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Does Employee's Green Commitments and Green Attitude Mediate the Relationship of Green HRM Practices and Pro-Environmental Behaviour: Evidence from TEVT Sector Southern Punjab, Pakistan

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Abstract: This study explored how employees' green commitments and attitudes strengthen the impact of Green Human Resource Management Practices (GHRMPs) on the Pro-environmental behavior (Pro-EB) of TEVT graduates & trainers at the workplace. The Technical Education and Vocational Training (TEVT) sector is now focusing on developing strategic, environmentally sustainable policies to develop their employee's commitments & attitudes toward ecologically friendly activities. Using a convenient sampling technique, data was collected from 286 TEVT Trainers and TEVT graduates, and extracted results after applying PLS-SEM and Bootstrapping analysis showed that Green Human Resource Management Practices through Employee Green Commitments and Employee Green Attitude have a significant positive impact on pro-environmental behaviour. This study provides greater insight for policymakers on developing strong green commitments and attitudes among TEVT Trainers and graduates to achieve sustainable, environmentally friendly behavior at workplace and training institutes. Further in-depth analysis is therefore recommended based on PLS prediction (Q²) results by the addition of another variable.

Introduction

Industrial pollution causes environmental unsustainability and also contributes to health issues for lives (Mehdi, 2019). Organizations are now focusing on developing strategic, environmentally sustainable policies to develop

their employee's interest in environmentally friendly activities (Bilal Bin Saeed, 2018). Responsible workforce behaviour leads to positive outcomes that reflect pro-environmental behaviour. Therefore, the

proactive strategic role of the HR department is crucial to formulate environmental strategies and monitoring the workforce's activities at the workplace, whether these are environmentally friendly or not. Such strategies of the Human Resource department should be proactive, which leads toward environmental performance, including job attitude to employees to reduce wastage and work environmentally, ultimately saving natural resources and financial resources (Bilal Bin Saeed, 2018).

The role of Green Human Resource Management practices (GRS-Green Recruitment & Selection; GTD-Green Training & Development & GCR-Green Compensation & Rewards) in the achievement of environmental competitiveness is now an emerging subject for researchers around the world who are seeking from stakeholders of large organizations to focus on new strategic and managerial practices that can facilitate the achievement of eco-friendly environmental behaviour and became a competitive organization in the industry (Norton, 2015). The behaviour of employees as a result of Green HRM practices changed toward pro-environmental behaviour, which means organizational performance toward the environment is addressed (Samuel Roscoe, 2019). So, in order to address this environmental issue, all sectors of a country, like the service sector, hospitality, and industries, have to moderate the attitude of their employees toward green commitments so that their pro-environmental behaviour is retained, and this could be achieved by green HRM practices (Jenny Dumont, 2017).

Environmental Performance Index 2022, after comparing, understanding, and analysing the environmental performance of 180 countries, reported the EPI score, made up of six categories; water resources, agriculture, acid rain, ecosystem services, biodiversity & habits, and Fisheries, as 24.60 and ranked Pakistan at 176th position out of 180 countries, this data was not presenting only a year. However, it is being calculated over 10 years, and during the past 10

years, about 1.40% environmental performance of Pakistan is improved. In the same way, to address this gap and to solve the problems of environmental challenges, the ministries of education and labour took the initiative by launching "Technical Education and Vocational Training (TEVT) for green economic development and employment (Future Professionals)," a project as a part of several other national moderation efforts. Ministries of Education and Labour also support their implementation, aiming to improve higher education graduates and also employment prospects of TEVT. This project will contribute toward green economy development and lead toward renewable green energies, bio-economy, and the circular economy and support its digitalization. In addition to providing more and more development opportunities to the TEVT sector, the ministry of education and labor aims to make qualitative improvements not only in the TEVT sector but also in other sectors and to divert their focus toward green sectors either for TEVT public organization or TEVT private sector (Büdke, 2022).

"Energy System of the Future," a project between 2016 and 2021, focuses on the provision of environmentally friendly technical training to TEVT trainers and TEVT graduates, to energy efficiency in industry and construction sectors, and to back the circulation of wind & solar energy, about 800 TEVT trainers and 7800 TEVT Technical qualified technicians were trained. Therefore, based on its results, "Future Professionals", a project is built with multilevel strategic approach after seeking advices from Ministry of Labour and Social Science (MTP), Ministry of Education (MEC), National Service of Industrial Training (SENAI) as well as the Federal Network of Professional, Scientific & Technological Education (IF) and different other associations on how to develop proposal, geared towards the demand from the economy green sectors, for continuous education and training which at national level foster dialogue on innovation and moderation of vocational training

and for development of vocational systems as per international standards e. g digitalization in the sector and to develop more comprehensive and new trainings at local level ideally in cooperation of industries seeking innovation toward green economy (smart grids, energy storage and electro mobility etc.) and it should be done at technical methodological network of vocational school level to cope with growing demand for green skilled labour (Büdke, 2022).

Green HRM practices and their significance for environmental behaviour are proven through literature. However, more attention should be paid to the TEVT sector of Pakistan, in which upgrading and developing skills, knowledge, and

practices that are environmentally friendly, sustainable, and socially responsible among TEVT graduates and TEVT trainers are required. This study will contribute to theory and practices by giving insights to make and develop strategies about how the TEVT sector can implement Green HRM practices while providing vocational and technical training to TEVT graduates and TEVT trainers, which will develop green commitments and green attitudes among skilled workers and, ultimately it will contribute to bringing a positive change toward environmental behaviour.

Literature Review & Hypothesis Development

GHRM (GRS, GTD & GCR) Practices & Pro-EB (Environmental Behaviour)

To promote green activities at the workplace, HR scholars and HRM professionals have emphasized that a strong connection exists between Green HRM practices and environmentally friendly activities (Samuel Roscoe, 2019). In the investigation study by Pham et al. (2019), there is a positive & significant relationship between GHRM and Organizational Performance toward sustainability and the environment (Pham, 2019). There are many contributions from researchers in GHRM and its impact on environmental sustainability.

However, in this study, the mediating effect of employees' green Commitments and attitudes will be measured to what extent the relationship between GHRM practices and pro-environmental behaviour is being affected in the TEVT sector of southern Punjab. Therefore, separate hypothesizes are developed under headings 2.2, 2.3 and 2.4.

