Toward pro-environmental performance in the hospitality industry: Empirical evidence on the mediating and interaction analysis

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Abstract

Informed by the social exchange, environmental identity, and value-belief-norm theories, this study is the first to examine the mediating and interaction mechanisms of green human resource management (HRM) practices, connectedness to nature, and conscientiousness on employees' pro-environmental performance (P-EP) in the context of hospitality in Kazakhstan (Almaty), Central Asia. The data were collected from 220 employees of four- and five-star hotels. Reliability, construct validity, and the proposed hypotheses were tested using AMOS 26.0. The results reveal that green HRM positively affects two types of employees' P-EP: task-related and proactive. The findings also confirm the mediating role of connectedness to nature in the relationship between green HRM and employees' task and proactive P-EP. Furthermore, interaction analyses show that conscientiousness strengthens the impact of green HRM on employees' proactive P-EP. The managerial takeaways of this study will help to embed and implement green philosophy and environmentally friendly practices in the hospitality industry.

Keywords: Green HRM, pro-environmental performance, connectedness to nature, conscientiousness, hotels.

21 **Introduction**

22 The hospitality industry contributes significantly to the innovation and economic and social

23 development of destinations and countries. However, there is an ongoing debate with regard

24 to its impact on the environment (e.g., greenhouse gas emissions and high water and energy

25 consumption) (Fatoki, 2019). The growing demand from customers, employees, and

26 governments for eco-friendly behaviors has encouraged hospitality sectors worldwide to

27 redesign their structure and organizational culture toward an increasingly environmentally-

28 friendly system (Fatoki, 2019; Barber, Kim, & Barth, 2014; Kim, Barber, & Kim, 2019). In

29 this regard, green training programs and information resources provide a platform for

30 improving the environmental behavior of employees in the organization (Kim et al., 2019). In

31 particular, some scholars believe that the effectiveness of employees' P-EP strongly depends

32 on green HRM and employees' desire toward green behaviors in organizations (Chaudhary,

33 2020; Singh, Del Giudice, Chierici, & Graziano, 2020). Green HRM refers to the inclusion of

34 environmental objectives within HRM policies, practices, and activities, with the aim of

35 achieving significant advancement in individuals' and organizations' environmental-related

36 actions and outcomes (Ababneh, 2021; Kramar, 2014).

37 Despite the attention paid by researchers in the past decade to environmental studies, still

38 more research is needed on green HRM and environmental performance, particularly in the

39 hospitality industry, to provide additional theoretical and practical contributions. In

40 particular, scholars such as Peng, Lee, and Lu (2020) and Pham, Thanh, Tučková, and Thuy

41 (2020) call for further research in this area. More specifically, Cabral and Jabbour (2020) and

42 Yong et al. (2020) acknowledge the importance of further research examining the

43 relationship between green HRM and environmental performance for organizational

44 sustainability and for society as a whole. Chaudhary (2020) asserted that studies on how

45 green HRM shapes green performance are incomplete without considering underlying

46 processes, such as mediation and moderation mechanisms. In addition, Pham, Tučková, and

47 Jabbour (2019) emphasized the lack of in-depth research on the relationships between green

48 HRM practices and existing factors, such as employees' green performance, green human

49 capital, green attitudes, the roles of intermediaries, and interactions among green HRM

50 practices in the organizational performance.

51 Given the recent calls (see Chaudhary, 2020; Kim et al., 2019; Pham et al., 2020; Pham et al.,

52 2019) for further research into green practices, environmental training, and the underlying

53 process of shaping environmental behavior and improving employees' sustainable behavior

54 in the hospitality industry, this research aims to evaluate the process by which green HRM

55 impacts task-related and proactive P-EP through increasing connectedness to nature among

56 hotel employees. Connectedness to nature refers to an individual's relationship with, and the

57 degree to which they connect to, the environment (Schultz, 2002). In this regard, it is argued

58 that people with green mindfulness have a strong connection to nature, are aware of

59 environmental issues, and are therefore less likely to harm the environment (Barbaro &

60 Pickett, 2016; Dharmesti, Merrilees, & Winata, 2020). In this study, the authors aim to apply

61 previous research on green HRM and connectedness to nature to develop a mediation model

62 by which to better understand the psychological processes that encourage employees to

63 engage in pro-environmental behavior.

