



## **The Influence of Supervisors' Perceived Green HRM on Job Satisfaction and Affective Commitment: The Mediating Role of Subordinates' Perceived Green HRM and the Moderating Role of HRM System Strength**

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### **ABSTRACT**

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Green Human Resource Management (GHRM) scholars have urged studies to explain why employees' perceptions of green HR practices vary. Strategic HRM researchers increasingly adopt an employee perspective to understand how green HR practices affect employee outcomes. This study investigates how perceived green HR practices from both supervisors and subordinates influence job satisfaction and affective commitment. Second, this study also explores the mediating role of subordinates' perceived green HR practices and the moderating role of HRM system strength. HRM system strength refers to three broader features—consensus, distinctiveness, and consistency. Using the data from 624 subordinates reporting to 217 supervisors at Pakistani textile firms and applying the Hierarchical Linear Model (HLM), we found that supervisors' and subordinates' perceptions of green HR practices are the significant sources of variation in employees' job satisfaction and affective commitment. Further, supervisors' perceptions of green HR practices significantly influence subordinates' perceptions of green HR practices. Also, the indirect relationship between supervisor-perceived green HR practices and job outcomes (job satisfaction and affective commitment) is significantly mediated by subordinate perceptions of green HR practices. Finally, HRM system strength significantly moderates the relationship between supervisors' and subordinates' perceived green HR practices. In GHRM, this study contributes by revealing the mediating role of subordinates' perceived green HR practices and the moderating role of HRM system strength. For practitioners and academicians, these findings imply open communication, feedback mechanisms, training, and clear expectations to bridge supervisor-subordinate perceptions. These methods help both parties understand their roles, expectations, and performance standards, improving collaboration and productivity, and for which a strong HRM system is essential.

## **1. INTRODUCTION**

### **1.1 Background**

In recent years, strategic human resource management (SHRM) has been increasingly important for business competitive advantage. As a result, SHRM has given significant importance to the view of HR practices within an organization. According to Delery and Doty [1] and Den Hartog et al. [2], SHRM is an integrated set of HR practices that aims to improve employees' opportunities, capacities, and motivation to produce better results, which in turn helps the organization achieve its strategic goals. From a management perspective, a strategic HRM study can help to understand how much HR practices can influence organizational performance.

Given recent research in conventional HRM [2-5], the subordinate perceptions and experiences of HR practices or their supervisor perceived HR practices shape their outcomes, emphasizing the necessity of studying the supervisor and according to these recent studies from the perspective of the employee, employees might not perceive HR practices as reported by supervisors. Instead, different subordinates may perceive the same green HR practices differently, leading them to develop a perception of green HR practices that differs from their supervisors [6]. In view of existing literature, employees might not perceive HR practices as reported by supervisors. Instead, different subordinates may perceive the same green HR practices differently, leading them to develop a perception of green HR practices that differs from their supervisors [6]. For instance, Liao et al. [4], focusing on employees' perceptions of conventional HR, found that 83% of the

variance in subordinates' perceptions resided within the same functional departments and that supervisor-perceived HR practices were not significantly related to subordinate-perceived HR practices.

Employees' diverse perspectives on green HR practices at their workplaces are tied to the concept of a strong HRM system. Bowen and Ostroff [7] developed this idea. They recommended that firms implement a strong HRM system that communicates these expectations clearly and consistently to help employees understand what attitudes and actions are expected and rewarded. This common viewpoint is essential for businesses to increase desired organizational goals by developing worker abilities. Without a strong HRM system, staff members may interpret GHRM in ways that may or may not be consistent with organizational objectives. As a result, there may be wide disparities in how employees view GHRM, which makes it challenging to achieve corporate strategic goals through the efforts and actions of all employees. Understanding when individuals are more likely to interpret green HR practices similarly among themselves and with significant others in firms is critical, given the significance of employees' shared perceptions of green HR practices. To close the perception gap between how green HR practices are seen by supervisors and subordinates, we advocated that HRM system strength plays a moderating function.

## 1.2 Literature review

Over the years, a significant component of SHRM research documented that HR practices and system of HR practices have been constantly related to firm performance [8-10], and increasingly play an essential role in the success of an organization. Previously, from the 1990s, research on HRM systems focused on individual and firm-level relationships stemming from the organization's resource-based view (RBV) [11].

RBV is about controlling prized, distinctive, valuable, and non-substitutable tangible and intangible resources, including human capital and the firm's processes and practices, to gain a competitive edge [12]. HR practices should create a company culture, motivate employees, advance human capital, and achieve organizational goals [13]. HR practices can be replicated, but their impact on human capital and individual efforts can create a unique resource and an unbeatable competitive advantage. Thus, individual or organizational research dominates. Recently, scholars have focused on employee-perceived HR practices and their effects on employee behavior and performance [11, 14, 15]. However, positively perceived HR policies and practices are expected to improve employee performance, skills, satisfaction, motivation, and commitment. Thomas's [16] theorem states that perceptions, not facts, influence behavior, improving individual-level job outcomes.

Before SHRM began studying employees' perceptions of HR practices, a typical study requested a single respondent, generally an HR manager, to survey the organization's HR practices [2, 17]. Managers may be asked to consider "compared to our close competitors, our firm offers more extensive training to employees," "compensation for employees in our firm is above the market average," and "employees regularly receive formal performance appraisal in our firm". Such studies claimed that HR practices affect employee ability, motivation, and opportunity, translating into performance [18]. These strategies imply that all employees

have the same HR practices [19]. However, some HR practices may be designed differently for technical and administrative employees [4], and employees may have different cognitive frameworks for making sense of social information [11, 20].

The importance of environmental management for a company's long-term viability has increased [21, 22], and GHRM has grown in importance within SHRM throughout time [22, 23]. Employees' perception of green HR practices was the next issue that GHRM researchers aimed to address [24, 25]. The GHRM literature can now be roughly classified into two groups. In light of this, several studies examined the link between the results of green HR practices and employee perceptions [26-32]. The organizational level outcomes were the main focus of research with manager ratings of green HR practices [33-40]. Furthermore, Ren et al. [41] and Yong et al. [42] recently did a meta-analysis. Still, they could not find any noteworthy studies on the perceptual components of GHRM, particularly in a dyadic situation.

Shen et al. [27] argued that GHRM significantly impacts employees' non-green outcomes via a psychological and motivational social process. Therefore, as it improves the performance of the organization as a whole [43, 44], subordinates' job satisfaction and emotional commitment are essential to the success of a company's environmental management [45]. Suppose an employee cares about safeguarding the environment, which typically occurs through their satisfaction and commitment. In that case, they are more likely to support GHRM and other environmental management measures put in place by their business. Once emotionally invested in the company, they are more likely to demonstrate a higher organizational commitment [46]. Therefore, based on the uncertainty reduction and signaling theory, it can be argued that employee job satisfaction and affective commitment may be a significant outcome of supervisor and subordinate perceived GHRM, even though this has received very little attention from existing studies, particularly in the textile industry. A better understanding of the relationship between supervisor and subordinate perceived GHRM and the job-related outcomes, specifically satisfaction, and commitment, is needed because employees frequently receive environmental signals from their supervisors and engage in such activities within their company [41]. Therefore, looking at how subordinate-perceived GHRM influences supervisor-perceived GHRM and subordinate job-related outcomes (such as commitment and satisfaction) is crucial. Additionally, the moderating function of HRM system strength may offer fresh perspectives on how Pakistan's textile industry's supervisors and subordinates view GHRM.

## 1.3 Research gap

Individually, both the manager and subordinate perceived green HR practices are problematic [14, 47]. The supervisor rates HR practices offered by the company, which are taken as either implemented or intended, but none of these aspects show the subordinate's perceived HR practices [4]. This may apply if firm-level outcomes are studied and the HR system is designed rather than perceived. This approach has flaws. Supervisors and subordinates are close. Hence, subordinate perceptions of green HR practices matter more than supervisor perceptions [4, 48]. Only supervisor perceptions underestimate green HR's impact. Only subordinate perceptions of green HR practices overstate green HR's impact [4, 48]. This study investigates supervisor and subordinate

GHRM perceptions in a dyadic manner [30, 31, 41]. Examining dyadic relationships in the context of green HR practices is helpful to fully grasp the dynamics and outcomes of environmental activities within organizations [41]. The supervisor and subordinate form a "dyad" because of the significant impact their interactions have on organizational behaviors. Rather than looking at managers and employees in isolation, focusing on these pairs reveals that the dynamics of their interaction have a major impact on how people perceive green HR practices [49]. Additionally, dyadic analysis recognizes power hierarchies in business firms [50]. Therefore, applying both supervisor and subordinate ratings is essential to highlight the actual role of green HR practices, whereas the existing green literature applies either managers' perceptions or subordinates' perceptions of green HR practices, which declares their findings inconclusive and biased. Following this issue, literature suggested studying both supervisor and subordinate perceptions together in a dyadic manner [30, 31, 41], which this study has also revealed. Also, the mediating role of subordinate perceived green HR practices is ignored in the green literature, which is critical to study. Further, the existing literature overlooked the moderating role of HRM system strength, which is essential to fill the perceptual gaps.

**1.4 Research objectives**

This study aims to examine, first, the direct impact of both supervisor and subordinate perceived green HR practices on job satisfaction and affective commitment. Second, the study also tries to explore the mediating role of subordinate-perceived green HR practices between supervisor-perceived green HR practices and job outcomes (i.e. job satisfaction and affective commitment). Third, this study further examines the relationship between supervisors' and subordinates' perceived green HR practices. Finally, the study explores the moderating role of HRM system strength to strengthen the relationship between supervisors' and subordinates' perceived green HR practices.

**1.5 Research contributions**

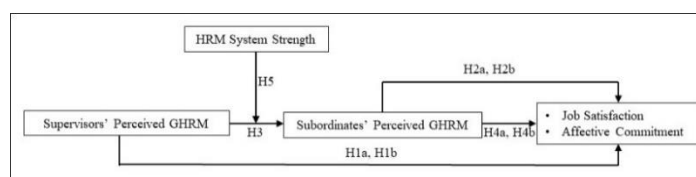
This research study makes several contributions based on the contention described above. The direct effect of supervisor-perceived GHRM on subordinate job satisfaction and affective commitment has been the primary focus of current research, which was motivated by the neglect of existing environmental studies. Second, the literature did not examine the direct impact of subordinate-perceived GHRM on job satisfaction and affective commitment through a multi-level framework, which could draw some important findings. Third, the mediating role of subordinate perceived GHRM in the relationship between supervisor-perceived GHRM and each of the two (i.e. job satisfaction and affective commitment) subordinate job-related outcomes has been ignored by the present green literature, which could be a critical determining factor. Fourth, despite acknowledging the

importance of HRM system strength in the SHRM research, it has been largely ignored in the green literature, although the possibility that it might significantly help bridge the perception gap between supervisor and subordinate perceptions of GHRM.