GRS (Green Recruitment Selection) & Pro-EB (Environmental Behaviour)

Green recruitment and selection practices involve hiring individuals committed to environmental sustainability and possessing the necessary knowledge, skills, and attitudes to contribute to an organization's environmental initiatives. Following the study made by (Norhasnin et al., 2019), Green Recruitment and selection is a technique by which organizations attract individuals who have an aptitude toward environmental concerns for their current vacancies and identify those who meet job requirements. A further selection is based on willingness to contribute to the firm's emerging environmental activities. In a study, it was investigated by Sharifa K. Mousa, 2020 that it is green human resource management highlights the environmental conscientiousness among employees to improve their performance for further selection in their careers. In their study, Bilal Bin Saeed et al., 2018, investigated that green recruitment and selection always attract candidates who are oriented towards environmental concerns and commitments to sustainability (Bilal Bin Saeed, 2018). Organizations are now analysing the candidates to determine whether they are motivated and contribute to the greening goals of the organization or not. This theme of interview and selection is not only limited to face-to-face interviews but is also adopted in virtual/online interviews to avoid paperwork. Ultimately it is cost beneficial, and within a limited time, organizations have completed aptitude and judgment about candidates (Mishra, 2017).

H1: Green Recruitment and Selection (GRS) has significantly positive relationship with Pro-Environmental Behaviour.

GTD-Green Training & Development and Pro-EB (Environmental Behaviour)

Green training & development plans implemented by the organization as a part of their green Human Resource Management practices to improve employees' productivity to cope with environmental issues and to achieve environmental objectives of the organization focus on building environmental skills in employees (Jabbour, 2008). In a study by Jabbour and Jabbour (2010), green training and development programs are defined as planned actions and learning activities that boost the workforce to learn new green skills and focus on environmentally friendly activities to achieve environmental sustainability. Generally, these planned activities are comprised of awareness programs, the latest statistics reports, and facts to enhance the knowledge of employees and reshape the potential abilities with green skills to address issues faced by organizations, primarily environmental issues. Organizations with green training and development strategies are more sensitive to environmental issues and train their workforce to address and control environmental issues (Jabbour, 2010). According to Jabbour 2015, every green training program comprises quality, opportunity, effectiveness, and quantity of programs.

A study by Bose and Gupta (2017) revealed that by adopting environmental awareness and green abilities, the workforce in results of the actual implementation of Green HRM practices like green learning and development, and any organization could attain sustainability (Bose, 2017).

H2: Green Training & Development has significantly positive relationship with Pro-Environmental Behaviour.

GCR-Green Compensation and Rewards & Pro-EB (Environmental Behaviour)

Green Compensation and Rewards, in a study made by Hengky Latan, 2018, is a strategic approach to administration in which organizations develop a system to compensate employees financially and also in non-financial concerns in sub-systems like retention of employees, recruitment of employees upon innovative participation in environmental activities and encourage them to participate more for environmental sustainability. Employees, via monetary or non-monetary rewards, are encouraged to contribute to the environmental goal of the organization through appreciation certificates, an employee of the month, and such as green pay as an incentive (Hengky Latan, 2018). A study by Bose and Gupta (2017) revealed that by adopting environmental awareness and green abilities, the workforce in results of the actual implementation of Green HRM practices like green learning and development, and any organization could attain sustainability (Bose, 2017).

H3: Green Compensation & Rewards has significantly positive relationship with Pro-Environmental Behaviour.

Employee's Green Commitments (EGC), Green HRM Practices (GRS, GTD & GCR) & Pro-Environmental Behaviour (Pro-EB)

An association or bond with the organization can be deemed as employee commitment (Rahman, 2013), and according to (Jawaad et al., 2019), in order to enhance employee commitment, organizations should develop complete plans with incentives and motivation initiatives. Through the attitude, organizational outcomes, and behaviour toward jobs like retention level, job satisfaction, and affective commitment, organizations can analyse the commitments of the workforce (Rubel et al., 2018). The study by (Singh et al., 2019) showed that loyalty toward the company, employee involvement, and

identification, organization commitment is the factor to indicate the degree of involvement.

H4: Employee's Green Commitments (ECA) have significantly positive mediating role in relationship of Green Recruitment Selection (GRS) with Pro-Environmental Behaviour (Pro-EB).

H5: Employee's Green Commitments (ECA) have significantly positive mediating role in relationship of Green Training & Development (GTD) with Pro-Environmental Behaviour (Pro-EB).

H6: Employee's Green Commitments (ECA) have significantly positive mediating role in relationship of Green Compensation & Rewards (GCR) with Pro-Environmental Behaviour (Pro-EB).

Employee's Green Attitude (EGA), Green HRM Practices (GRS, GTD & GCR) & Pro-Environmental Behaviour (Pro-EB)

Theory of Planned Behaviour, attitude towards behaviour in one of the three conceptual determinations of intentions, refers to the level of one's favourable and unfavourable assessment of the action one has taken in response to a question (Karatepe, 2006). like (Tseng, 2013) argued that for those who are willing to pay more for green products, a factor of philosophy plays a prominent role which forecast the intention of consumers, and (Ying-Kai Liao, 2020), in their studies showed that green purchasing intentions are influenced by green brand attitude. (Jaiswal, 2015) showed in their studies that perceptions and desires to act toward the environment refer to consumers' attitudes toward the environment. One of the most significant factors, as interpreted by Jabbour (2012), is an environmental concern, the environmental attitude of one that directly impacts the green intentions of consumers.

H7: Employee's Green Attitude (EGA) have significantly positive mediating role in

relationship of Green Recruitment & Selection with Pro-Environmental Behaviour (Pro-EB).

H8: Employee's Green Attitude (EGA) have significantly positive mediating role in relationship of Green Training and Development (GTD) with Pro-Environmental Behaviour (Pro-EB).

H9: Employee's Green Attitude (EGA) have significantly positive mediating role in relationship of Green Compensation & Rewards (GCR) with Pro-Environmental Behaviour (Pro-EB).

Pro-EB (Environmental Behaviour)

Pro-environmental behaviour refers to individual actions that promote environmental sustainability, such as reducing energy consumption, recycling, and using eco-friendly products. In a study by Rubel et al. (2021), an organization can achieve desirable behavioural intentions like environmental-friendly behaviour of employees by effective execution of GHRM practices in the organization. These Green HRM strategies not only improve the motivation among employees to deal with green activities efficiently but also reduce cost and preserve resources and play a role in lining up the environmental considerations of the organization toward green corporate strategies (Rubel, Kee, & Rimi, 2021; Muhammad et al. 2022). According to a study by Rehman et al., 2021, business operations and product development strategies based on environmental performance produce green products, green process innovations, and products close to nature (Rehman & Yaqub, 2021; Mastoi 2022).

In an industrial sector where material waste occurs during the production process due to carbon emission and air pollution, pro-environmental is necessary and is a part of the job description. Job specification of workers and the Human Resource Department under the eco-system must guide in this regard. The induction of green job responsibilities in the job description

of employees enables the workers to learn more about the environment. Their performance toward environmental management can be increased through training and encouraging them to participate in activities to develop pro-EB (Tseng, 2013). With the help of green activities, the attitudes, values, and behaviours of the workforce can be influenced by Green HRM (Bilal Bin Saeed, 2018; Hayat et al. 2022) and the reason that GHRM practices create environmental conscientiousness culture in the organization and performing ecological activities it engages employees and design standards and Pro-EB (Tang et al., 2018). Thus, Green HRM practice positively contributes to pro-EB development (Luu, 2018). However, at the organizational level, there is a need for investment in greening HR practices to improve and build employees' pro-environmental behaviour (Tan Tan et al., 2019).

