ind. Organ. Psychol.* **2008**, *1*, 3–30. [CrossRef]

33. Russell, J.A. Core affect and the psychological construction of emotion. *Psychol. Rev.* **2003**, *110*, 145–172. [CrossRef]

34. Albrecht, S.L.; Connaughton, S. Change-related organizational resources and change-related job resources: Their influence on employee change engagement. *J. Chang. Manag.* **2022**, *in press*.

35. Plaskoff, J. Employee experience: The new human resource management approach. *Strat. HR Rev.* **2017**, *16*, 136–141. [CrossRef]

36. Carroll, A. A three-dimensional conceptual model of corporate performance. *Acad. Manag. Rev.* **1979**, *4*, 497–505. [CrossRef]

37. Dahlsrud, A. How corporate social responsibility is defined: An analysis of 37 definitions. *Corp. Soc. Responsib. Environ. Manag.* **2008**, *15*, 1–13. [CrossRef]

38. Glavas, A.; Kelley, K. The effects of Perceived Corporate Social Responsibility on employee attitudes. *Bus. Ethics Q.* **2014**, *24*, 165–202. [CrossRef]

39. Glavas, A.; Piderit, S.K. How does doing good matter? Effects of corporate citizenship on employees. *J. Corp. Citizen.* **2009**, *36*, 51–70. [CrossRef]

40. Zhao, X.; Wu, C.; Chen, C.C.; Zhou, Z. The influence of corporate social responsibility on incumbent employees: A meta-analytic investigation of the mediating and moderating mechanisms. *J. Manag.* **2020**, *48*, 114–116. [CrossRef]

41. Ramus, C.; Steger, U. The roles of supervisory support behaviours and environmental policy in employee "ecoinitiatives" at leading-edge European companies. *Acad. Manag. J.* **2000**, *43*, 605–626. [CrossRef]

42. Paillé, P.; Raineri, N. Linking perceived corporate environmental policies and employees eco-initiatives: The influence of perceived organizational support and psychological contract breach. *J. Bus Res.* **2015**, *68*, 2404–2411. [CrossRef]

43. Tian, Q.; Robertson, J. How and when does perceived CSR affect employees' engagement in voluntary pro-environmental behaviour? *J. Bus. Ethics* **2019**, *155*, 399–412. [CrossRef]

44. Aguinis, H.; Glavas, A. On Corporate Social Responsibility, sensemaking, and the search for meaningfulness through work. *J. Manag.* **2019**, *45*, 1057–1086. [CrossRef]

45. Glavas, A. Employee engagement and sustainability: A model for implementing meaningfulness at and in work. *J. Corp. Citizen.* **2012**, *46*, 13–29. [CrossRef]

46. Purcell, J.; Kinnie, N.; Hutchinson, S.; Rayton, B.; Swart, J. *Understanding the People and Performance Link: Unlocking the Black Box*; Chartered Institute for Personnel and Development: London, UK, 2003.

47. Bailey, C.; Madden, A.; Alfes, K.; Fletcher, L. The meaning, antecedents and outcomes of employee engagement: A narrative synthesis. *Int. J. Manag. Rev.* **2017**, *19*, 31–53. [CrossRef]

48. Lesener, T.; Gusy, B.; Jochmann, A.; Wolter, C. The drivers of work engagement: A meta-analytic review of longitudinal evidence. *Work Stress* **2020**, *34*, 259–278. [CrossRef]

49. Wanberg, C.R.; Banas, J.T. Predictors and outcomes of openness to changes in a reorganizing workplace. *J. Appl. Psychol.* **2000**, *85*, 132–142. [CrossRef]

50. Cantor, D.; Morrow, P.; Montabon, F. Engagement in environmental behaviors among supply chain management employees: An organizational support theoretical perspective. *J. Supply Chain Manag.* **2012**, *48*, 33–51. [CrossRef]

51. Paillé, P.; Mejía-Morelos, J.; Amara, N.; Norrin, H. Greening the workplace through supervisory behaviours: Assessing what really matters to employees. *Int. J. Hum. Resour. Manag.* **2020**, 1–28. [CrossRef]

52. Allan, B.A.; Batz-Barbarich, C.; Sterling, H.M.; Tay, L. Outcomes of meaningful work: A meta-analysis. *J. Manag. Stud.* **2019**, *56*, 500–528. [CrossRef]

53. By, R.T. Organizational change management: A critical review. *J. Chang. Manag.* **2005**, *5*, 369–380. [CrossRef]

54. ter Hoeven, C.L.; Verhoeven, J.W.M. "Sharing is caring": Corporate social responsibility awareness explaining the relationship of information flow with affective commitment. *Corp. Commun. Int. J.* **2013**, *18*, 264–279. [CrossRef]