**2. THEORETICAL FRAMEWORK AND HYPOTHESES**

**2.1 Theoretical framework**

In Figure 1 below, the framework is shown. Spence [51] based his signaling theory on the fundamental idea of information asymmetry, even though he defined signals as "visible traits" of a person that might be altered towards common perceptions. The signalling theory states that managers in an organization provide signals to their staff members, who then decode these signals to produce common perceptions [52]. According to signaling theory [51], green HR practices and supervisors' opinions of them have an impact on subordinates' perceptions. The researchers also emphasized that managers are the signalers since they can access knowledge about various topics (such as green HR practices) that employees do not [51, 53]. Organizational strategies and procedures, such as green human resources practices, positively impact employee perception, influencing their behavior and attitude toward entities [14, 54]. According to Sims's [55] and Sparrow's [56] studies, both normal and recently established HR practices (green) frequently convey information about the HR practices that are in use. However, these signals are processed and interpreted by the subordinates in an unsystematic manner [57]. The supervisor is vital in interpreting and conveying these signals to their subordinates [58], as they are exposed to HR practices (green) that are indeed applied [59, 60]. If managers consistently sent out positive HR signals, they would be better able to align their perceptions with those of their employees. The perceptual gap between supervisors and subordinates regarding the existing green HR policies would instead widen due to a lack of supervisor motivation for implementing green HR practices [61] or a lack of attention to specific green HR practices [62]. For instance, a study by Belogolovsky and Bamberger [62] indicated that weak signals from supervisors about HR practices like pay secrecy are more noticeable and have a negative impact on subordinates' views, subsequent behavior, and job-related results. In view of uncertainty reduction theory, the supervisor signals are positively perceived by subordinates to build their perceptions about green HR practices and reduce the uncertainty surrounding them [63]. Further, the representational gap theory claims that a perceptual gap exists between the supervisor and subordinates about green HR practices [14]. To mitigate this gap, the situational strength theory posits that a strong HRM system creates a strong situation, which helps to align the perceptions of supervisors and subordinates about the green HR practices prevailing in their organization [7].



**Figure 1.** Framework

## 2.2 Hypotheses development

### 2.2.1 Supervisor's perceived GHRM and job outcomes

The signalling theory emphasizes that the supervisor's perceptions of green HR practices can significantly influence the job-related outcomes of their subordinate through the process and human capital advantage [64, 65]. Additionally, as seen by the supervisor, good green HR practices indicate the employee's commitment to the business and its objectives [66-68], which predicts employee outcomes [69]. According to experts, managers can successfully translate green HR practices through transformational leadership. As a result, they are in a good position to improve the job-related outcomes of their subordinates' [70]. In general, organizational environmental practices (GHRM) establish a strong culture, but their impact is discarded if poorly perceived and communicated by the managers [71]. In addition, if top management's directives are ambiguous, the line manager can still encourage subordinates to adopt green behavior through the motivational process [71], which can considerably improve their job satisfaction and affective commitment. The literature supports that green HR practices can affect performance by fostering opportunities, inspiring employees, and generating new knowledge [65]. With it, Boxall [64] distinguishes between "human process benefits" and "human capital benefits." Due to their extreme difficulty in imitation and rapid internal evolution, human processes are advantageous to the company. The connection with other people in an organization, especially the management, is crucial to the human process that produces subordinates' outcomes. Managers must effectively communicate green HR practices to employees to be a successful human process. On the other hand, human capital helps the business by attracting and keeping a talented staff with many abilities, skills, and knowledge. In exchange, human process and human capital foster a culture of motivation where employees can exhibit the desired behavior, have growth opportunities, and utilize their skills, knowledge, and competencies, ultimately improving employees' individual-level outcomes like job satisfaction and affective commitment [64, 65].

A large amount of literature focused on the association between job satisfaction, commitment, and HR practices [31, 37, 72-75]. Effective HR practices implemented and perceived by the supervisor signify the worker's involvement with the company and its goals [66, 67] and, thus, predict employee commitment and satisfaction [69], as validated by the theory of social exchange [76]. This theory also claims that the worker's engagement is an index of continual, beneficial, and equally beneficial exchange between the worker and the company [76]. Subordinates with such exchanging mutual benefits are deeply engaged in their job [77], which creates a more profound association with the firm, and, resultantly, are more satisfied and committed [78]. Through transformational leadership, managers effectively translate the HR practices and are therefore in a prime position to improve subordinates' job satisfaction and commitment [70]. In this way, supervisors are key in implementing, developing, and communicating HR practices and policies across the firm [79, 80]. Therefore, we expect a positive linkage between supervisors' perceived green HR practices, subordinates' effective commitment, and job satisfaction.

Based on the above discussion, we can draw the following hypotheses:

*Hypothesis 1a: Supervisor's perceived green HR practices*

*positively influence subordinate's job satisfaction.*

*Hypothesis 1b: Supervisor's perceived green HR practices positively influence subordinate's affective commitment.*

### 2.2.2 Subordinate's perceived GHRM and job outcomes

Moreover, green HR practices send strong signals to the employees about its strong social green commitment [81], and workers positively receive these signals for their self-enhancement [82]. These signals promote external prestige, attract employees, and raise their outcomes through the social identity process. Studies have empirically found that social identification improves task performance, satisfaction, and commitment while decreasing turnover intention [83-86]. Particularly, applying green HR practices motivates employees to engage in environmental activities. Mozes et al. [87] found that such green activities positively correlate with job satisfaction. Based on these discussions, we predict that subordinates' perceived green HR practices will improve their affective commitment and job satisfaction.

*Hypothesis 2a: Subordinates' perceived green HR practices positively influence their job satisfaction.*

*Hypothesis 2b: Subordinates' perceived green HR practices positively influence their affective commitment.*

### 2.2.3 Supervisor's and subordinate's perceived GHRM

As discussed earlier, resting on signaling and uncertainty reduction theories, the supervisor's role in SHRM is key for building subordinates' perceptions of HR practices. The green HR signals are transmitted from the supervisor, which is then well taken by their subordinates to reduce their uncertainty and build a perception of green HR practices. These perspectives argue that supervisors send strong HR signals that are well taken by their subordinates to reduce their uncertainties and improve their understanding of the environment, which then align their perceptions and expectations of HR practices with their supervisors [58, 60]. Managers provide a context within which subordinates design their HR perceptions [5]. Specifically, subordinates develop their understanding of HR practices through their supervisor's statements regarding HR practices. Regarding uncertainties/ambiguities of HR policies and practices, subordinates consult and communicate with their supervisors [7]. Through such interactions with their supervisors, subordinates directly grasp GHR signals from managers and probably display common perceptions of HR practices and policies with their supervisors.

*Hypothesis 3: Supervisor's perceived green HR practices positively influence subordinate's perceived green HR practices.*

### 2.2.4 Mediating role of subordinate perceived GHRM

Bowen and Ostroff [7] claimed in a discussion that the psychological process, more specifically, employee individual-level views, is how the HR system affects employee behavior and attitude at work. Furthermore, they claimed that good HR procedures affect this psychological process. In our example, subordinate perceptions are linked to worker conduct and attitude. According to Takeuchi et al. [88], a social and structural stimulus everyone is exposed to, such as leaders and HRM, fosters shared perspectives at work. According to Nishii and Wright's [6] argument (also see Nishii et al. [14]), it makes perfect sense to say that for green HR practices to have the desired effect on subordinates' behavior and attitude, GHRM must first be subjectively interpreted and perceived by those subordinates in a way that affects their job-related outcomes,

such as job satisfaction and affective commitment in our case. According to Boxall and Macky [69], line managers' perceptions of HR practices significantly impact the attitude and behavior of their subordinates. Signaling and uncertainty reduction theory [89] emphasizes how employees try to reduce their uncertainty and ambiguity by understanding signals, such as those from managers. The supervisor is the most noticeable component of the problem, although the most recent classification of uncertainty—relational, partner, and self—is still self [63]. Positive GHRM signals from supervisors will encourage subordinates to perform appropriately and have a positive attitude towards GHRM, ultimately improving their individual-level outcomes, such as job satisfaction and emotional commitment. Relatedly, green researchers claimed that a supervisor's behavior shapes a subordinate's attitude, enabling them to deal with environmental challenges [33, 90-92]. Therefore, based on these justifications, we can formulate the following claim:

*Hypothesis 4a: The positive association between the supervisor's perceptions of green HR practices and the subordinate's job satisfaction is mediated by the subordinate's perceptions of green HR practices.*

*Hypothesis 4b: The positive association between the supervisor's perceptions of green HR practices and the subordinate's affective commitment is mediated by the subordinate's perceptions of green HR practices.*

#### 2.2.5 Moderating role of HRM system strength

The representational gap theory states that subordinates may interpret and perceive the supervisor's green HR signals differently. The attitudes and behaviors of subordinates and supervisors may be impacted due to this perspective misalignment [14]. As was already discussed, achieving the desired results could be fairly challenging if the supervisor and subordinate don't agree on green HR practices. The weak link and statistically insignificant relationship between supervisor and subordinate attitudes documented by traditional HR studies [4, 5, 93] further supports the role of moderating factors.

One of the most crucial contextual factors that can mitigate the disparity and enhance alignment between supervisors' and subordinates' perceptions of green HR practices is the perceived strength of the HRM system [94]. This notion was proposed by Bowen and Ostroff [7] and was based on Mischel's [95, 96] situational strength theory. According to Bowen and Ostroff's [7] theory, an organization's situational strength is provided by the HRM system through the consensus, consistency, and distinctiveness of HR practices. A crisis of this magnitude sends out strong HR signals, which workers consider when forming their opinions and expected behavior. These ideas consequently impact their behavior and attitude when working for a corporation. A strong situation also encourages teamwork and a common mindset, which are necessary for any firm to achieve its objectives [97]. Objectives, policies, culture, and beliefs are crystal clear in a powerful system [98]. Alternately, in weak environments, people lack the knowledge essential to develop the proper behavior for the situation and are unsure of the events and actions, which makes them behave differently. Because of this, the HR system has a special chance to establish weak or strong situations, progressively affecting how employees view policies, processes, practices, and incentives [99]. Therefore, it makes sense to hypothesize that subordinate perceptions of HRM system strength can close the perception gap between

supervisors and subordinates.

*Hypothesis 5: Subordinate's perceived strength of the HRM system moderates the linkage between supervisors' and subordinates' perceptions of green HR practices. Such that when the perceived HRM system is stronger, subordinates will report similar perceptions of green HR practices with their supervisors than when the perceived HRM system is weaker.*

### 3. METHODOLOGY

#### 3.1 Respondents and procedure

Large-scale organizations from Pakistan's textile industry participated in the current study. On Pakistan's Large-Scale Manufacturing (LSM) index, the textile industry ranks top with 40% of the nation's employment and 60% of its exports [100]. LSM companies were chosen for this study because of their extreme sensitivity and exposure to environmental issues [39, 101]. According to data from the Textile Division that was cross-verified with information from the Ministry of Finance and the Federal Bureau of Statistics, there are 127 LSM organizations in Pakistan. Following the literature on GHRM already in existence [31, 102, 103], only those LSM organizations which were holding all or any of the ISO 14001, ISO 45001, and OEKO TEX. Thus, using the criteria, the 127 LSM enterprises were reduced to 49 LSM firms with green certificates, who were then contacted and asked for permission to participate in the study. Finally, 44 LSM firms in Lahore, Faisalabad, Multan, Peshawar, Kohat, Karachi, Rawalpindi, and Islamabad accepted the distribution of the questionnaires. Thus, full-time employees from these companies were surveyed. Since both employees and their supervisors responded to surveys containing the particular codes for each company, department, supervisor, and subordinate, the researcher matched responses from frontline subordinates and their corresponding supervisors. The participants were provided with extensive details regarding the survey's objectives, methodologies, potential risks, and advantages. The participants willingly provided their informed consent to partake in the study, demonstrating their comprehension of their rights and the use of their data. Also, the participants were given assurances of confidentiality, anonymity, and data protection. The inclusion of supervisors and subordinates who had worked for their current organizations for at least a year was chosen for this study because individuals with more experience would be more likely to share the same perceptions regarding GHRM. Two waves of data collection were conducted with a two-week lag, and the first wave was limited to gathering data on supervisor perceptions of green HR practices. During wave two, data were only gathered from frontline subordinates whose supervisors' replies were obtained during wave one, launched after wave one's responses had been properly examined. The second wave concentrated on gathering data about subordinates' perceptions of GHRM practices, subordinates' perceptions of the HRM system's strength, and their outcomes, including job satisfaction and affective commitment.