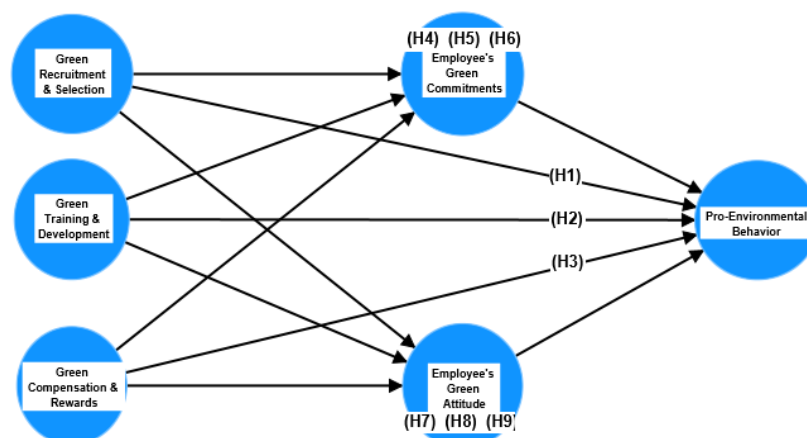
AMO Theory (Ability Motivation Opportunities Theory)

Appelbaum et al., 2000, developed a theory known as AMO (ability motivation opportunities theory), that the high performance of workforces is grounded by individual abilities, achievement motivation, and their efforts to avail the opportunities to participate. So, to enhance employees' performance in any sector of the organization, like in environmental sustainability, employees must have the required

skills to perform such activity (Keith Townsend et al., 2019; Arshad et al. 2022). There must be motivation from the organization's leadership to perform the activity, and employees should be empowered to participate in decision-making, and there should be opportunities for that. So, all the elements of the Ability Motivation Opportunities theory can enhance employees' green behaviour, e.g., green abilities are a specific skill. Employees can demonstrate it while selection is based on their green behaviour intentions. This self-efficacy results from green recruitment that leads the employee to use it creatively and innovatively toward environmental sustainability (Singh et al., 2019; Khan et al. 2023; Shahzad et al., 2021)

So, to enhance their abilities, organizations are using training activities that result in green entrepreneurial abilities and generate more innovative ideas to address environmental problems. Motivation to learn new ways of environmental sustainability will ultimately improve employees' green habits, behavioural intentions, commitments, and attitudes. Their performance and green rewards in response to the outcomes of their activities also motivate them to continue in this spirit. Opportunities to be an innovative member of greening workplace activities like reduction in wastage of resources like energy resources, etc., also play a positive role in this (Rayner & Morgan, 2018).

Theoretical Framework



Material & Methods

Samples & Procedure (Inferential Statistics)

To the proposed theoretical model, simple linear regression analysis was applied after collecting data via survey through Google forms according to Roscoe's (1975) projected for defining sample size. Therefore, a questionnaire was developed and sent to 430 TEVT trainers and TEVT graduates in six districts of Punjab (Bhakkar, Layyah, Kot Addu, Muzaffargarh, DG Khan, and Rajanpur) from Oct to Dec 2022. WhatsApp and email were used to distribute the questionnaire among respondents. A simple random sampling methodology was used to collect data from respondents. About 322 respondents replied, but due to incomplete information, 46 questionnaires were rejected, and a final sample of 286 TEVT trainers and TEVT graduates was selected (Bhakkar 75; Layyah 47; Kot Addu 26, Dera Ghazi Khan 68; Muzaffargarh 42; Rajanpur 52). In this cross-sectional research, (64.8%) of TEVT graduates and (35.2%) of TEVT Trainers from the TEVT sector of southern Punjab participated. They are 18-60 years old and have a degree or higher level of technical certification. The proportionate of males and females is 59.7% and 40.3%.

Measurement Scales

07-point Likert scales were used to measure the GRS, GTD, GCR, employee green attitude and green employee commitments, and pro-environmental behaviour, which ranges from strongly disagree (01) to agree (07) for all variables strongly are narrated.

Green Recruitment and Selection

The 06-Items scale of GRS from Rizwana et al. (2022) and Saeed et al. (2018) was used to collect concerns about the GRS of organizations in which respondents work. These items included "Do you think that your organization has updated job description specification includes environment concern," "Do you think that your organization prefers knowledgeable candidates of greening to

hire for vacant posts," "Do you know that your organization specifies or make see-through recruitment message about environmental concerns" etc. and after deletion of 02-items to improve the construct and discriminant validity of the scale the reliability and validity of Cronbach's alpha is 0.808 as shown in the table no. 1.

Green Training & Development

The Green Training & Development scale of (Rizwana et al., 2022 and Saeed et al., 2018) of 08 items was adapted and used to collect respondent data. The items included "Did your organization provide green training to increase environmental awareness, Do you think that your organization takes into account the needs of environmental issues when training requirements are analysed," and "In my organization, all training materials are available, yet it is not destroyed as waste material, but it can be reused," The environmental training programs of my organization for managers, administration and even for staff developed required skills and knowledge for green training," etc. and after deletion of 04-items to improve the construct and discriminant validity of the scale the reliability and validity of the scale is @ Cronbach's alpha is 0.732, enclosed in table 1.

Green Compensation & Rewards

The scale of, Rizwana et al., (2022) Saeed, et al., (2018); Shafiq et al. (2023) for compensation and rewards, a 04-item scale was used to collect the data from respondents, and it includes "Your organization also recognizing the environmental performance of employees," "your organization has introduced rewards for innovative environmental initiatives," "non-financial rewarding for employee good environmental performance is also being initiated by your organization," etc. and the reliability statistics are at 0.790 enclosed in a table 1.

Employee's Green Commitments

Green Employee's commitment was measured by the adaptive 05-item scale of (RUSBULT, et al., 1998) and it includes "I am interested in strengthening my connections to the environment in the future," "Do you feel that your actions are linked with the environment," if you think so, do you plan for pro-environmental activities," Do you think that you can control your activities which may affect the environment, do you think that nature and human are interdependent, Are you agree that your environmentally friendly activities at workplace save the nature, etc. and after deletion of 1-items to improve the construct and discriminant validity of the scale the Cronbach's Alpha values are 0.742 showing internal consistency and reliability of scale enclosed in table 1.