55. van den Heuvel, S.; Freese, C.; Schalk, R.; van Assen, M. How change information influences attitudes toward change and turnover intention: The role of engagement, psychological contract fulfillment, and trust. *Lead. Organ. Dev. J.* **2017**, *38*, 398–418. [CrossRef]

56. Ones, D.S.; Dilchert, S. Environmental sustainability at work: A call to action. *Ind. Organ. Psychol.* **2012**, *5*, 444–466. [CrossRef]

57. Zibarras, L.D.; Coan, P. HRM practices used to promote pro-environmental behavior: A UK survey. *Int. J. Hum. Resour. Manag.* **2015**, *26*, 2121–2142. [CrossRef]

58. Covey, S.R. *The 7 Habits of Highly Effective People: Powerful Lessons in Personal Change*; Simon and Schuster: New York, NY, USA, 2004.

59. Remmen, A.; Lorentzen, B. Employee participation and cleaner technology: Learning processes in environmental teams. *J. Clean. Prod.* **2000**, *8*, 365–373. [CrossRef]

60. Bhatnagar, J.; Aggarwal, P. Meaningful work as a mediator between perceived organizational support for environment and employee eco-initiatives, psychological capital and alienation. *Empl. Relat. Int. J.* **2020**, *42*, 1487–1511. [CrossRef]

61. Benn, S.; Teo, S.T.T.; Martin, A. Employee participation and engagement in working for the environment. *Pers. Rev.* **2015**, *44*, 492–510. [CrossRef]

62. Polman, P.; Bhattacharya, C.B. Engaging employees to create a sustainable business. *Stanf. Soc. Innov. Rev.* **2016**, *14*, 34–39. [CrossRef]

63. Fletcher, L.; Schofield, K. Facilitating meaningfulness in the workplace: A field intervention study. *Int. J. Hum. Resour. Manag.* **2021**, *32*, 2975–3003. [CrossRef]

64. Shuck, B.; Rose, K. Reframing employee engagement within the context of meaning and purpose: Implications for HRD. *Adv. Dev. Hum. Resour.* **2013**, *15*, 341–355. [CrossRef]

65. Albrecht, S.L. Work engagement and the positive power of meaningful work. In *Advances in Positive Organizational Psychology*; Bakker, A.B., Ed.; Emerald: Bingley, UK, 2013; pp. 237–260. [CrossRef]

66. Rosso, B.; Dekas, K.; Wrzesniewski, A. On the meaning of work: A theoretical integration and review. *Res. Organ. Behav.* **2010**, *30*, 91–127. [CrossRef]

67. Carton, A.M. "I'm not mopping the floors, I'm putting a man on the moon!": How NASA leaders enhanced the meaningfulness of work by changing the meaning of work. *Adm. Sci. Q.* **2018**, *63*, 323–369. [CrossRef]

68. Arnold, K.A.; Turner, N.; Barling, J.; Kelloway, E.K.; McKee, M.C. Transformational leadership and psychological well-being: The mediating role of meaningful work. *J. Occup. Health Psychol.* **2007**, *12*, 193–203. [CrossRef] [PubMed]

69. May, D.; Gilson, R.; Harter, L. The psychological conditions of meaningfulness, safety and availability and the engagement of the human spirit at work. *J. Occup. Organ. Psychol.* **2004**, *77*, 11–37. [CrossRef]

70. Alagaraja, M.; Shuck, B. Exploring organizational alignment-employee engagement linkages and impact on individual performance: A conceptual model. *Hum. Resour. Dev. Rev.* **2015**, *14*, 17–37. [CrossRef]

71. Soper, D.S. A-priori Sample Size Calculator for Structural Equation Models Software. 2021. Available online: http://www.danielsoper.com/statcalc (accessed on 10 October 2021).