After discussion with the HR managers of the selected companies, 350 questionnaires were given to the frontline supervisors during wave one, and 242 of those (a 69% response rate) were returned and received. In wave two, 659 (66% response rate) of the 1000 surveys given to their subordinates were returned. Finally, all the responses from

supervisors and subordinates were carefully analyzed for blank comebacks, missing values, straight-line issues, and entry errors, after which this study concluded 624 respondents from subordinates and 217 respondents from supervisors for further analysis.

### 3.2 Measures

#### *Subordinate's Affective Commitment*

Among three types of commitment, studies have highlighted affective commitment as the most crucial form of organizational commitment, and therefore, due to its extraordinary significance, employee affective commitment is largely studied in the perceptual literature [31, 104, 105]. Mowday et al. [106] developed a well-known eight-item scale for affective commitment (Cronbach's  $\alpha = 0.90$ ). Recently, some green scholars, for example, Kim et al. [31], also applied the same scale and found it very reliable ( $\alpha = 0.91$ ). The proposed research also adapted Mowday's [106] eight-item scale and took the subordinates' rating of their affective commitment. Some sample items are "I talk up my organization to my friends as a great organization to work for", and "I really care about the fate of this organization".

#### *Subordinate's Job Satisfaction*

Cammann et al. [107] originally designed a well-known three-item scale for measuring job satisfaction with a Cronbach's  $\alpha$  equal to 0.89, which was later validated through a meta-analysis and found to be a highly reliable and valid construct measure of job satisfaction in any context, and thereby, has been widely used in business research. Hence, the same three-item scale was adopted, and the subordinates' rating of their job satisfaction was taken for this study. To cite, such items are "all in all, I am satisfied with my job".

#### *Supervisor Perceived Green HR Practices*

Closely related to this study, Shah's most recent work in a Pakistani context argued that a more comprehensive scale of GHRM was still necessary. As a result, he introduced a seven-dimensional scale with green labor relations, green health and safety, green performance management, green training and Development, and green compensation management. Altogether, for seven green HR features, he introduced 28-item scale with Cronbach's  $\alpha$  more than 0.90, and hence, for better measurement of GHRM, this study will adapt Shah's [108] scale. Sample items are "in my organization, several environmental protection responsibilities are integrated into each position" and "green and social needs of my organization are included in job description and specification". For the proposed research study, supervisor ratings will be taken for this scale (1-Strongly Disagree, to 5-Strongly Agree) to measure their perceptions of "what" green HR practices exist in their organization.

#### *Subordinate Perceived Green HR Practices*

The Shah [108] scale will also be adapted to assess subordinates' perceptions because the primary goal of this study is to examine how supervisors and their subordinates view the green HR practices implemented in their firms. The sample items are "in my organization, several environmental protection responsibilities are integrated in my position" and "green and social needs of my organization are included in my job description and specification". Here, ratings of subordinates' perceptions of "what" green HR practices are present in their organization were gathered for the scale.

#### *Subordinate Perceived HRM System Strength*

The most recent work of Coelho et al. [109] developed a comprehensive scale, specifically using employee-level data, which is also the focus of our study. This work is built on the study of Delmotte et al. [110], who designed the HRM system strength scale from the union and line managers in Belgium. The Cronbach's alpha for this scale was 0.95, indicating high reliability. Thus, this scale was employed by some current perceptual researchers, who likewise reported a high level of reliability ( $\alpha = 0.94$ ). Finally, our study adopted a 27-item scale developed by Coelho et al. [109] to gauge how strong subordinates perceive the HRM system to be in an organization. Some examples of the items are "in my organization, the HR department is considered to be influential" (distinctiveness), "in my organization, HRM practices are consistent over time" (consistency), and "in my organization, my superior deal with me honestly and ethically", (consensus).

#### *Control Variables*

Given their potential impact on subordinate perceptions of green HR practices, we controlled for subordinate age, gender, education, and tenure [4, 94]. While at the supervisor level, we controlled for four demographic factors (i.e., age, gender, education, and tenure) along with unit size, which was expected to significantly affect supervisors' perceptions of green HR practices. When we examined the impact of supervisors' perceptions of green HR practices on subordinates' perceptions of green HR practices, HRM system strength was applied as a control variable since it could influence the perceptions of green HR practices.

### 3.3 Analytical procedure

The data for this study are hierarchical because subordinates reported to various managers, therefore following the literature [18, 94, 111], the Hierarchical Linear Model (HLM: [112]) was used to assess all of the hypotheses. Even though a hierarchical relationship is not present in Hypothesis 2, where we tested the direct relationship between the subordinate's perceived green HR practices and their job-related outcomes, HLM is the best option because it helps to control for supervisor-level variables in the model and can, therefore, produce better results for the direct association between the subordinate's perceived green HR practices and their job-related outcomes [94, 111]. To explore the variation in subordinates' perceptions of GHRM and each of the two subordinates' job-related outcomes at the subordinate and supervisor levels, respectively, we first built an empty model in which no predictors or controls were incorporated. The results showed that the supervisor level is responsible for significant variation, proving that HLM is the best technique for this study to account for supervisor-level variation. To further validate the results of HLM regarding the mediation effect (H4), we also applied the Sobel Test (1980) and bootstrapping techniques [113]. The Sobel test examines if the mediator significantly transmits the independent variable's effects on the dependent variable [114, 115]. Also, bootstrapping, a resampling technique, helps to investigate mediation effects by establishing confidence intervals for indirect effects. The study of Preacher and Hayes [113] presents a comprehensive and rigorous non-parametric bootstrapping methodology to evaluate the mediation effect.



## 4. RESULTS AND DISCUSSION

### 4.1 Factor analysis

Before testing hypotheses, it is crucial to ensure the measurement scales are reliable and valid for the entire data set [108]. Because of this, factor analysis has been exercised to assess the scales' validity, and Cronbach's alpha has been determined to assess their reliability. Variables considered for this study include the supervisor's perceived green HR practices (SUP-GHRM-28 items), the subordinate's perceived green HR practices (SUB-GHRM-28 items), the subordinate's perceived HRM system strength (HRMSS-27 items), job satisfaction (JOS-3 items), affective commitment (AC-8 items). We performed exploratory (EFA) and confirmatory factor analysis (CFA) on the data. The principle component technique is applied for the exploration of the factors. The factors' first suitability was examined, followed by factor extraction and rotation. Except for SUP-GHRM, SUB-GHRM, and HRMSS, results, as given in Table 1 below, indicated that Kaiser's eigenvalue bigger than one criterion yielded one factor for job satisfaction and affective commitment. For SUP-GHRM (25 items for factor 1, and 3 items for factor 2), SUB-GHRM (26 items for factor 1, and 2 items for factor 2), and HRMSS (24 items for factor 1, and 3 items for factor 2). However, the items included in factor 2 were also significantly contributing to factor 1. Their loading was not substantial in both factors, so these items were deleted for SUP-GHRM, SUB-GHRM, and HRMSS. In the case of SUP-GHRM, the three items include, 1. *In my organization, green capabilities are incorporated as a distinctive element in job specifications*, 2. *My organization appeals to green job applicants who practice green criteria and choose an employer (green employer branding)*, 3. *In my organization, I*

*use green criteria to evaluate performance*. These three items have a loading of less than 0.35. Similarly, for SUB-GHRM, the two items include, 1. *My organization practices the use of a paperless recruitment and selection process*, 2. *My organization communicates green goals to me*. These two items have a loading of less than 0.41. Finally, for HRMSS, the three items include, 1. *The HRM practices in my organization contribute to its competitiveness*, 2. *In my organization, there is consistency between what the HR department advocates and what it actually implements*, 3. *In my organization, when deciding upon matters that concern me, my immediate superiors seek my opinion*. These three items showed a loading of less than 0.37. Hence, these items were initially deleted, and then the EFA was reapplied. As shown in the below table, all 25 items for SUP-GHRM, all 26 items for SUB-GHRM, and all 24 things for HRMSS targeted just one component. After EFA, Cronbach's Alpha value was calculated to re-examine the consistency of these items, and the value above 0.7 showed that all the variables are consistent.

Further, when we applied the CFA, the GFI (more than 0.93), CFI (more than 0.90), TLI (greater than 0.89), and RMR (less than 0.05), significant indices were all found to be acceptable. All of the models' RMSEA values were also found to be less than 0.08, indicating a satisfactory fit. Additionally, the findings showed that AVE ranges from 0.61 to 0.69, but composite reliability is always greater than 0.83, demonstrating that the constructs currently have a suitable level of convergent validity. Further, the square roots of AVE were higher than the correlation, which proved that all variables possessed discriminant validity. Comparatively, composite reliability was above 0.6, which is considered satisfactory. Overall, the results suggested that each structure is internally consistent.

**Table 1.** EFA results-factor extraction and rotation

Construct	Number of Items	Eigenvalues	Variance Explained (%)	Cronbach Alpha
SUP-GHRM	25	Factor 1 22.80	81.43	0.894
SUB-GHRM	26	Factor 1 15.08	78.87	0.972
HRMSS	24	Factor 1 19.86	84.70	0.985
Job Satisfaction	3	Factor 1 2.38	79.63	0.958
Affective Commitment	8	Factor 1 6.19	77.47	0.794

SUP-GHRM-supervisor perceived green HR practices, SUB-GHRM-subordinate perceived green HR practices, and HRMSS-subordinate perceived HRM system strength.