Employee's Green Attitude

The scale of (Ajzen, 1991) for employee's attitude toward the environment used having 05-items, and it included "do you believe that green products help to reduce pollution," do you believe that green goods helps align with nature," "Do you believe that environmental protection is important to me when you are performing tasks," " your feelings about green production process are that I am saving environmental and I will be in environmentally safe mode," etc. and after deleting 03-items the reliability statistics are at 0.798 enclosed in table 1.

Pro-Environmental Behaviour

The adaptive 11-item scale measured pro-environmental behaviour by Rizwana et al., 2022;

Saeed, et al., 2018) and it includes, "Do you think that you are strongly connected with the environment" , "Do you believe that your well-being is interrelated with natural well beings" , "Do you think that your commitments toward environmental concerns motivate your subordinates" , " Do you think that your efforts are contributing to increase the environmental performance" , "Do you think that your suggestions and ideas are motivating your colleagues and friends to work more for environmentally friendly activities" etc. and after deletion of 7-items to improve the convergent and discriminant validity of the measurement scale the internal consistency was extracted at 0.802 alpha and narrated in table no. 1.

Controlled Variables

Age, Gender, Education Level, TEVT Link, District are controlled in this research.

Results

Construct Validity (Internal Validity & Reliability) Statistics

In order to check the construct validity that how well the measurement scale has established the internal consistency and reliability to measure the unobserved constructs. Ny using SmartPLS4, PLS-SEM model, the construct validity (Factor Loadings, Cronbach's Alpha, Composite Reliability rho_c and Average Variance Extracted (AVE) was established as results shown in table 1. Further Variance inflation Factor (VIF) matrix represents in collinearity statistics which are below 5 showing the standards of both outer and inner models as acceptance criteria was meet narrated in table 1.

Table 1

Construct Reliability and Validity -Overview (Factor Loadings, Cronbach's Alpha, Composite Reliability, Average Variance Extracted (AVE), Variance Inflation Factor (VIF)

Constructs	Indicators	Factor Loadings	Cronbach's Alpha	Composite Reliability (CR)	AVE	VIF
	GRS1	0.808	0.808	0.874	0.635	1.941
	GRS2	0.827				2.116

Green Recruitment & Selection	GRS3	0.801				1.709
	GRS4	0.749				1.400
	GTD1	0.718				1.288
Green Training & Development	GTD2	0.739	0.732	0.832	0.553	1.341
	GTD3	0.747				1.840
	GTD4	0.770				1.886
Green Compensation & Rewards	GCR1	0.764				1.488
	GCR2	0.767	0.790	0.864	0.615	1.540
	GCR3	0.839				1.850
	GCR4	0.763				1.535
Employee's Green Commitments	EGC1	0.809				1.882
	EGC2	0.801	0.742	0.840	0.570	1.982
	EGC3	0.789				1.703
	EGC4	0.602				1.094
Employee's Green Attitude	EGAT1	0.904	0.798	0.908	0.831	1.786
	EGAT2	0.919				1.786
Pro-Environmental Behaviour	ProEB1	0.845				1.683
	ProEB2	0.846	0.802	0.883	0.716	1.785
	ProEB3	0.848				1.711
	ProEB4	0.904				1.786

Discriminant Validity

In order to demonstrate how measure of the construct is measuring the unobserved constructs by usings validity measures and by evidence under HTMT, Fornell & Larcker criterion 1981 and by Cross loadings it was revealed.

(Heterotrait-Monotrait Ratio) HTMT-Matrix

The HTMT ratio is a measure of the degree of similarity between two constructs or measures, with values above 0.90 indicating that the two constructs or measures are highly related and

may not be distinct. Values below 0.90 suggest that the two constructs or measures are distinct from one another. Therefore, to examine the variance and to analyse to what extent divergent or discriminant validity is among constructs under this study, the heterotrait-monotrait correlation (HTMT) was used. So, by using this, correlations of indicators within a construct (monotrait) and correlation of indicators across the constructs (heterotrait) was check and the results revealed that discriminant validity is established and all values are below 0.90 as shown in the table 2.

Table 2

Heterotrait - Monotrait Ratio (Discriminant Validity) HTMT matrix

Indicators	EGAT	EGC	GCR	GRS	GTD	Pro-EB
Employee's Green Attitude						
Employee's Green Commitments	0.821					
Green Compensation & Rewards	0.674	0.710				
Green Recruitment & Selection	0.542	0.715	0.587			
Green Training & Development	0.692	0.796	0.738	0.586		

Pro-Environmental Behavior 0.801 0.831 0.861 0.569 0.690

Discriminant Validity (Fornell & Larcker Criterion 1981)

Another way to assess discriminant validity is through the use of the Fornell-Larcker criterion, which involves comparing the square root of the average variance extracted (AVE) for each construct to the correlation between the constructs. If the square root of the AVE for each construct is greater than the correlation between

the constructs, then discriminant validity is supported. Therefore, Fornell & Larcker Criterion 1981 and Cross Loadings methods were used to assess and analyse (Henseler, et al., 2014). And all the values in Fornell and Larcker 1981 criterion are as per standards which are shown in table 3 and it shows the significance and discriminant validity of measurement scale being used to observe the unobserved construct.

Table 3

Fornell & Larcker 1981 criterion (Discriminant validity) F&L matrix

Indicators	EGAT	EGC	GCR	GRS	GTD	Pro-EB
Employee's Green Attitude	0.912					
Employee's Green Commitments	0.634	0.755				
Green Compensation & Rewards	0.539	0.546	0.784			
Green Recruitment & Selection	0.437	0.582	0.469	0.797		
Green Training & Development	0.538	0.602	0.568	0.476	0.744	
Pro-Environmental Behavior	0.640	0.643	0.687	0.461	0.534	0.846

Descriptive Statistics & Correlation Analysis

The Means, Standard Deviation, Sample Size and correlation statistics for all six variables narrated in table 4 with indicates positive correction among Green Recruitment & Selection (GRS),

Green Training & Development (GTD), Green Compensation & Rewards (GCR), Employee's Green Attitude (EGAT), Employee's Green Commitments (EGC) and Pro-Environmental Behaviour (Pro-EB).