64 In addition, Ababneh (2021), Chan and Hsu (2016), and Pham, Hoang, and Phan (2020) call

65 for more research into hotel employees' psychological traits and motivation toward eco-

66 friendly behaviors, and how they could be supported to engage in such behaviors.

67 Particularly, these authors stress the need for further research on the role of moderators and

68 their interaction with green HRM on environmental activities in the organization (Ababneh,

69 2021). With regard to personality traits, extant results show that conscientiousness, as a

70 psychological personal trait, tends to influence individuals' environmental behavior (Zhang,

71 Wu, & Rasheed, 2020). Conscientiousness refers to individuals' sense of responsibility

72 regarding their ability to perform specific work to minimize environmental degradation and

73 damage (Pavalache-Ilie & Cazan, 2018). A correlation between conscientiousness and

74 environmental outcomes, such as environmental performance and waste management, has

75 been found in recent studies (Pavalache-Ilie & Cazan, 2018; Zhang et al., 2020). The authors

76 of the present study thus believe that conscientious employees who show self-discipline, act

77 dutifully, and strive for achievement may also have greater desire to feel connected to nature

78 and deeper engagement in pro-environmental actions under green HRM in the organization.

79 Accordingly, the present study investigates the interaction effect of green HRM and

80 conscientiousness on employee task-related and proactive P-EP in the hotel industry.

81 Based on the above discussion, this study aims to contribute to the knowledge of

82 environmental attitudes and performance by building on research that examines employees'

83 pro-environmental behaviors through the lens of green HRM, connectedness to nature, and

84 conscientiousness (Kim et al., 2019). The study aims to enhance understanding of how

85 implementing green HRM practices enhances P-EP via employees' levels of connectedness

86 to nature based on social exchange and environmental identity theory (Rezapouraghdam,

87 Alipour, & Darvishmotevali, 2018). In addition, this research empirically examines

88 conscientiousness as a psychological lever to strengthen the relationship between green HRM

89 and the P-EP of employees. Value–belief–norms theory sheds light on the social and

90 psychological interactions that employees experience when engaging in environmental

91 activities. The aim of this study is to highlight individual and institutional factors and their

92 interaction in the organization as determinants of P-EP (Pham et al., 2019).

93   Despite the importance of the complexity of employees' environmental behavior, this study

94   is, to the best of the researcher's knowledge, the first to investigate a mediating process and a

95   moderating mechanism between green HRM practices, personal traits, and employees'

96   environmental behaviors in the context of hospitality in Kazakhstan (Almaty), Central Asia

97   (Chaudhary, 2020). Such environmental studies are needed in developing economies to

98   minimize environmental damage and institutionalize a culture of environmental protection

99   within various industries, especially the hotel industry.

100   The results provide a comprehensive overview of previous relevant findings and expand the

101   knowledge about green behavior determination. Practically, the results will broaden the

102   horizons of regional companies on environmental issues and raise awareness of global

103   concerns about environmental sustainability.

104   **Theoretical Framework**

105   The research model depicts a structural analysis of the relationship among green HRM,

106   connectedness to nature, conscientiousness, and P-EP in the hospitality industry, as shown in

107   Fig. 1. The relationships among the study constructs are supported based on three theories:

108   social exchange theory, environmental identity theory, and value–belief–norms theory.

109   *Social Exchange Theory*

110   Social exchange theory proposed a potentially helpful approach to understanding, predicting,

111   and changing attitudes and behaviors about nature (Paillé, Boiral, & Chen, 2013). This theory

112   has often been used to explain human interactions, especially those in which individuals seek

113   to gain something from a relationship. The approach emphasizes that relationships must be

114   valuable and reciprocal in order to be sustainable, helping us to understand why and how

115   reciprocity between an organization and its employees makes it necessary to perform on the

116   job in ways that favor the environment (Paillé, Mejía-Morelos, Marché-Paillé, Chen, & Chen,

117   2016). It has been suggested that social support, including organizational actions of human

118   resources toward employees to motivate them to achieve a particular type of performance

119   (e.g., P-EP), is an essential input for social exchange between the organization and its

120   employees (Paillé et al., 2016).