**Table 2.** Descriptive statistics and correlation

Subordinate Level (N=624)	Mean	Standard Deviation	1	2	3	4	5	6	7	8	
1. Subordinate Age	2.57	0.89									
2. Subordinate Gender	0.22	0.41	0.02								
3. Subordinate Education	2.61	0.68	-0.05	-0.07							
4. Subordinate Tenure	2.53	1.05	0.23**	0.03	-0.12*						
5. Subordinate Perceived Green HR Practices (SUB-GHRM)	3.54	0.89	0.13*	-0.03	0.26*	0.33**					
6. Subordinate Perceived HRM System Strength (HRMSS)	3.82	0.91	0.26**	0.21**	0.08	0.09	0.49**				
7. Subordinate Job Satisfaction	3.54	0.74	0.07	0.06	0.09	0.10	0.42*	0.54*			
8. Subordinate Affective Commitment	3.69	0.26	0.15*	-0.12	0.03	0.07	0.53*	0.10	0.44**		
Supervisor Level (N=217)			1	2	3	4	5	6	7	8	9
1. Supervisor Age	2.72	0.76									
2. Supervisor Gender	0.23	0.42	-0.13								

3. Supervisor Education	2.45	0.66	0.05	-0.16*								
4. Supervisor Tenure	3.57	1.10	-0.08	0.07	0.04							
5. Unit Size	2.46	1.09	0.09	0.05	0.10	0.16*						
6. Supervisor-Perceived Green HR Practices (SUP-GHRM)	3.89	0.81	-0.12	0.18	-0.03	-0.05	0.19*					
7. Average Subordinate Perceived Green HR Practices (SUB-GHRM)	3.61	0.85	0.27**	0.09	0.36**	-0.29*	-0.17*	0.71**				
8. Average Subordinate Perceived HRM System Strength (HRMSS)	3.85	0.93	0.15	0.08	0.21*	0.31**	-0.31**	0.29**	0.32**			
9. Average Subordinate Job Satisfaction	3.51	0.71	0.08	0.13	0.16*	0.21**	-0.26**	0.51*	0.37*	0.31*		
10. Average Subordinate Affective Commitment	3.67	0.29	0.18*	0.08	0.10	0.25**	-0.13	0.41*	0.34*	0.16	0.46**	
10. Average Subordinate Affective Commitment	3.67	0.29	0.18*	0.08	0.10	0.25**	-0.13	0.41*	0.34*	0.16	0.46**	

Age: 1-below 25, 5-more than 55, Gender: 0-male, 1-female, Education: 1-high school and below, 4-MPhil, Tenure: 2- 1-5 years, 6-more than 20 years, Unit Size: 1- less than 5, 5-more than 15. \*\*p<0.01, \* p<0.05.

### 4.2 Descriptive statistics and correlation

Table 2 lists the variables selected for the study's mean, standard deviation, and correlation. The findings confirm the considerable perceptual gap between supervisors and subordinates that the current study theorized, with the supervisor's average perception of green HR practices being 3.89 and the subordinate's average perception being 3.54. The fact that the average across all variables is higher than 3.5 shows that respondents acknowledged the construct's presence in their organizations. Furthermore, there was little dispersion because all of the variables' standard deviation values were below "one". Results have shown that there is a significant positive association between subordinates' perceived green HR practices and the strength of the HRM system ( $r=0.49$ ,  $p<0.01$ ), job satisfaction ( $r=0.42$ ,  $p<0.05$ ), and affective commitment ( $r=0.53$ ,  $p<0.05$ ), which is what the current study predicted to be the case. Additionally, the findings demonstrate a significant positive link between supervisors' perceptions of green HR practices and the strength of the HRM system ( $r=0.29$ ,  $p<0.01$ ), job satisfaction ( $r=0.51$ ,  $p<0.05$ ), and affective commitment ( $r=0.41$ ,  $p<0.05$ ). Moreover, as anticipated in this study, the table demonstrates the strongest positive and significant association between supervisors' perceived green HR practices and subordinates' perceived green HR practices ( $r=0.71$ ,  $p<0.01$ ).

### 4.3 Hypotheses testing

Hypothesis H1a and H1b predicted that supervisors perceived GHRM (SUP-GHRM) is positively associated with subordinates' job satisfaction (JOS) and affective commitment

(AC). The results for models M1 and M2 given in Table 3 below have demonstrated that SUP-GHRM positively and significantly affects job satisfaction (coefficient = 0.40,  $p<0.01$ ) and affective commitment (coefficient = 0.27,  $p<0.05$ ). Examining the model fitness via model deviance and Pseudo  $R^2$ , it has been found that for JOS, Pseudo  $R^2$  is 0.05, and for AC, it is 0.07, while model deviance for JOS is 1981.04, and for AC, it is 2182.05, which overall indicated that all the models fitted the data well. Hence, these results proved H1a and H1b. Next, H2a and H2b suggested the positive direct relationship between subordinate-perceived GHRM (SUB-GHRM) and subordinate job satisfaction (JOS), and affective commitment (AC). Models M3 and M4 in Table 3 show the results of these hypotheses, where it has been noticed that SUB-GHRM has a comparatively stronger impact on JOS (coefficient = 0.39,  $p<0.01$ ), than AC (coefficient = 0.31,  $p<0.01$ ). As far as model fitness is concerned, Pseudo  $R^2$  for both JOS and C falls within the acceptable range (i.e., the range between 0 to 1), and model deviance is 1439.01 for JOS, and 1079.05 for AC, which indicated that the model fitted the data well. Therefore, we accepted H2a and H2b. Further, H3 focused on the dyadic relationship between supervisor and subordinate, where it was proposed that the supervisor's perceived GHRM positively affects the subordinate's perceived GHRM, and for which the results were given in M7. The relationship between SUP-GHRM and SUB-GHRM was strong and significant (coefficient = 0.37,  $p<0.01$ ), fully supporting and verifying H3. Model fitness appears to be in excellent shape, as seen by Pseudo  $R^2$  and Model Deviance. Model deviance of 563.09 and Pseudo  $R^2$  of 0.22 demonstrated that the model provided superior results and adequately suited the data.

**Table 3.** Results of hierarchical linear model: Direct, mediation, and moderation effects

Variables	M1-JOS	M2-AC	M3-JOS	M4-AC	M5-JOS	M6-AC	M7-SUB-GHRM	M8-SUB-GHRM
Level-1								
Intercept	1.98	3.35	0.98	2.16	3.98	6.01	2.05	2.01
Subordinate Age	0.02	0.01	0.01	0.04	0.04	0.01	0.05	0.02
Subordinate Gender	0.01	0.05	0.03	0.02	0.01	0.06	-0.02	-0.04
Subordinate Education	0.08	0.06	0.11**	0.01	0.13*	0.02	0.05**	0.07**
Subordinate Tenure	0.00	0.04	0.00	0.01	0.00	0.03	0.08*	0.10*
Subordinate Perceived HRM System Strength (HRMSS)	--	--	--	--	--	--	0.29*	0.21
Subordinate's Perceived GHRM (SUB-GHRM)	--	--	0.39*	0.31*	0.30*	0.22*	--	--
Level-2								
Unit Size	-0.11	-0.09	-0.03	-0.01	-0.02	-0.04	0.09**	0.13*
Supervisor Age	0.01	0.07	0.08	0.07	0.10	0.02	-0.05	-0.03



Supervisor Gender	0.05	0.02	0.08	0.06	0.03	0.06	0.04	0.07
Supervisor Education	0.04	0.15*	0.06	0.10*	0.08	0.13*	0.06	0.0
Supervisor Tenure	0.13**	0.05	0.16**	0.01	0.14*	0.03	0.03	0.05
Supervisor's Perceived GHRM (SUP-GHRM)	0.40*	0.27**	--	--	0.29*	0.20**	0.37*	0.42*
Interaction Term								
HRMSS × Supervisor's Perceived GHRM (SUP-GHRM)	--	--	--	--	--	--	--	0.35*
Model Fit								
N (level-1)	624	624	624	624	624	624	624	624
N (level-2)	217	217	217	217	217	217	217	217
Pseudo R <sup>2</sup>	0.05	0.07	0.11	0.13	0.27	0.17	0.22	0.31
Change in Pseudo R <sup>2</sup>	--	--	--	--	+0.22	+0.10	--	+0.09
Model Deviance	1981.042	182.05	1439.01	1079.05	1926.08	2164.09	563.09	480.05
Change in Model Deviance	--	--	--	--	-53.96	-17.96	--	-83.04
Sobel Test (S test-statistics)	--	--	--	--	2.93*	3.83*	--	--

M-model, EFB-eco-friendly behavior, GP-green performance. Model Deviance is an indicator of how well a model fits; the lower the deviance, the better the model is. The deviance is equal to  $-2 \times \log$ -likelihood of the full maximum likelihood. Pseudo R<sup>2</sup> is also a measure of model fit. It ranges between 0-1.  $p < 0.01^*$ ,  $p < 0.05^{**}$ ,  $p < 0.10^{***}$ . Sobel test statistics are given along with their significance level.

Following the studies of Liao and Chuang [111] and Kenny et al. [116], we applied a four-step procedure for examining the mediation effect. In the first step, SUP-GHRM must be directly related to job satisfaction and affective commitment, already proven in Hypothesis H1a and H1b. Then, as a part of step two, SUP-GHRM must display a significant relationship with SUB-GHRM, which is also evident in Hypothesis 3. Next, for step three, SUB-GHRM is supposed to display a direct association with job satisfaction and affective commitment, which has also been established in Hypothesis H2a to H2b. Finally, in step four, SUP-GHRM, SUB-GHRM, and each subordinate job-related outcome have been added to two individual mediated models (i.e., M5 and M6). In line with the existing literature [111], and to crosscheck the mediation results of HLM, we also applied Sobel's [115] mediation test to each of the two models. Since bootstrapping, as suggested by Preacher and Hayes [113] and Lockwood and MacKinnon [117], is more powerful and does not require the normal distribution of data, and can untie any hidden mediation effect that might remain undetected while applying the Sobel test and HLM, we also applied this technique to validate and confirm the results obtained from HLM and Sobel test. As has been advocated in the literature [113, 117, 18], we also applied bootstrapping for M5 and M6 with biased corrected confidence estimates (95%) and a resample of 5000.

Therefore, test results for M5 indicated that SUP-GHRM significantly affected JOS, but the relationship's intensity (i.e., coefficient = 0.29) has decreased compared to the direct effect in the first step (see M1). Meanwhile, SUB-GHRM remained significant (coefficient = 0.30,  $p < 0.01$ ), which signified the presence of the mediation role of SUB-GHRM and hence proved H4a. The Sobel test also supported this with a  $t$  value of 2.93 at a 1% significance level. Moving on to model fitness (M5), results showed an improvement in Pseudo R<sup>2</sup> (i.e., increased by 0.22), as well as in model deviance (i.e., reduced by 53.96), both of which demonstrated how well the mediation model fitted the data and the model fitness has improved. Eventually, this mediation effect was also reaffirmed via the bootstrapping technique (95% confidence interval and a 5000 bootstrapped resample), which found that the magnitude of the indirect effect of SUP-GHRM on JOS was 0.21 (s.e. 0.048). The confidence interval (biased corrected) with a  $p < 0.05$  for the indirect effect of SUP-GHRM on JOS through SUB-GHRM was reported at a Lower Limit (LL) = 0.11 and an Upper Limit (UL) = 0.38. As zero did not exist between LL and UL, we concluded with 95% confidence that the mediation effect existed at a 5% significance level, further supporting our earlier findings of the HLM and Sobel test, and thus, we

accepted H4e. This supported H4a.

Hypothesis H4b is tested through M6. While the SUB-GHRM had a statistically significant impact on the AC (coefficient = 0.22,  $p < 0.01$ ), the SUP-GHRM showed a significant effect on AC (coefficient = 0.20,  $p < 0.05$ ), but relatively less in magnitude as compared to the significant direct impact in step one as shown in M2. This supported the mediation effect for H4b, which is also evident through the results of the Sobel test ( $t$  value = 3.83,  $p < 0.01$ ). Model fitness also indicated that the mediation model did fit the data better than the non-mediation model since Pseudo R<sup>2</sup> has increased by 0.10 and model deviance has decreased by 17.96 compared to the first step, as shown in M2, and therefore, we accepted H4b. Further, bootstrapping at a 95% confidence interval and with a 5000 bootstrapped resample was also applied to validate the presence of the mediation effect of SUB-GHRM for the relationship between SUP-GHRM and AC, which showed the magnitude of 0.19 (s.e. 0.076) for the indirect effect of SUP-GHRM on AC, and the biased corrected confidence interval at a  $p < 0.05$ , for the indirect effect of SUP-GHRM on AC through SUB-GHRM, was found with a LL of 0.04, and UL of 0.22. As zero is absent from the lower and upper boundary of the confidence interval, we concluded that the mediation effect did exist, which further supported our earlier acceptance of H4b through the HLM and Sobel test results.