Table 4

Descriptive Statistics & Correlation Analysis

Variables	Mean	SD	N	GRS	GTD	GCR	EGC	EGAT	Pro-EB
GRS	5.1054	1.39946	287	1					
GTD	4.0880	1.47024	287	.449**	1				
GCR	4.8206	1.36099	287	.470**	.560**	1			
EGC	4.9913	1.28803	287	.580**	.593**	.547**	1		
GAT	4.8449	1.55589	287	.435**	.523**	.534**	.631**	1	
PROEB	5.0465	1.39212	287	.460**	.525**	.685**	.642**	.640**	1

** . Correlation is significant at the 0.01 level (2-tailed).

R-Square, PLS-Predict LV-Summary Statistics

R-squared, also known as the coefficient of determination, is a statistical measure that represents the proportion of variance in the dependent variable that is explained by the

independent variable(s) in a regression model. The variance after effect of Green HRM practices through mediating role of employee' green commitments and attitude as shown the table 5, are quite significant and its shows Green HRM

practices after mediating role employee's green attitude is R^2 @ EGAT 38.7% change and after mediating role of employee's green commitments the R^2 @ EGC 49.9% change and the total change recorded employee's green commitments and employee's green attitude are the most important factors for implementation of Green HRM practices to achieve pro-environmental behaviour among TEVT graduates

and TEVT trainers and change is recorded @ R^2 50% yet the PLS predict is used to analyse/predict the relevance of this model to be explored more in details and results of PLS-Predict Q^2 EGAT @ 36.7%, EGC @ 48.0% and Pro-EB @ 43.0% can be predict with Green HRM practices. This Q^2 shows the well-constructed model and its predictive relevance.

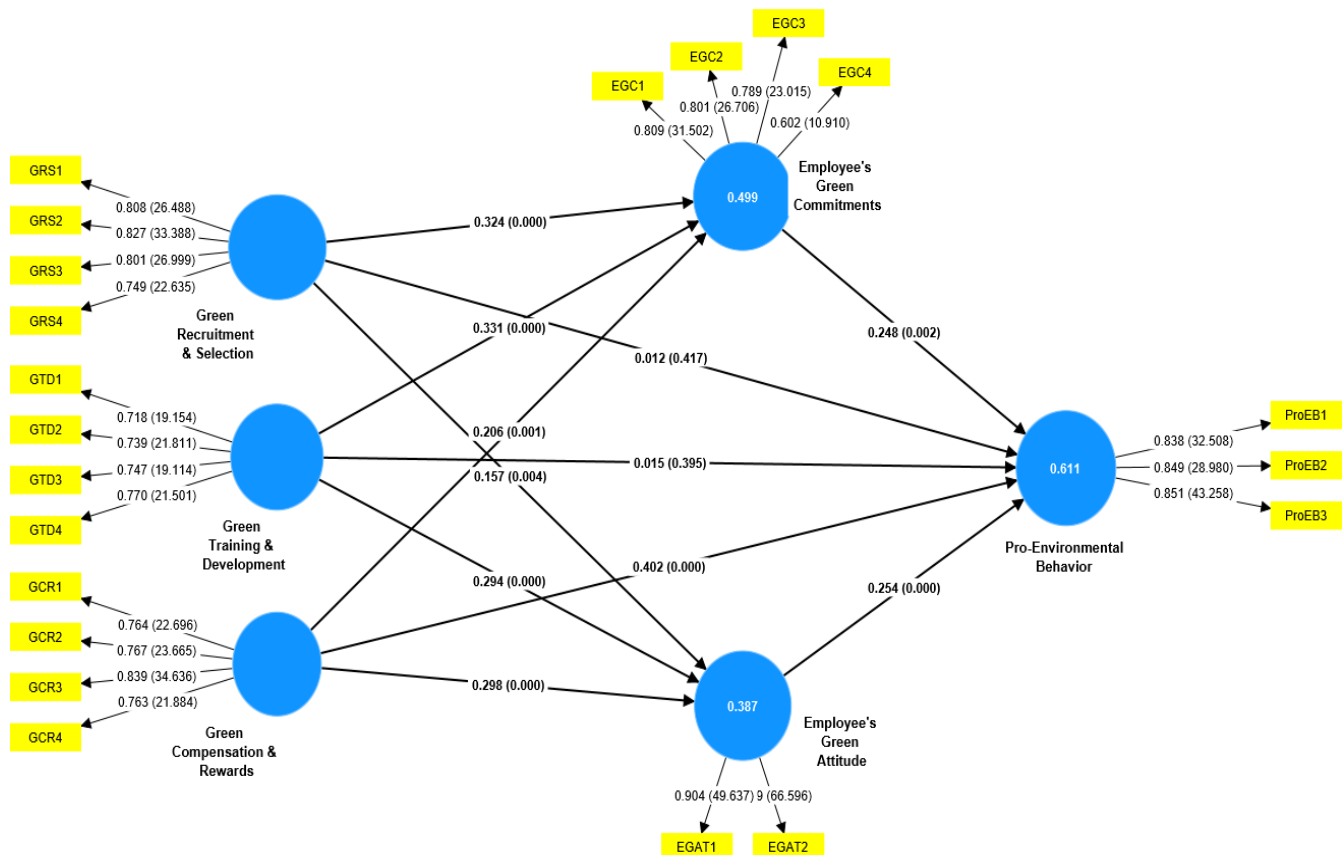
Table 5

R-Square, F-Square, Q-Square and Model Fitness statistics are narrated below.

		R-Square –Overview		PLS-Predict (Latent Variables Prediction Statistics)
Constructs		R-square	R-square adjusted	Q^2 predict
Employee's Green Commitments	Green	0.501	0.499	0.479
Employee's Green Attitude		0.387	0.387	0.367
Pro-Environmental Behavior		0.505	0.611	0.500

Figure 1

Outer Model (Factor Loadings & t-stats), Inner Model (Path Coefficients/p-value), Constructs with R^2 inside the circle



PLS-SEM (Bootstrapping-Regression and medication analysis)

In order to predict the trends and pattern of effect of green human resource practices on pro-environmental behaviour, bootstrapping (nonparametric procedure) was adopted to test the statistical significance such as R², T-values, P-values, LLCI and ULCI and outer loadings etc. obtained from subsamples @ 10000, under confidence interval method of "Bias-corrected and accelerated (BCa) bootstrap with one tailed test type with parallel processing (hair et al. 2022).

H1. Green Recruitment and Selection has significantly positive relationship with Pro-Environmental Behaviour

It was hypothesized that green recruitment and Selection practice refers to the hiring of employees who are environmentally conscious and have a commitment to sustainability and Pro-environmental behaviour refers to actions that individuals take to reduce their impact on the environment, such as recycling or reducing energy consumption. Yet, previously TEVT sectors in not mentioning any type of environmental concerns in its advertisement and while hiring they have no orientation to attract those who have contributed in environmental sustainability that's why the results shown by bootstrapping analysis that there is insignificant impact on pro-environmental behaviour and the results are (GRS on Pro-EB $\rightarrow \beta = 0.012$, $t=0.211$, $P<0.417$) and H1 is not supported (Table 6).

H2. Green Training & Development has significantly positive relationship with Pro-Environmental Behaviour

It was hypothesized that green training & development in any organization has significant and positive impact on behaviour of employees and develop commitments and attitudes toward environment. By providing employees with the knowledge and skills needed to engage in sustainable practices, organizations can empower their employees to take actions that benefits that organization. In TEVT sector, during conventional trades no such type of environmental concern trainings were conducted. Only safety from hazards training were conducted. Therefore, orientation of employees is not developed and as the results extracted by bootstrapping there is insignificant results are (GTD on Pro-EB $\rightarrow \beta = 0.402$, $t=7.282$, $P<0.000$) and H2 is not supported (Table 6).