121   *Environmental Identity Theory*

122   To predict individuals' behavior, the identities that claim and the meanings associated with

123   these identities must be examined (Stets & Burke, 2000). The theory of environmental

124   identity (Clayton, 2003) proposes that an environmental identity is a part of how individuals

125   form their self-concept. Environmental identity is defined as a feeling of connectedness to

126   part of the inhuman natural environment, based on history, emotional attachment, and/or

127 something similar that affects how people perceive and act toward the world. It emphasizes

128 the belief that the environment is vital to all of us and is a significant part of who we are.

129 According to environmental identity theory, individuals choose to enact environmental

130 behaviors when these types of behaviors are in line with the meaning they ascribe to their

131 identity. If people identify themselves as being part of the environment and feel more

132 connected to nature, then it is very likely that they will show more environmental behaviors

133 (Stets & Biga, 2003). The authors employ this theory to explain the mediation analysis in this

134 study since, according to this theory, it can be claimed that green HRM training increases

135 individuals' self-awareness concerning the environment and leads them to be more connected

136 to the environment and nature, which ultimately tends to lead to green behaviors.

137 *Value–Belief–Norms Theory*

138 The value–belief–norms (VBN) theory (Stern, Dietz, Abel, Guagnano, & Kalof, 1999)

139 explains the influence of human values and beliefs on behavior in an environmentalist

140 context. In particular, the theory tries to explain the relationship between individuals' values,

141 beliefs, and norms and their behaviors along a causal chain (Stern, 2000). In the discussion of

142 organizational performance, significant emphasis has been placed on the role of individuals'

143 characteristics, their beliefs, and their norms. According to the VBN theory of

144 environmentalism, pro-environmental beliefs and personal norms affect pro-environmental

145 behavior (Stern, 2000). Of all the variables in the VBN model, personal norms are the most

146 popular predictors of PEB in different sectors (Ghazali, Nguyen, Mutum, & Yap, 2019).

147 Because there is a strong relationship between personality traits and individuals' norms and

148 values (Parks-Leduc, Feldman, & Bardi, 2015), this theory is used here to explain the

149 moderating relationship between the study variables.

150

151　**Conceptual Framework**

152　*Literature review*

153　*Green Human Resource Management*

154　The functions of green HRM are similar to those of traditional HRM but with an additional

155　"green bend" (Renwick, Redman, & Maguire, 2013). Green HRM is a term that has been

156　interpreted in different ways. One of these interpretations is that green HRM involves HRM

157　activities to increase environmental benefits (Kramar, 2014). Green HRM focuses on

158　supporting the company's environmental goals, which can be achieved by planning and

159　implementing HRM practices and policies and promoting employees' attitudes toward

160　environmentally friendly behavior (Ren, Tang, & Jackson, 2018). The green HRM method is

161　considered the best way to help organizations implement environmentally friendly programs,

162　especially by creating green employees who can assess environmental problems in the

163　organization's activities.

164　Green HRM has been explained as the philosophies, practices, and policies of HRM that help

165　sustain business and prevent damage from anti-environmental activities in the organization

166　(Yusoff, Nejati, Kee, & Amran, 2018). Green HRM focuses on employee training that

167　promotes green practices and increases employees' environmental awareness, environmental

168　efficiency, environmental involvement, and environmental performance. The various green

169　HRM actions aim to strengthen environmental goals, develop an environmentally friendly

170　workforce, and maintain a commitment to environmental sustainability (Kim, Kim, Choi, &

171　Phetvaroon, 2019). Green HRM involves functions such as hiring employees with

172　environmental awareness or training existing employees to become green employees to

173　achieve the organization's environmental goals (Opatha & Arulrajah, 2014). It is an

174　organizational practice directed toward creating and controlling policies that regulate the

175 relationship of the organization's employees with its green goals (Yong, Yusliza, Ramayah,

176 & Fawehinmi, 2019). Green HRM is a relatively new approach, and it can help complement

177 human resource functions such as recruitment and selection, motivation, training and

178 development, evaluation, and reward (Jiang, Lepak, Hu, & Baer, 2012). According to

179 Renwick et al. (2013), green HRM's primary strategy is investing in people concerned about

180 environmental issues. The environmental scholars Opatha and Arulrajah (2014) claimed that

181 the four prominent roles of green HRM are conservationist, preservationist, non-polluter, and

182 maker of the organization. In addition, green HRM means motivating employees by

183 introducing a reward system that can help evaluate their environmentally friendly individual

184 performance. It includes staff empowerment to allow employees to participate in

185 organizational environmental processes and create an environmentally friendly organizational

186 culture (Kim et al., 2019).