Finally, H5 aimed at the moderating role of subordinates' perceived strength of the HRM system (HRMSS) for the linkage between supervisors' and subordinates' perceptions of green HR practices. As a result, this hypothesis postulated a favorable cross-level interaction between the HRMSS and the supervisor's perceived green HR practices (SUP-GHRM), which has been investigated using the model M8. This interaction term is examined by following the method described by Raudenbush and Bryk [112], where we regressed the slope estimates for SUP-GHRM acquired from Level 2 on HRMSS at Level 1, as has been done by the existing hierarchical research in conventional HRM [18]. According to the findings in M8, the interaction term, HRMSS × Supervisor's Perceived GHRM, significantly affected SUB-GHRM, with a coefficient of 0.35 at a 1% significance level. The impact of SUP-GHRM persisted as being positively significant simultaneously (coefficient = 0.42,  $p < 0.01$ ). Further evidence that the model with interaction component (M8) performed better than the non-moderation model (M7) was provided by the increase in Pseudo R<sup>2</sup> of 0.09 and the decrease in model deviance of 83.04. These results lead to the acceptance of H5.

## 5. DISCUSSIONS

There is now enough empirical data to demonstrate a relationship between the use of bundles of HR practices and firm performance at the unit level of analysis after nearly three decades of strategic HRM research development [13, 118]. It has been found that conventional HRM has paid more attention to how HR practices are developed and implemented in organizations than green HRM has [6, 7, 19, 94, 119]. In traditional HRM, several researchers have found that when employees have a good perception of the HR practices in the company, they make positive contributions to their organizations [2, 4, 5]. Identifying the variables that affect employees' perceptions of green HR practices and their resulting work outcomes is an equally important issue that has not been fully addressed in GHRM. A response to this issue is needed in the strategic GHRM literature because subordinate perceptions of green HR practices may differ greatly, endangering the firm's efforts to use green HR practices to manage its employees' job-related outcomes and achieve strategic goals [6, 19]. We studied 624 subordinates and 217 supervisors from LSM enterprises in Pakistan's textile industry to solve this issue. The findings showed that supervisor and subordinate perceptions of GHRM directly influenced job satisfaction and affective commitment.

Additionally, the impact of the supervisor's perception of GHRM on that of their subordinates was significant. Importantly, we discovered that the indirect association between supervisor-perceived GHRM and subordinate job satisfaction and affective commitment was significantly mediated by subordinate-perceived GHRM. Finally, our findings indicated that the effectiveness of the HRM system is crucial in bridging the perception gap between how supervisors and subordinates see GHRM in their organizations. Such GHRM findings are the result of numerous factors. First, line managers' concern for their staff members, shown through favorably regarded GHRM, improves their job-related outcomes [120]. Supervisors encourage their staff to act environmentally by more efficiently allocating resources [120], which increases their job satisfaction and affective commitment [121]. This is because supervisors are closely involved, and subordinates prioritize their immediate manager's perceptions. According to social identity theorists, employees in socially valued enterprises take satisfaction in being a part of those organizations, which is also experimentally corroborated by several studies [122, 123]. This sense of self-responsibility motivates the employee's desire to work for a well-known, respected, and socially progressive company.

Effective green HR practices foster organizational identity, producing favorable employee employment outcomes, such as job satisfaction and affective commitment [124], since environmental involvement enhances an organization's reputation [125]. Additionally, the signaling and uncertainty reduction theories have addressed the importance of the supervisor's involvement in SHRM for influencing how subordinates perceive the relationship between supervisor and subordinate about HR practices. According to these points of view, supervisors should send clear green HR signals to their employees to reduce uncertainty and improve understanding of the workplace [58, 60]. This will enable employees to match their beliefs and expectations with the supervisor's perceived green HR practices, thereby reducing the perceptual gap. Theoretical research has also validated the mediating function

of subordinate perceived GHRM in the indirect relationship between supervisor-perceived GHRM and individual-level green outcomes, such as job satisfaction and affective commitment.

According to previous eco-studies, an employee's green behavior and attitude are influenced by their supervisor's perceptions of GHRM [33, 90-92], which helps the employee deal with environmental challenges and improves their job outcomes. Perhaps a manager can assist staff members in successfully carrying out their green initiatives, resulting in environmental improvements. When the supervisor has more favorable perceptions of green HR practices, this help is more beneficial [33, 102, 126].

Importantly, the Situational Strength Theory states that since the HRM system sends out strong green HR signals, employees consider this when creating their perceptions and expected behavior [7]. Their attitudes and behavior within the company are thus influenced by these beliefs [7]. Additionally, a strong HRM system promotes collaboration and encourages shared perceptions, which are necessary for any company to achieve its goals [98]. These things occur due to clear goals, rules, practices, cultures, and values [97], increasing job satisfaction and affective commitment.

Adding to the above, in the textile sector, the chance for participative decision-making, as a part of the green HR system, enhances the trust between supervisor and subordinate, and employees regard their work as intrinsically gratifying and challenging. Therefore, higher supervisors' perceived green HR policies increase subordinates' commitment and satisfaction through involvement in decision-making, which gives the employees a sense of purpose and thus improves job satisfaction. Similarly, Paillé et al. [127] found that green HR management techniques increase the employees' organizational commitment. Shen et al. [27] reported a negative linkage of green HR practices with non-green outcomes. These results also validate the earlier argument of environmental scholars, who discovered that employees' perceived GHRM influences their non-green job-related outcomes via a psychological and social process [27]. Given several scholars like Gerhart et al. [48], Guest [14, 128], and Shen et al. [27], the individual's perceptions of green HR practices determine the outcomes, where higher perceptions of green HR practices develop employee's positive psychological and social behavior, which subsequently increases their job satisfaction, and affective commitment [27, 84, 85, 87, 96].

## 6. RESEARCH IMPLICATIONS

### 6.1 Theoretical implications

Theoretically, this study establishes that the dyadic relationship between supervisor and subordinate perceived GHRM is significant and provides a strong theoretical channel for improving job-related outcomes. Subordinate does alter the direct influence of supervisor-perceived GHRM on job-related outcomes, and the role of a strong HRM system is extremely crucial for this relationship.

### 6.2 Practical implications

Examining how employees view GHRM and how such perceptions impact their job-related results is crucial because it reveals attitudes and behaviors towards the business in the

Textile sector, which is important for the practitioners to know. The main objective of the current study is to emphasize how important it is for managers to be more aware of the variables that could affect their employees' perceptions of GHRM and how to align these perceptions. The findings highlight how crucial it is for organizations to establish positive interactions between managers and employees to maintain their perception of green HR practices. According to the findings, organizations in the textile sector should actively improve supervisors' knowledge of GHRM and urge them to think about how they "sell" the organization's GHRM policies to their subordinates. The findings specifically show that to ensure that supervisors and subordinates see green HR policies consistently, firms must support pleasant connections between them. The results of the study also provided evidence in favor of the claim that firms in the textile industry should place a high priority on building a solid HRM system to foster an environment where employees are aware of the kinds of actions and behaviors that are expected and rewarded and, as a result, perceive the situation similarly to their managers. through a semi-annual survey maintaining their anonymity, subordinates should be allowed to express their perceptions, views, experiences, issues, and suggestions on green HR practices. This anonymity will enable employees to give their opinion without fear of consequences, which can illuminate how these practices are perceived at ground level and any gaps in comprehension or alignment with the desired goals. These surveys can uncover perceptual misalignment. Subsequently, these misalignments may integrate into training programme effectiveness, green practices integration into daily routines, or policy objective communication breakdowns. The feedback from these surveys helps to understand the places of misalignment or uncertainty, allowing management to make more informed changes to their green HR practices, making them strategic, practical, and employee-friendly.

## 7. LIMITATIONS AND FUTURE RESEARCH

The study has a few limitations. First, as the study is solely focused on the textile industry, caution should be exercised when extrapolating the findings to other industries. Second, an integrated mediated-moderation approach could be of the utmost importance, as the strength of the HRM system could moderate the indirect relationship between supervisor-perceived GHRM and job-related outcomes through subordinate-perceived GHRM. Theoretically, it is logical to hypothesize that a strong HRM system aligns the perceptual gap between supervisors and subordinates about GHRM practices and subsequently improves job-related outcomes. Finally, future studies might test the other variable at the organizational level such as sustainability, organizational performance, organizational learning [129], technology adaptation [130], artificial intelligence, big data, and organizational ambidexterity.

## 8. CONCLUSION

In examining the GHRM process, we incorporated strategic HRM, situational strength, signaling, and uncertainty reduction theory to help explain the discrepancy between desired green HR practices and how subordinates perceive these practices. We extended our experiment to examine one

key situational impact of this perceptual difference. We demonstrated that supervisors' perspectives of GHRM varied in how they perceived management's aims for green HR. Our results show the importance of supervisor-subordinate connections in the chain of causation as well as the importance of contextual factors. Supervisor and subordinate-perceived GHRM can directly influence subordinate job satisfaction and affective commitment. Additionally, the supervisor's perceptions of GHRM significantly impact how their subordinates perceive those practices. Our findings also showed that the perception of GHRM by subordinates is an important mediating element and can change the direct relationship between the perception of GHRM by supervisors and subordinate job-related outcomes, which include job satisfaction and affective commitment. Finally, we discovered that a strong HRM system is necessary to mitigate the disparity between supervisor and subordinate perceptions of GHRM in an organization. Thus, this study made significant contributions in the area of GHRM, by revealing the mediating role of subordinate perceived green HR practices, and the moderating role of the HRM system in mitigating the perceptual gaps between supervisor and subordinates. Our study has significant implications for environmental managers, especially if they are eager to reduce the gap between intended and perceived green HR practices in their organizations. For this purpose, they must strengthen the HRM system in their organizations. Also, green HR practices should be considered to improve the non-green outcomes, such as job satisfaction and affective commitment, and the perceptual alignment between supervisor and subordinate is essential to achieve higher job satisfaction and affective commitment. They are expected to understand why supervisors perceive green HR practices differently than their subordinates and what factors help to improve subordinate outcomes. The findings of this study should encourage more research into the factors that affect employees' perceptions of green HR policies and how these perceptions impact subsequent employee outcomes. Future studies could extend the findings to other environmentally risky industries. Also, an integrated mediated-moderation method may be crucial as a strong HRM system should align supervisors' and subordinates' perceptions of GHRM practices and improve job results.