H3. Green Compensation & Rewards has significantly positive relationship with Pro-Environmental Behaviour

It was hypothesized that organizations with green compensation and reward policies which refer to the use of monetary and non-monetary rewards to encourage and recognized the environmental behaviour of employees at workplace can motivate employees to engage in pro-environmental behaviour. TEVT sector is also after implementation of green rewards like green ambassador of PVTC has developed a strong concern and its give importance to sustainability and encourage its employees to take actions at workplace like reduction of wastage, optimal utilization of resource etc which ultimate benefits the environment and the results (GCR on Pro-EB $\rightarrow \beta = 0.015$, $t=0.266$, $P<0.395$) are in support and hypothesis H3 is accepted and supported. (Table 6).

Table 6

Direct Relationship Green HRM Practices (GRS, GTD, GCR $\rightarrow$ Pro-EB)

Hypothesis	Path	Beta	Mean	SD	T-Statistics	P-Values	Hypothesis Results
H1	GRS → Pro-EB	0.012	0.016	0.056	0.211	0.417	Rejected
H2	GTD → Pro-EB	0.015	0.015	0.055	0.266	0.395	Rejected
H3	GCR → Pro-EB	0.402	0.401	0.055	7.282	0.000	Accepted

H4: Employee's Green Commitments (EGC) have significantly positive mediating role in relationship of Green Recruitment Selection (GRS) with Pro-Environmental Behaviour (Pro-EB).

The mediating effect of employee's green commitments in relationship of green recruitment & selection and pro-environmental behaviour was assessed and the results showed (Table no. 7) that there is significant positive effect after inclusion of mediation factor the specific indirect effect is (GRS→EGC→Pro-EB β = 0.080, t =2.615, P <.004, **LLCI**=0.037, **ULCI**=0.139) and the total effect was also significant @ (GRS→Pro-EB β = 0.132, t =2.406, P <.008) which shows that employee's green commitments are fully mediating and the relationship between Green recruitment & selection & Pro-environmental behaviour. The effect of green recruitment & Selection on pro-environmental behaviour is entirely explained by the influence of green recruitment & selection on employee's green commitments. Hence hypothesis h4 is accepted and these results are also supported with the study of Saeed et al. (2022) that the effect of green HR practices on pro environmental behaviour was partially mediated by employee's environmental commitments.

as the specific indirect effect is (GTD→EGC→Pro-EB β = 0.082, t =2.519, P <.006, **LLCI**=0.036, **ULCI**=0.145) and the total effect was also significant @ (GTD→Pro-EB β = 0.171, t =3.094, P <.001) which shows that employee's green commitments fully mediates and relationship of green training and development and pro-environmental behaviour. TEVT sector has recently launched Green Training sessions in order develop the knowledge and skills needed to engage in sustainable practices and these results presenting the impact of this training on pro-environmental behaviour which is may be influenced by employee's commitment to environmental issues. Research has shown that employee's green commitments can mediate the relationship between green training and development and pro-environmental behavior. For example, a study by Rubel et al. (2021) found that the effect of green training and development on pro-environmental behavior was partially mediated by employee's environmental attitude and commitment.

H5: Employee's Green Commitments (ECA) have significantly positive mediating role in relationship of Green Training & Development (GTD) with Pro-Environmental Behaviour (Pro-EB).

The mediation effect of employee's green commitments in relationship of green training & development and pro-environmental behaviour was assessed and the results showed (Table no. 7) a significant positive partial mediation effect

H6: Employee's Green Commitments (ECA) have significantly positive mediating role in relationship of Green Compensation & Rewards (GCR) with Pro-Environmental Behaviour (Pro-EB).

The mediation effect of employee's green commitments in relationship of green compensation & rewards and pro-environmental behaviour was assessed and the results showed (Table no. 7) a significant positive partial mediation effect as the specific indirect effect is (GCR→EGC→Pro-EB β = 0.051, t =2.088, P <.018, **LLCI**=0.019, **ULCI**=0.102) and the total effect was also significant @ (GCR→Pro-EB β = 0.528, t =9.767, P <.000) and direct effect was also

significant ((GCR→Pro-EB $\beta = 0.402$, $t=7.282$, $P<.000$) which shows partial mediating effect of green compensation and rewards on pro-environmental behaviour of TEVT trainers and graduates. The TEVT graduates and trainer with green non-monetary rewards are now being engaged in pro-environmental activities and hence hypothesis is accepted and support the logic.

H7: Employee's Green Attitude (EGA) have significantly positive mediating role in relationship of Green Recruitment & Selection with Pro-Environmental Behaviour (Pro-EB).

The mediation effect of employee's green attitude in relationship of green recruitment & selection and pro-environmental behaviour was assessed and the results showed (Table no. 7) a significant positive partial mediation effect as the specific indirect effect is (GRS→EGA→Pro-EB $\beta = 0.040$, $t=2.319$, $P<.010$, LLCI=0.017, ULCI=0.074) and the total effect was also significant @ (GRS→Pro-EB $\beta = 0.132$, $t=2.406$, $P<.008$) which shows that employee's green attitude fully mediates the relationship between green recruitment & selection on pro-environmental behaviour and these results are also supported by previous studies by Rubel et al., (2021) ; Rehman et al., (2021); Yan & Zhang, (2021); found that employees who were hired through green recruitment practices were more likely to engage in pro-environmental behaviour, and that this relationship was partially mediated by employees' environmental attitudes and values.

H8: Employee's Green Attitude (EGA) have significantly positive mediating role in relationship of Green Training and Development (GTD) with Pro-Environmental Behaviour (Pro-EB).

The mediation effect of employee's green attitude in relationship of green Training &

Development and pro-environmental behaviour was assessed and the results showed (Table no. 7) a significant positive partial mediation effect as the specific indirect effect is (GTD→EGA→Pro-EB $\beta = 0.075$, $t=2.945$, $P<.002$, LLCI=0.040, ULCI=0.125) and the total effect was also significant @ (GTD→Pro-EB $\beta = 0.171$, $t=3.094$, $P<.001$) which shows that employee's green attitude fully mediates the relationship between green training & development on pro-environmental behaviour and these results are also supported by previous studies of Bai et al. (2018), Ehnert et al. (2016) and Nguyen and colleagues (2019) found that green training and development practices were positively related to employee environmental behaviour, and that this relationship was partially mediated by employees' environmental values and beliefs.