187 *Pro-environmental Behaviour*

188 The employee green behavior concept plays an essential role in an organization's

189 environmental sustainability, as it transforms the company's strategic sustainability policy

190 into actions (Galpin & Whittington, 2012). Stern (2000) describes employees' environmental

191 behavior in terms of activities to reduce the negative consequences of people's actions, such

192 as waste minimization, recycling, and water- and energy-saving. P-EB has been described as

193 a specific type of measurable employee behavior or performance that positively impacts on

194 the environment (Unsworth, Dmitrieva, & Adriasola, 2013). Employees can be

195 environmentally friendly while performing their assigned tasks. They can also make broader

196 "greener" changes to their workplace policies with the organization's support (Ramus &

197 Steger, 2000). Green employee behavior is essential in helping protect the environment, and

198 it significantly contributes to corporate social responsibility (Cabral & Jabbour, 2020).

199 P-EP can be categorized as task-related or proactive. Task-related P-EP is behavior that the

200 organization formally requires according to the framework that defines behavior, such as

201 resource conservation (Norton, Zacher, & Ashkanasy, 2014). It requires employees'

202 necessary work tasks to be fulfilled in an environmentally friendly manner; hence, special

203 attention is placed on the extent to which employees implement their main organizational

204 duties in ways that contribute to the conservation of natural resources and environmental

205 protection (Bissing-Olson, Iyer, Fielding, & Zacher, 2013). For instance, a hotel receptionist

206 printing a report draft in double-sided (rather than single-sided) format shows high task-

207 related P-EP. On the other hand, proactive P-EP is a performance that exceeds what is

208 expected to ensure environmental sustainability, and that takes place outside the

209 organizational framework; it involves personal initiative (Norton et al., 2014). The concept of

210 proactive P-EP refers to how employees take the initiative in green behaviors beyond their

211 required job responsibilities (Frese & Fay, 2001). Proactive behavior implies a self-dependent

212 and active approach to work, such as offering recommendations, making changes, identifying

213 problems, and finding creative solutions to potential issues and failures to improve existing

214 organizational processes (Frese & Fay, 2001). Proactive behavior can also be characterized as

215 supportive behavior aimed at protecting the environment and carried out mainly for the

216 benefit of society (Griskevicius, Tybur, & Van den Bergh, 2010). An example of high

217 proactive P-EP would be installing new trash bins next to workstations to encourage hotel

218 employees to contribute to the recycling of paper or plastic (Bissing-Olson et al., 2013).

219 Bissing-Olson et al. (2013) emphasized that daily task-related and daily proactive pro-

220 environmental forms of workplace behavior are different but related. Although the two

221 categories of P-EP are similar, it is important to note that they differ in the contexts in which

222 they are used. Proactive P-EP goes beyond ordinary employee tasks and involves more

223 proactive and self-sufficient techniques for solving environmental problems in the workplace.

224 Task-related behavior occurs only within the organizational responsibilities assigned to

225 employees (Bissing-Olson et al., 2013; Francoeur, Paillé, Yuriev, & Boiral, 2019).

226 *Connectedness to Nature*

227 The term "connectedness to nature" is frequently used to describe the enduring relationship

228 between individuals and nature, including the individuals' emotions, attitudes, and behaviors.

229 According to Schultz (2002), connectedness to nature is "the extent to which an individual

230 includes nature within his/her cognitive representation of self" (p. 67). Connectedness to

231 nature can also be described as the trait of individuals that makes them feel emotionally

232 connected to the natural world (Mayer & Frantz, 2004). Zylstra, Knight, Esler, and Le

233 Grange (2014) defined connection to nature as a sustainable state that includes cognitive,

234 emotional, and empirical attributes of the environment, which are achieved through attitudes,

235 persistent environmental behaviors, and sustainable awareness of the interrelationship

236 between self and the rest of nature. Nisbet, Zelenski, and Murphy (2009) defined the term

237 connectedness to nature as the connection between humans and other living beings, which

238 includes a love of nature, enjoyment of it, and an understanding of the importance of all

239 aspects of nature, even those that are not aesthetically pleasing. Environmental research has

240 shown that individuals who are more in touch with nature exhibit more positive behaviors

241 toward the environment, wildlife, and natural habitats.