## REFERENCES

- [1] Delery, J.E., Doty, D.H. (1996). Modes of theorizing in strategic human resource management: Tests of universalistic, contingency, and configurational performance predictions. *Academy of Management Journal*, 39(4): 802-835. <https://doi.org/10.5465/256713>
- [2] Den Hartog, D.N., Boon, C., Verbarg, R.M., Croon, M.A. (2013). HRM, communication, satisfaction, and perceived performance: A cross-level test. *Journal of Management*, 39(6): 1637-1665. <https://doi.org/10.1177/0149206312440118>
- [3] Jensen, J.M., Patel, P.C., Messersmith, J.G. (2013). High-performance work systems and job control: Consequences for anxiety, role overload, and turnover intentions. *Journal of Management*, 39(6): 1699-1724. <https://doi.org/10.1177/0149206311419663>
- [4] Liao, H., Toya, K., Lepak, D.P., Hong, Y. (2009). Do they see eye to eye? Management and employee perspectives of high-performance work systems and

- influence processes on service quality. *Journal of Applied Psychology*, 94(2): 371-391. <https://doi.org/10.1037/a0013504>
- [5] Aryee, S., Walumbwa, F.O., Seidu, E.Y.M., Otaye, L.E. (2012). Impact of high-performance work systems on the individual- and branch-level performance: Test of a multilevel model of intermediate linkages. *Journal of Applied Psychology*, 97(2): 287-300. <https://doi.org/10.1037/a0025739>
- [6] Nishii, L.H., Wright, P.M. (2008). Variability within organizations: Implications for strategic human resources management. In D. B. Smith (Ed.), *The People Make the Place: Dynamic Linkages between Individuals and Organizations*, pp. 225-248. New York, NY: Lawrence Erlbaum.
- [7] Bowen, D.E., Ostroff, C. (2004). Understanding HRM–firm performance linkages: The role of the "strength" of the HRM system. *Academy of Management Review*, 29(2): 203-221. <https://doi.org/10.5465/amr.2004.12736076>
- [8] Xiao, Q., Cooke, F.L. (2022). Contextualizing employee perceptions of human resource management: A review of China-based literature and future directions. *Asia Pacific Journal of Human Resources*, 60(2): 252-282. <https://doi.org/10.1111/1744-7941.12259>
- [9] El-Kassar, A.N., Dagher, G.K., Lythreathis, S., Azakir, M. (2022). Antecedents and consequences of knowledge hiding: The roles of HR practices, organizational support for creativity, creativity, innovative work behavior, and task performance. *Journal of Business Research*, 140: 1-10. <https://doi.org/10.1016/j.jbusres.2021.11.079>
- [10] Bos-Nehles, A.C., Meijerink, J.G. (2018). HRM implementation by multiple HRM actors: A social exchange perspective. *The International Journal of Human Resource Management*, 29(22): 3068-3092. <https://doi.org/10.1080/09585192.2018.1443958>
- [11] Guest, D.E., Sanders, K., Rodrigues, R., Oliveira, T. (2021). Signalling theory as a framework for analysing human resource management processes and integrating human resource attribution theories: A conceptual analysis and empirical exploration. *Human Resource Management Journal*, 31(3): 796-818. <https://doi.org/10.1111/1748-8583.12326>
- [12] Trullen, J., Bos-Nehles, A., Valverde, M. (2020). From intended to actual and beyond: A cross-disciplinary view of (human resource management) implementation. *International Journal of Management Reviews*, 22(2): 150-176. <https://doi.org/10.1111/ijmr.12220>
- [13] Jiang, K., Lepak, D.P., Han, K., Hong, Y., Kim, A., Winkler, A.L. (2012). Clarifying the construct of human resource systems: Relating human resource management to employee performance. *Human Resource Management Review*, 22(2): 73-85. <https://doi.org/10.1016/j.hrmr.2011.11.005>
- [14] Nishii, L.H., Lepak, D.P., Schneider, B. (2008). Employee attributions of the "why" of HR practices: Their effects on employee attitudes and behaviours, and customer satisfaction. *Personnel Psychology*, 61(3): 503-545. <https://doi.org/10.1111/j.1744-6570.2008.00121.x>
- [15] Ullah, S., Mehmood, T., Ahmad, T. (2023). Green intellectual capital and green HRM enabling organizations go green: Mediating role of green innovation. *International Journal of Innovation Science*, 15(2): 245-259. <https://doi.org/10.1108/IJIS-12-2021-0222>
- [16] Thomas, W.I., Thomas, D.S. (1928). *The Child in America: Behavior Problems and Programs*. New York: Knopf.
- [17] Fu, N., Flood, P., Rousseau, D., Morris, T. (2020). Line managers as paradox navigators in HRM implementation: Balancing consistency and individual responsiveness. *Journal of Management*, 46(2): 203-233. <https://doi.org/10.1177/0149206318785241>
- [18] Li, X., Frenkel, S. (2017). Where hukou status matters: Analyzing the linkage between supervisor perceptions of HR practices and employee work engagement. *The International Journal of Human Resource Management*, 28(17): 2375-2402. <https://doi.org/10.1080/09585192.2015.1137613>
- [19] Wright, P.M., Nishii, L.H. (2013). Strategic HRM and organizational behavior: Integrating multiple levels of analysis. In J. Paauwe, D. E. Guest, & P. M. Wright (Eds.), *HRM & Performance: Achievements and Challenges*, pp. 97-110. Chichester, England: Wiley.
- [20] Wang, Y., Kim, S., Rafferty A., Sanders, K. (2020). Employee perceptions of HR practices: A critical review and future directions. *The International Journal of Human Resource Management*, 31(3): 128-173. <https://doi.org/10.1080/09585192.2019.1674360>
- [21] Saha, I., Kundu, A., Ghosh, S.K. (2020). Development of sustainable business model: A conceptual framework for the financial sector to obtain successful ERP. *International Journal of Sustainable Development and Planning*, 15(8): 1313-1321. <https://doi.org/10.18280/ijstdp.150818>
- [22] Ali, S., Ali, A.J., Ashfaq, K., Khalid, J. (2021). Green human resource management and environmental innovativeness. *International Journal of Sustainable Development and Planning*, 16(6): 1117-1130. <https://doi.org/10.18280/ijstdp.160613>
- [23] Stefany, J., Agustina, L. (2022). Do corporate social responsibility and political connections matter to financial performance and financial stability in the banking sector? Evidence from Indonesia. *International Journal of Sustainable Development and Planning*, 17(8): 2445-2452. <https://doi.org/10.18280/ijstdp.170812>
- [24] Albloush, A., Alharafsheh, M., Hanandeh, R., Albawwat, A., Shareah, M.A. (2022). Human capital as a mediating factor in the effects of green human resource management practices on organizational performance. *International Journal of Sustainable Development and Planning*, 17(3): 981-990. <https://doi.org/10.18280/ijstdp.170329>
- [25] Mahmudul Haque, A.K.M., Akram Ullah, S.M., Sikdar, M.M., Shohag, M.M.H., Ahmed, M.M., Masuda, M.A., Alam, M.M. (2022). Integrating environmental governance into sustainable urban development in Bangladesh. *International Journal of Sustainable Development and Planning*, 17(5): 1471-1478. <https://doi.org/10.18280/ijstdp.170511>
- [26] Harvey G., Williams, K., Probert J. (2013). Greening the airline pilot: HRM and the green performance of airlines in the UK. *The International Journal of Human Resource Management*, 24(1): 152-166. <https://doi.org/10.1080/09585192.2012.669783>
- [27] Shen, J., Dumont, J., Deng, X. (2016). Employees' perceptions of green HRM and non-green employee work outcomes: The social identity and stakeholder

- perspectives. *Group & Organization Management*, 43(4): 1-29. <https://doi.org/10.1177/1059601116664610>
- [28] Ragas, S.F.P., Tantay, F.M.A., Chua, L.J.C., Sunio, C.M.C. (2017). Green lifestyle moderates GHRM's impact on job performance. *International Journal of Productivity and Performance Management*, 66(7): 857-872. <https://doi.org/10.1108/IJPPM-04-2016-0076>
- [29] Dumont, J., Shen, J., Deng, X. (2017). Effects of green HRM practices on employee workplace green behavior: The role of psychological green climate and employee green values. *Human Resource Management*, 56(4): 613-627. <https://doi.org/10.1002/hrm.21792>
- [30] Pinzone, M., Guerci, M., Lettieri, E., Huisinigh, D. (2019). Effects of 'green' training on pro-environmental behaviors and job satisfaction: Evidence from the Italian healthcare sector, *Journal of Cleaner Production*, 226: 221-232. <https://doi.org/10.1016/j.jclepro.2019.04.048>
- [31] Kim, Y.J., Kim, W.G., Choi, H., Phetvaroon, K. (2019). The effect of green human resource management on hotel employees' eco-friendly behavior and environmental performance. *International Journal of Hospitality Management*, 76: 83-93. <https://doi.org/10.1016/j.ijhm.2018.04.007>
- [32] Pham, N.T., Thanh, T.V., Shahbaz, M., Huynh, T.L.D., Usman, M. (2020). Managing environmental challenges: Training as a solution to improve employee green performance. *Journal of Environmental Management*, 269: 110781. <https://doi.org/10.1016/j.jenvman.2020.110781>
- [33] Daily, F., John W.B., Massoud, J.A. (2012). The role of training and empowerment in environmental performance A study of the Mexican maquiladora industry. *International Journal of Operations & Production Management*, 32(5): 631-647. <https://doi.org/10.1108/01443571211226524>
- [34] Masri, H.A., Jaaron, A.A. (2017). Assessing green human resources management practices in Palestinian manufacturing context: An empirical study. *Journal of Cleaner Production*, 143: 474-489. <https://doi.org/10.1016/j.jclepro.2016.12.087>
- [35] Yusoff, Y.M., Nejati, M., Kee, D.M.H., Amran, A. (2018). Linking green human resource management practices to environmental performance in hotel industry. *Global Business Review*, 21(3): 1-18. <https://doi.org/10.1177/0972150918779294>
- [36] Song, W., Yu, H., Xu, H. (2020). Effects of green human resource management and managerial environmental concern on green innovation. *European Journal of Innovation Management*, 24(3): 951-967. <https://doi.org/10.1108/EJIM-11-2019-0315>
- [37] Ren, S., Tang, G., Jackson, S.E. (2020). Effects of green HRM and CEO ethical leadership on organizations' environmental performance. *International Journal of Manpower*, 42(6): 961-983. <https://doi.org/10.1108/IJM-09-2019-0414>
- [38] Obeidat, S.M., Al Bakri, A.A., Elbanna, S. (2020). Leveraging "Green" human resource practices to enable environmental and organizational performance: Evidence from the Qatari oil and gas industry. *Journal of Business Ethics*, 164: 371-388. <https://doi.org/10.1007/s10551-018-4075-z>
- [39] Yong, J.Y., Yusliza, M.Y., Ramayah, T., Chiappetta Jabbour, C.J., Sehnem, S., Mani, V. (2020). Pathways towards sustainability in manufacturing organizations: Empirical evidence on the role of green human resource management. *Business Strategy and the Environment*, 29(1): 212-228. <https://doi.org/10.1002/bse.2359>
- [40] Mousa, S.K., Othman, M. (2020). The impact of green human resource management practices on sustainable performance in healthcare organizations: A conceptual framework. *Journal of Cleaner Production*, 243: 118595.
- [41] Ren, S., Tang, G., Jackson, S. (2018). Green human resource management research in emergence: A review and future directions. *Asia Pacific Journal of Management*, 35(3): 769-803. <https://doi.org/10.1007/s10490-017-9532-1>
- [42] Yong, J.Y., Yusliza, M.Y., Fawehinmi, O.O. (2019). Green human resource management. A systematic literature review from 2007 to 2019. *Benchmarking: An International Journal*, 27(7): 2005-2027. <https://doi.org/10.1108/BIJ-12-2018-0438>
- [43] Subyantoro, A., Hikmah, K., Puspitaningrum, D.A., Nasrulloh, R.S. (2022). Effects of green human resource management on participation of farmer group members in Sleman Yogyakarta: Organizational commitment as mediation variable. *International Journal of Sustainable Development and Planning*, 17(8): 2513-2521. <https://doi.org/10.18280/ijstdp.170819>
- [44] Wiaustuti, R.D., Liawatimena, L., Masatip, A. (2022). Behavioral intention and willingness to pay premium for green hotel concept: The role of trust and green hotel attributes. *International Journal of Sustainable Development and Planning*, 17(8): 2493-2501. <https://doi.org/10.18280/ijstdp.170817>
- [45] Lo, S.H., Peters, G.J.Y., Kok, G. (2012). A review of determinants of and interventions for pro-environmental behaviors in organizations. *Journal of Applied Social Psychology*, 42(12): 2933-2967. <https://doi.org/10.1111/j.1559-1816.2012.00969.x>
- [46] Bhattacharya, C.B., Korschun, D., Sen, S. (2009). Strengthening stakeholder-company relationships through mutually beneficial corporate social responsibility initiatives. *Journal of Business Ethics*, 85: 257-272. <https://doi.org/10.1007/s10551-008-9730-3>
- [47] Wang, Y. (2018). Employees' perceptions of HR practices: Its meaning, antecedents, and consequences. Doctoral Dissertation, UNSW Sydney University. <https://doi.org/10.26190/unsworks/3438>
- [48] Gerhart, B., Wright, P. M., Mahan, G.C., Snell, S.A. (2000). Measurement error in research on human resources and firm performance: How much error is there and how does it influence effect size estimates? *Personnel Psychology*, 53(4): 803-834. <https://doi.org/10.1111/j.1744-6570.2000.tb02418.x>
- [49] Erdogan, B., Enders, J. (2007). Support from the top: Supervisors' perceived organizational support as a moderator of leader-member exchange to satisfaction and performance relationships. *Journal of Applied Psychology*, 92(2): 321-330. <https://doi.org/10.1037/0021-9010.92.2.321>
- [50] Dinh, J.E., Lord, R.G., Gardner, W.L., Meuser, J.D., Liden, R.C., Hu, J. (2014). Leadership theory and research in the new millennium: Current theoretical trends and changing perspectives. *The Leadership Quarterly*, 25(1): 36-62. <https://doi.org/10.1016/j.leaqua.2013.11.005>
- [51] Spence, M. (1973). Job market signaling. *The Quarterly Journal of Economics*, 87(3): 355-374.