H9: Employee's Green Attitude (EGA) have significantly positive mediating role in relationship of Green Compensation & Rewards (GCR) with Pro-Environmental Behaviour (Pro-EB)

The mediation effect of employee's green attitude in relationship of green compensation & rewards and pro-environmental behaviour was assessed and the results showed (Table no. 7) a significant positive partial mediation effect as the specific indirect effect is (GCR→EGA→Pro-EB $\beta = 0.076$, $t=2.675$, $P<.004$, LLCI=0.037, ULCI=0.131) and the total effect was also significant @ (GCR→Pro-EB $\beta = 0.528$, $t=9.767$, $P<.000$) and direct effect was also significant ((GCR→Pro-EB $\beta = 0.402$, $t=7.282$, $P<.000$) which shows partial mediating effect and supported by previous studies of Jabbour and Santos (2018) and Cheung et al. (2019) found that green compensation and rewards were positively related to employee pro-environmental behaviour, and that this relationship was partially mediated by employees' environmental concern and awareness.

Figure 2

Outer Model (Factor Loadings & P-Values), Inner Model (Path-Coefficients & P-Values), Latent Variables with R-Square

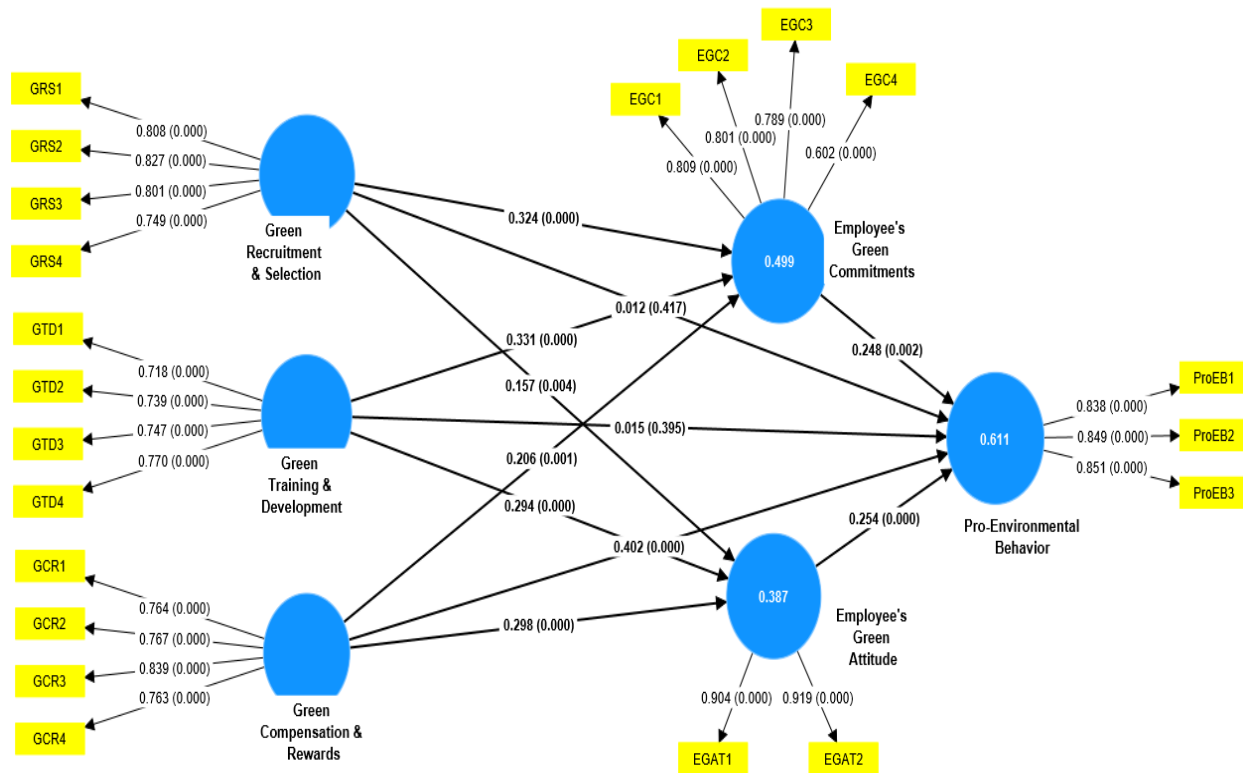
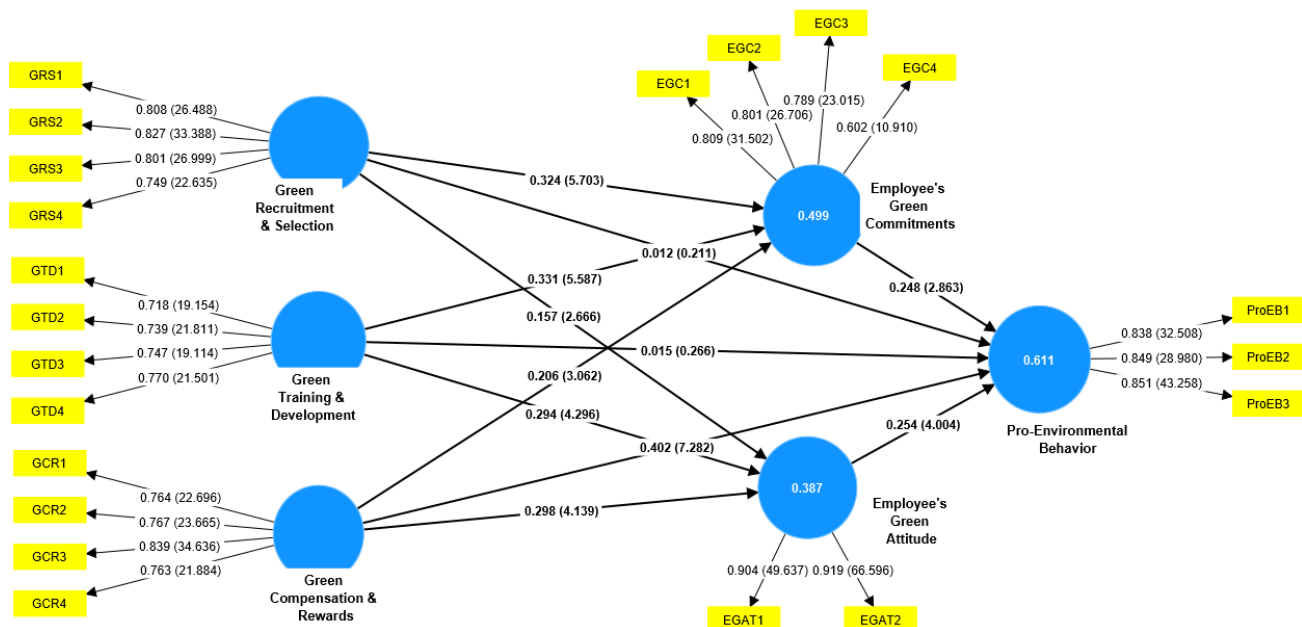