72. Spreitzer, G.M. Psychological empowerment in the workplace: Dimensions, measurement, and validation. *Acad. Manag. J.* **1995**, *38*, 1442–1465. [CrossRef]

73. Schaufeli, W.B.; Shimazu, A.; Hakanen, J.; Salanova, M.; De Witte, H. An ultra-short measure for work engagement. The UWES-3 validation across five countries. *Eur. J. Psychol. Assess.* **2017**, *35*, 577–591. [CrossRef]

74. Anderson, J.C.; Gerbing, D.W. Structural equation modeling in practice: A review and recommended two-step approach. *Psychol. Bull.* **1988**, *103*, 411–423. [CrossRef]

75. Kline, R. *Principles and Practice of Structural Equation Modelling*; Guilford: New York, NY, USA, 2011.

76. Podsakoff, P.M.; MacKenzie, S.B.; Podsakoff, N.P. Sources of method bias in social science research and recommendations on how to control it. *Ann. Rev. Psychol.* **2012**, *63*, 539–569. [CrossRef]

77. Tonidandel, S.; LeBreton, J.M. RWA web: A free, comprehensive, web-based, and user-friendly tool for relative weight analyses. *J. Bus. Psychol.* **2014**, *30*, 207–216. [CrossRef]

78. Rafferty, A.E.; Minbashian, A. Cognitive beliefs and positive emotions about change: Relationships with employee change readiness and change supportive behaviors. *Hum. Relat.* **2019**, *72*, 1623–1650. [CrossRef]

79. Jöreskog, K.G.; Sörbom, D. *Lisrel 8: Structural Equations Modeling with SIMPLIS Command Language*; Erlbaum: Mahwah, NJ, USA, 1993.

80. Heene, M.; Hilbert, S.; Draxler, C.; Ziegler, M.; Bühner, M. Masking misfit in confirmatory factor analysis by increasing unique variances: A cautionary note on the usefulness of cutoff values of fit indices. *Psychol. Methods* **2011**, *16*, 319–336. [CrossRef] [PubMed]

81. Hu, L.; Bentler, P.M. Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Struct. Equ. Model.* **1999**, *6*, 1–55. [CrossRef]

82. Gerbing, D.W.; Anderson, J.C. On the meaning of within-factor correlated measurement errors. *J. Consum. Res.* **1984**, *11*, 572–580. [CrossRef]

83. Byrne, B.M. *Structural Equation Modeling with AMOS: Basic Concepts, Applications, and Programming*; Routledge: London, UK, 2010.

84. Byrne, B.M. Adaptation of assessment scales in cross-national research: Issues, guidelines, and caveats. *Int. Perspect. Psychol.* **2016**, *5*, 51–65. [CrossRef]

85. Yanyun, L.; Liang, X. Confirmatory factor analysis under violations of distributional and structural assumptions. *Int. J. Quant. Res. Educ.* **2013**, *1*, 61–84. [CrossRef]

86. Marsh, H.W. The hierarchical structure of self-concept and the application of hierarchical confirmatory factor analysis. *J. Ed. Meas.* **1987**, *24*, 17–39. [CrossRef]

87. Nunnally, J.C.; Bernstein, I.H. *Psychometric Theory*; McGraw-Hill: New York, NY, USA, 1994.

88. Hair, J.; Black, W.; Babin, B.; Anderson, R. *Multivariate Data Analysis*, 7th ed.; Prentice-Hall, Inc.: Hoboken, NJ, USA, 2010.

89. Gregerson, H.B. Multiple commitments at work and extra-role behavior during three stages of organizational tenure. *J. Bus. Res.* **1993**, *26*, 31–47. [CrossRef]

90. Shalley, C.E.; Gilson, L.L.; Blum, T.C. Matching creativity requirements and the work environment: Effects on satisfaction and intent to turnover. *Acad. Manag. J.* **2000**, *43*, 215–224. [CrossRef]

91. van Tuin, L.; Schaufeli, W.B.; van den Broeck, A.; van Rhenen, W. A corporate purpose as an antecedent to employee motivation and work engagement. *Front. Psychol.* **2020**, *11*, 572343. [CrossRef]

92. Renwick, D.W.; Redman, T.; Maguire, S. Green human resource management: A review and research agenda. *Int. J. Manag. Rev.* **2013**, *15*, 1–14. [CrossRef]

93. Wei, S.; Sial, M.S.; Comite, U.; Thu, P.A.; Badulescu, D.; Popp, J. An examination to explain the mechanism of employees' environment-specific behavior through CSR and work engagement from the perspective of stewardship theory. *Int. J. Environ. Res. Public Health* **2021**, *18*, 9370. [CrossRef] [PubMed]

94. Lingard, H.; Gilbert, G.; Graham, P. Improving solid waste reduction and recycling performance using goal setting and feedback. *Construct. Manag. Econ.* **2001**, *19*, 809–817. [CrossRef]

95. Aboramadan, M. The effect of green HRM on employee green behaviors in higher education: The mediating mechanism of green work engagement. *Int. J. Organ. Anal.* **2020**. [CrossRef]

96. Spector, P.E. Do not cross me: Optimizing the use of cross-sectional designs. *J. Bus. Psychol.* **2019**, *34*, 125–137. [CrossRef]