- <https://doi.org/10.1016/B978-0-12-214850-7.50025-5>
- [52] Farndale, E., Kelliher, C. (2013). Implementing performance appraisal: Exploring the employee experience. *Human Resource Management*, 52(6): 879-897. <https://doi.org/10.1002/hrm.21575>
- [53] Connelly, B.L., Certo, S.T., Ireland, R.D., Reutzel, C.R. (2011). Signaling theory: A review and assessment. *Journal of Management*, 37(1): 39-67. <https://doi.org/10.1177/0149206310388419>
- [54] Hannah, D., Iverson, R. (2004). Employment relationships in context: Implications for policy and practice. In J. Coyle-Shapiro, L. Shore, S. Taylor, & L. Tetrick (Eds.), *The Employment Relationship: Examining Psychological and Contextual Perspectives*, pp. 332-350. Oxford: Oxford University Press.
- [55] Sims, R.R. (1994). Human resource management's role in clarifying the new psychological contract. *Human Resource Management*, 33(3): 373-382. <https://doi.org/10.1002/hrm.3930330306>
- [56] Sparrow, P.R. (1996). Transitions in the psychological contract: Some evidence from the banking sector. *Human Resource Management Journal*, 6(4): 75-92. <https://doi.org/10.1111/j.1748-8583.1996.tb00419.x>
- [57] Guzzo, R.A., Noonan, K.A. (1994). Human resource practices as communications and the psychological contract. *Human Resource Management*, 33(3): 447-462. <https://doi.org/10.1002/hrm.3930330311>
- [58] Rentsch, J.R. (1990). Climate and culture: Interaction and qualitative differences in organizational meanings. *Journal of Applied Psychology*, 75(6): 668-681. <https://doi.org/10.1037/0021-9010.75.6.668>
- [59] Kulik, C., Bainbridge, H. (2006). HR and the line: The distribution of HR activities in Australian organizations. *Asia Pacific Journal of Human Resources*, 44(2): 240. <https://doi.org/10.1177/1038411106066399>
- [60] Lepak, D.P., Liao, H., Chung, Y., Harden, E.E. (2006). A conceptual review of human resource management systems in strategic human resource management research. *Research in Personnel and Human Resources Management*, 25(1): 217-271. [https://doi.org/10.1016/S0742-7301\(06\)25006-0](https://doi.org/10.1016/S0742-7301(06)25006-0)
- [61] McGovern, P., Gratton, L., Hope-Hailey, V., Stiles, P., Truss, C. (1997). Human resource management on the line? *Human Resource Management Journal*, 7(4): 12-29. <https://doi.org/10.1111/j.1748-8583.1997.tb00286.x>
- [62] Belogolovsky, E., Bamberger, P. (2014). Signaling in secret: Pay for performance and the incentive and sorting effects of pay secrecy. *Academy of Management Journal*, 57(6): 1706-1733. <https://doi.org/10.5465/amj.2012.0937>
- [63] Eberly, M.B., Holley, E.C., Johnson, M.D., Mitchell, T.R. (2011). Beyond internal and external: A dyadic theory of relational attributions. *Academy of Management Review*, 36(4): 731-753. <https://doi.org/10.5465/amr.2009.0371>
- [64] Boxall, P. (1996). The strategic HRM debate and the resource-based view of the firm. *Human Resource Management Journal*, 6(3): 59-75. <https://doi.org/10.1111/j.1748-8583.1996.tb00412.x>
- [65] Wright, P.M., Snell, S.A. (1998). Toward a unifying framework for exploring fit and flexibility in strategic human resource management. *Academy of Management Review*, 23(4): 756-772. <https://doi.org/10.5465/amr.1998.1255637>
- [66] Wood, S.J., Albanese, M. (1995). Can you speak of high commitment management on the shop floor? *Journal of Management Studies*, 32: 215-247.
- [67] Wood, S., Menezes, D.L. (1998). High commitment management in the UK: Evidence from the workplace industrial relations survey and employers' manpower and skills practices survey. *Human Relations*, 51: 485-515. <https://doi.org/10.1023/A:1016941914876>
- [68] Sahadi, Sriyono, E., Putri, W.H., Ika, S.R., Fudholi, A. (2022). The work commitment of construction project managers in Indonesia using the structural equation modelling method. *International Journal of Sustainable Development and Planning*, 17(7): 2165-2171. <https://doi.org/10.18280/ijstdp.170716>
- [69] Boxall, P., Macky, K. (2007). High-performance work systems and organisational performance: Bridging theory and practice. *Asia Pacific Journal of Human Resources*, 45(3): 261-270. <https://doi.org/10.1177/1038411107082273>
- [70] Sun, N., He, Z., Wang, L., Li, Q. (2009). The impact of nurse empowerment on job satisfaction. *Journal of Advanced Nursing*, 65(12): 2642-2648. <https://doi.org/10.1111/j.1365-2648.2009.05133.x>
- [71] Raineri, N., Paillé, P. (2016). Linking corporate policy and supervisory support with environmental citizenship behaviors: The role of employee environmental beliefs and commitment. *Journal of Business Ethics*, 137(1): 129-148. <https://doi.org/10.1007/s10551-015-2548-x>
- [72] Wright, P.M., McMahan, G.C., Snell, S.A., Gerhart, B. (2001). Comparing line and HR executives' perceptions of HR effectiveness service, roles, and contributions. *Human Resource Management*, 40(2): 111-123. <https://doi.org/10.1002/hrm.1002>
- [73] Wright, P.M., Kehoe, R.R. (2008). Human resource practices and organisational commitment: A deeper examination. *Asia Pacific Journal of Human Resources*, 46(1): 6-20. <https://doi.org/10.1177/1038411107086540>
- [74] Ang, S.H., Bartram, T., McNeil, N., Leggat, S.G., Stanton, P. (2013). The effects of high-performance work systems on hospital employees' work attitudes and intention to leave: A multi-level and occupational group analysis. *The International Journal of Human Resource Management*, 24(16): 3086-3114. <https://doi.org/10.1080/09585192.2013.775029>
- [75] Ansari, N.Y., Farrukh, M., Raza, A. (2020). Green human resource management and employee pro-environmental behaviours: Examining the underlying mechanism. *Corporate Social Responsibility and Environmental Management*, 28(1): 229-238. <https://doi.org/10.1002/csr.2044>
- [76] Cropanzano, R., Mitchell, M.S. (2005). Social exchange theory: An interdisciplinary review. *Journal of Management*, 31(6): 874-900. <https://doi.org/10.1177/0149206305279602>
- [77] Saks, A.M., Uggerslev, K.L., Fassina, N.E. (2007). Socialization tactics and newcomer adjustment: A meta-analytic review and test of a model. *Journal of Vocational Behavior*, 70(3): 413-446. <https://doi.org/10.1016/j.jvb.2006.12.004>
- [78] Schaufeli, W.B., Bakker, A.B. (2004). Job demands, job resources and their relationship with burnout and engagement: A multi-sample study. *Journal of Organisational Behaviour*, 25(3): 293-315. <https://doi.org/10.1002/job.248>