Figure 3

Outer Model (Factor Loadings & T-Statistics), Inner Model (Path-Coefficients & T-Statistics, Latent Variables with R-Square)



Hence Hypothesis H4, H5, H6, H7, H8 and H9 are accepted and the results are narrated in table no. 7

Table 7

Mediation Analysis Results

Total Effect (GRS, GTD & GCR) on Pro-EB				Total indirect Effects (GRS, GTD & GCR) on Pro-EB				Specific Indirect Effects of (GRS->EGC->Pro-EB), (GTD-> EGC->Pro-EB), (GCR-> EGC->Pro-EB), (GRS-> EGAT->Pro-EB), (GTD-> EGAT->Pro-EB) & (GCR-> EGAT->Pro-EB)						
Path	B	t-stat	P-val.	Path	B	t-stat	P-val.	Hypothesis	B	SD	t-stat	p-val.	Bootstrap 95% CI	
													LLCI 5%	ULCI 95%
GRS -> Pro-EB (H1)	0.012	0.211	0.417	GRS -> Pro-EB	0.132	2.406	0.008	GRS -> EGC -> Pro-EB (H4)	0.080	0.031	2.615	0.004	0.037	0.139
GTD -> Pro-EB (H2)	0.015	0.266	0.395	GTD -> Pro-EB	0.171	3.094	0.001	GTD -> EGC -> Pro-EB (H5)	0.082	0.033	2.519	0.006	0.036	0.145
GCR -> Pro-EB (H3)	0.402	7.282	0.000	GCR -> Pro-EB	0.528	9.767	0.000	GCR -> EGC -> Pro-EB (H6)	0.051	0.024	2.088	0.018	0.019	0.102
								GRS -> EGA -> Pro-EB (H7)	0.040	0.017	2.319	0.010	0.017	0.074
								GTD -> EGA -> Pro-EB (H8)	0.075	0.025	2.945	0.002	0.040	0.125
								GCR -> EGA -> Pro-EB (H9)	0.076	0.028	2.675	0.004	0.037	0.131

Discussions & Implications

Under this study, the effects of GRS, GTD & GCR on Pro-EB was investigated, and the results showed a significant positive relationship among these constructs. Further, employee's green attitude and employee's green commitments have increased the total standardized significant effect on Pro-Environmental behaviour.

Managerial implications

Under this study, the interactive effect of GHRM practice and findings provide a comprehensive phenomenon of how employees' green attitudes and commitments mediate the relationship between green HRM practices and the Pro-environmental behaviour of TEVT trainers and graduates at the workplace. The results are also supported by previous studies by Saeed et al. 2022 on GHRM, Rubel et al., 2018 on employee's Green Commitments; Tseng et al., 2012; Jabbour et al. 2012; Jaiswal et al. 2015 on Employee's Green Attitude and of Rubel et al., 2021; Rehman et al., 2021; Yan & Zhang, 2021 on Pro-Environmental Behaviour.

Secondly, this study provides us theoretical exposure to how ability motivation opportunity theory covers and strengthens the results that the pro-environmental behaviour of any employee can be enhanced by applying GHRM practices like GTD about enhancing the abilities of employees, green compensation, and development to motivate employees and green recruitment and selection to provide an opportunity for employees to work for environmental sustainability of the organization. The AMO theory also supports the green employee attitude and commitment as too many researches have explored the relationship of organizational-based performance of employees linked with AMO Theory (Appelbaum et al., 2000).

Third, this study will contribute to the creation of GHRM practice research in all positions in an organization, from corporate to operational levels, as previous literature also

emphasizes that the actual implementation of green HRM practices not only a significant cause of accumulative effect on the organizational environmental performance and also enhance the financial and operational performance of organizations. The future researcher may take these green HRM practices as environmental sustainability, and this relationship will ultimately generate green jobs, job descriptions, specifications, and analysis.

Practical implications

The TEVT institution where people are getting technical and vocational training, there is a dire need to introduce new methodologies, skills and practices which are environmentally friendly and sustainable. The TEVT trainers with green training approaches can provide technical and vocational skills to TEVT graduates in an environmentally friendly way by reducing the wastage of material and at minimum cost. This green training will provide a green workforce to the industry. Institutions must collaborate with industries to introduce new green ways/green jobs in the workplace.

An environmentally friendly workforce helps organizations formulate green strategies for their human resources with green skills, green attitudes, and green commitments, which presents the organization's orientation for environmental sustainability. This study will contribute by providing greater insight for policymakers to redesign the criteria of the advertisement as green to attract potential candidates for vacant positions, to develop green training and development opportunities to enhance their green skills, green abilities, green visions, and green aptitude which empower them to implement these green abilities at the workplace. Organizations can encourage environmentally friendly workplaces by adopting green compensation and rewards at every level.

The induction of employees with environmental concerns and their training & development with green strategies is desired at

every organization to promote environmental sustainability. Love for the planet is a big message, and we have to deliver this planet into the safe hand through the safe hand. Many countries are converting their industries into green industries by using green energies, introducing green jobs, reducing waste, adopting recycling concepts, and saving natural resources. This is a dire need of time as green HRM strategies provide a green workforce to the organization and encourage them for their pro-environmental behavior. Therefore, this study will contribute at every level to encourage employees with green commitments, green attitudes, green skills, green behavioral intentions and pro-environmental behaviours.

Limitations and future research directions

Research is there with limitations. First, this cross-sectional research covers the at-the-spot outcomes of green HRM practice, limiting its scope to a specific time frame and explaining causal relationships. Future researchers should conduct longitudinal research to explore the before and after effects of green HRM practices on the pro-environmental behaviour of employees at the macro level.

Second, the data is collected only from TEVT trainers and TEVT graduates, representing only a portion of the great industrial workforce. The future researcher may collect data from all sectors with the participation of every workforce element via randomization of sample techniques with multiple data sources from each level of the organization.

Third, this research incorporates only three dimensions of green HRM practices. Future researchers may incorporate many others, like green performance, green self-efficacy, and employee's green values.

Conclusion

The Pro-Environmental Behaviour as a result of the implementation of GHRM (GRS, GTD & GCR) was explored in this study. It is observed that

employees' green attitudes and their green commitments play a vital role in properly implementing green HRM practices and in achieving the pro-environmental behaviour of employees. The TEVT trainers and TEVT graduates are not only keen to shift this working attitude at the workplace to environmentally friendly but also there is a dire need to develop green jobs and green strategies. This research will contribute to the development of green HRM practices after keeping in view the importance of employees' green attitudes and employees' green commitments. Today organizations with green human capital and a high index of the environmentally friendly workplace are getting competitive advantages in PPP (People, Profit, and Planet). However, the importance of strategic implementation of these green HRM strategies and more in-depth analysis is required in this sector.

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