- [79] Bartram, T., Stanton, P., Leggat, S., Casimir, G., Fraser, B. (2007). Lost in translation: Exploring the link between HRM and performance in healthcare. *Human Resource Management Journal*, 17(1): 21-41. <https://doi.org/10.1111/j.1748-8583.2007.00018.x>
- [80] Stanton, P., Young, S., Bartram, T., Leggat, S.G. (2010). Singing the same song: Translating HRM messages across management hierarchies in Australian hospitals. *International Journal of Human Resource Management*, 21(4): 567-581. <https://doi.org/10.1080/09585191003612075>
- [81] Renwick, D.W., Redman, T., Maguire, S. (2013). Green human resource management: A review and research agenda. *International Journal of Management Reviews*, 15(1): 1-14. <https://doi.org/10.1111/j.1468-2370.2011.00328.x>
- [82] Smidts, A., Pruyn, A.T.H., Van Riel, C.B.M. (2001). The impact of employee communication and perceived external prestige on organizational identification. *Academy of Management Journal*, 44(5): 1051-1062. <https://doi.org/10.5465/3069448>
- [83] Edwards, M.R., Peccei, R. (2010). Perceived organizational support, organizational identification, and employee outcomes: Testing a simultaneous multifoci model. *Journal of Personnel Psychology*, 9(1): 17-26. <https://doi.org/10.1027/1866-5888/a000007>
- [84] Ngo, H., Loi, R., Foley, S., Zheng, X., Zhang, L. (2013). Perceptions of organizational context and job attitudes: The mediating effect of organizational identification. *Asia Pacific Journal of Management*, 30: 149-168. <https://doi.org/10.1007/s10490-012-9289-5>
- [85] Cole, M.S., Bruch, H. (2006). Organizational identity strength, identification, and commitment and their relationships to turnover intention: Does organizational hierarchy matter? *Journal of Organizational Behavior*, 27(5): 585-605. <https://doi.org/10.1002/job.378>
- [86] O'Reilly, C.A., Chatman, J. (1986). Organizational commitment and psychological attachment: The effects of compliance, identification, and internalization on prosocial behavior. *Journal of Applied Psychology*, 71(3): 492-499. <https://doi.org/10.1037/0021-9010.71.3.492>
- [87] Mozes, M., Josman, Z., Yaniv, E. (2011). Corporate social responsibility organizational identification and motivation. *Social Responsibility Journal*, 7(2): 310-325. <https://doi.org/10.1108/174711111111141558>
- [88] Takeuchi, R., Chen, G., Lepak, D.P. (2009). Through the looking glass of a social system: Cross-level effects of high-performance work systems on employees' attitudes. *Personnel Psychology*, 62(1): 1-29. <https://doi.org/10.1111/j.1744-6570.2008.01127.x>
- [89] Berger, C.R., Calabrese, R.J. (1975). Some explorations in initial interaction and beyond: Toward a developmental theory of interpersonal communication. *Human Communication Research*, 1(2): 99-112. <https://doi.org/10.1111/j.1468-2958.1975.tb00258.x>
- [90] Ramus, C.A. (1997). Employee empowerment at GE Plastics Europe: An example of a successful environmental change process. *Corporate Environmental Strategy*, 4(3): 39-46.
- [91] Matthews, R.A., Diaz, W.M., Cole, S.G. (2003). The organizational empowerment scales. *Personal Review*, 32(3): 297-318. <https://doi.org/10.1108/00483480310467624>
- [92] Daily, B.F., Bishop, J.W., Steiner, R. (2007). The mediating role of EMS teamwork as it pertains to HR factors and perceived environmental performance. *Journal of Applied Business Research*, 23(1): 95-109. <https://doi.org/10.19030/jabr.v23i1.1411>
- [93] Vermeeren, B. (2014). Variability in HRM implementation among line managers and its effect on performance: A 2-1-2 mediational multilevel approach. *The International Journal of Human Resource Management*, 25(22): 3039-3059. <https://doi.org/10.1080/09585192.2014.934891>
- [94] Jiang, K., Hu, J., Liu, S., Lepak, D.P. (2018). Understanding employees' perceptions of human resource practices: Effects of demographic dissimilarity to managers and coworkers. *Human Resource Management*, 56(1): 69-91. <https://doi.org/10.1002/hrm.21771>
- [95] Mischel, W. (1973). Toward a cognitive social learning reconceptualization of personality. *Psychological Review*, 80(4): 252-283. <https://doi.org/10.1037/h0035002>
- [96] Mischel, W. (1977). On the future of personality measurement. *The American Psychologist*, 32(4): 246-254. <https://doi.org/10.1037/0003-066X.32.4.246>
- [97] Dorenbosch, L., de Reuver, R., Sanders, K. (2006). Getting the HR message across: The linkage between Line-HR consensus and "commitment strength" among hospital employees. *Management Review*, 17(3): 274-291.
- [98] Whitman, D.S., Van Rooy, D.L., Viswesvaran, C. (2010). Satisfaction citizenship behavior and performance in work units: A meta-analysis of collective construct relation. *Personnel Psychology*, 63(1): 41-81. <https://doi.org/10.1111/j.1744-6570.2009.01162.x>
- [99] Pereira, C.M.M., Gomes, J.F.S. (2012). The strength of human resource practices and transformational leadership: Impact on organizational performance. *The International Journal of Human Resource Management*, 23(20): 4301-4318. <https://doi.org/10.1080/09585192.2012.667434>
- [100] Economic Survey of Pakistan (2020). Pakistan Economic Survey, Ministry of Finance. [http://www.finance.gov.pk/survey\\_1920.html](http://www.finance.gov.pk/survey_1920.html)
- [101] Guerci, M., Longoni, A., Luzzini, D. (2016). Translating stakeholder pressures into environmental performance—The mediating role of green HRM practices. *The International Journal of Human Resource Management*, 27(2): 262-289. <https://doi.org/10.1080/09585192.2015.1065431>
- [102] Hameed, Z., Khan, I.U., Islam, T., Sheikh, Z., Naeem, R.M. (2020). Do green HRM practices influence employees' environmental performance? *International Journal of Manpower*, 41(7): 1061-1079. <https://doi.org/10.1108/IJM-08-2019-0407>
- [103] Malik, S.Y., Cao, Y., Mughal, Y.H., Kundi, G.M., Mughal, M.H., Ramayah, T. (2020). Pathways towards sustainability in organizations: Empirical evidence on the role of green human resource management practices and green intellectual capital. *Sustainability*, 12(8): 3228. <https://doi.org/10.3390/su12083228>
- [104] Liden, R.C., Wayne, S.J., Kraimer, M.L., Sparrowe, R.T. (2003). The dual commitments of contingent workers: An examination of contingents' commitment to the agency and the organization. *Journal of*

- Organizational Behavior, 24(5): 609-625. <https://doi.org/10.1002/job.208>
- [105] Edgar, F., Geare, A. (2014). An employee-centred analysis: Professionals' experiences and reactions to HRM. *The International Journal of Human Resource Management*, 25(5): 673-695. <https://doi.org/10.1080/09585192.2013.803137>
- [106] Mowday, R.T., Steers, R.M., Porter, L.W. (1979). The measurement of organizational commitment. *Journal of Vocational Behavior*, 14(2): 224-247. [https://doi.org/10.1016/0001-8791\(79\)90072-1](https://doi.org/10.1016/0001-8791(79)90072-1)
- [107] Cammann, C., Fichman, M., Jenkins, D., Klesh, J. (1979). The Michigan Organizational Assessment Questionnaire. University of Michigan, Ann Arbor, MI
- [108] Shah, M. (2019). Green human resource management: Development of a valid measurement scale. *Business Strategy and the Environment*, 28(5): 771-785. <https://doi.org/10.1002/bse.2279>
- [109] Coelho, J.P., Campos Cunha, R., Gomes, J.F.S., Gomes Correia, A. (2015). Strength of the HRM system: The development of a measure. *Journal of Industrial Engineering and Management*, 8(4): 1069-1086. <https://doi.org/10.3926/jiem.1432>
- [110] Delmotte, J., De Winne, S., Sels, L. (2012). Toward an assessment of perceived HRM system strength: Scale development and validation. *The International Journal of Human Resource Management*, 23(7): 1481-1506. <https://doi.org/10.1080/09585192.2011.579921>
- [111] Liao, H., Chuang, A. (2007). Transforming service employees and climate: A multilevel, multisource examination of transformational leadership in building long-term service relationships. *Journal of Applied Psychology*, 92(4): 1006-1019. <https://doi.org/10.1037/0021-9010.92.4.1006>
- [112] Raudenbush, S.W., Bryk, A.S. (2002). *Hierarchical Linear Models* (2nd ed.). Thousand Oaks, CA: Sage.
- [113] Preacher, K., Hayes, A. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers*, 36: 717-731. <https://doi.org/10.3758/BF03206553>
- [114] Baron, R.M., Kenny, D.A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6): 1173-1182. <https://doi.org/10.1037/0022-3514.51.6.1173>
- [115] Sobel, M.E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. *Sociological Methodology*, 13: 290-312. <https://doi.org/10.2307/270723>
- [116] Kenny, D.A., Kashy, D.A., Bolger, N. (1998). Data analysis in social psychology. In D. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *Handbook of social psychology* (Vol. 1, pp. 233–265). New York: McGraw-Hill.
- [117] Lockwood, C.M., MacKinnon, D.P. (1998). Bootstrapping the standard error of the mediated effect. Proceedings of the 23rd annual meeting of SAS Users Group International, Cary, NC: SAS Institute, pp. 997-1002.
- [118] Combs, J., Liu, Y., Hall, A., Ketchen, D. (2006). How much do high-performance work practices matter? A meta-analysis of their effects on organizational performance. *Personnel Psychology*, 59(3): 501-528. <https://doi.org/10.1111/j.1744-6570.2006.00045.x>
- [119] Paauwe, J., Wright, P.M., Guest, D.E. (2013). HRM and performance: What do we know and where should we go? In J. Paauwe, D. E. Guest, & P. M. Wright (Eds.), *HRM & performance: Achievements and challenges* (pp. 1–13). Chichester, England: Wiley.
- [120] Paille, P., Morelos, J.H.M., Raineri, N., Stinglhamber, F. (2019). The influence of the immediate manager on the avoidance of non-green behaviors in the workplace: A three-wave moderated-mediation model. *Journal of Business Ethics*, 155(3): 723-740. <https://doi.org/10.1007/s10551-017-3519-1>
- [121] Cantor, D.E., Morrow, P.C., Montabon, F. (2012). Engagement in environmental behaviors among supply chain management employees: An organizational support theoretical perspective. *Journal of Supply Chain Management*, 48(3): 33-51. <https://doi.org/10.1111/j.1745-493X.2011.03257.x>
- [122] Benkoff, B. (1997). A test of the HRM model: Good for employers and employees. *Human Resource Management Journal*, 7(4): 44-60. <https://doi.org/10.1111/j.1748-8583.1997.tb00288.x>
- [123] Maxwell, R., Knox, S. (2009). Motivating employees to "live the brand": A comparative case study of employer brand attractiveness within the firm. *Journal of Marketing Management*, 25(9-10): 893-907. <https://doi.org/10.1362/026725709X479282>
- [124] Ashforth, B.E., Mael, F. (1989). Social identity theory and the organization. *Academy of Management Review*, 14(1): 20-39. <https://doi.org/10.5465/amr.1989.4278999>
- [125] Carroll, A.B., Shabana, K.M. (2010). The business case for corporate social responsibility: A review of concepts, research and practice. *International Journal of Management Reviews*, 12(1): 85-105. <https://doi.org/10.1111/j.1468-2370.2009.00275.x>
- [126] Tariq, S., Jan, F.A., Ahmad, M.S. (2016). Green employee empowerment: A systematic literature review on state-of-art in green human resource management. *Quality and Quantity*, 50: 237-269. <https://doi.org/10.1007/s11135-014-0146-0>
- [127] Paillé, P., Boiral, O., Chen, Y. (2013). Linking environmental management practices and organizational citizenship behaviour for the environment: A social exchange perspective. *The International Journal of Human Resource Management*, 24(18): 3552-3575. <https://doi.org/10.1080/09585192.2013.777934>
- [128] Guest, D.E. (2011). Human resource management and performance: Still searching for some answers. *Human Resource Management Journal*, 21(1): 3-13. <https://doi.org/10.1111/j.1748-8583.2010.00164.x>
- [129] Yong, J.Y., Yusliza, M.Y., Ramayah, T., Farooq, K., Tanveer, M.I. (2023). Accentuating the interconnection between green intellectual capital, green human resource management and sustainability. *Benchmarking: An International Journal*, 30(8): 2783-2808. <https://doi.org/10.1108/BIJ-11-2021-0641>
- [130] Rubel, M.R.B., Kee, D.M.H., Rimi, N.N., Yusoff, M.Y. (2017). Adapting technology: Effect of high-involvement HRM and organisational trust. *Behaviour and Information Technology*, 36(3): 281-293. <https://doi.org/10.1080/0144929X.2016.1222552>