242 *Conscientiousness*

243 In the discussion of organizational performance, significant emphasis has been placed on the

244 role of personal character traits (Kotler, Bowen, Makens, & Baloglu, 2017). Engagement in

245 pro-environmental behaviors is closely related to employees' environmental attitudes, values,

246 beliefs, and norms (Li, Zhao, Ma, Shao, & Zhang, 2019; Peng, Lee, & Lu, 2020). Peng et al.

247   (2020) have argued that the success of organizations in showing pro-environmental behavior

248   is inseparable from the presence of environmentally oriented individual employees. Recent

249   studies have considered the individual personal characteristics that make a significant

250   contribution to the development of an organization's green goals (Dhanbad, 2017; Pavalache-

251   Ilie & Cazan, 2018; Yu & Yu, 2017).

252   Conscientiousness, which is one of the big five personality traits, is the focus of the present

253   study. Relative to the other four traits, conscientiousness has been described as the most

254   reliable predictor of all occupations that assess employee job performance (Schmidt & Ryan,

255   1993). Conscientious people are reliable, responsible, organized, disciplined, and very

256   orderly and precise in their work. Employees with this personality trait are very loyal to the

257   organization in which they work, because they are with, rather than sit on the edges of, the

258   organization (Farrukh, Ying, & Mansori, 2017). Conscientiousness includes responsibility,

259   scrupulousness in work, discipline, and self-control, as well as organizing skills. People with

260   high levels of conscientiousness think before they act and try to follow the rules seriously

261   (Gerber et al., 2011). In addition, conscientious employees are more trustworthy and stable,

262   thanks to their extra work effort, and try to increase the efficiency of their organization

263   (Terrier, Kim, & Fernandez, 2016). It has been shown that conscientious workers seek to

264   build lasting relationships with the organizations they work at, as they are highly committed

265   (Obeid, Salleh, & Nor, 2017). A highly conscientious individual is likely to achieve more in

266   professional fields than others, and will be focused, accurate, and coherent in their

267   performance (Hassan, Akhtar, & Yılmaz, 2016). Given these, it can be assumed that if a hotel

268   is inclined to pay attention to the environment, conscientious employees support the

269   organization's "green" standards more than other employees do because they are loyal and

270   follow organizational initiatives. Conscientious workers take the concept of green more

271 seriously than other workers (Dhanbad, 2017) and are therefore a very critical variable for

272 environmental studies.

273 *Hypothesis Development*

274 *Direct and Mediation hypothesis*

275 The present study applies social exchange theory to provide a fresh perspective on the

276 relationship between green HRM and P-EP. According to social exchange theory (Emerson,

277 1976), if employees perceive support for and benefits of green practices, they are likely to

278 participate voluntarily in green activities (Paillé & Meija-Morelos, 2019; Pham et al., 2019).

279 Typically, social exchange theory is used to clarify the application of HRM policies and

280 practices to employees' mutual behaviors (Pham et al., 2020). Through the lens of P-EP, task-

281 related and proactive P-EP – representing two reciprocal types of employee behavior – have

282 become an active area of research in green HRM studies (Chaudhary, 2020; Tian, Zhang, &

283 Li, 2020; Zhang, Luo, Zhang, & Zhao, 2019). Findings have indicated that green HRM

284 practices affect both task-related and voluntary green behaviors indirectly (Zhang et al.,

285 2019) and affect in-role green behavior both directly and indirectly. However, these practices

286 indirectly affect extra-role behavior (Dumont, Shen, & Deng, 2017). In this way, it can be

287 proposed that green HRM improves employees' green behavior in the workplace and leads to

288 task-related and proactive P-EP; thus, this study addresses the following hypothesis:

289 *H1a: Green HRM has a positive effect on hotel employees' task-related P-EP.*
290 *H1b: Green HRM has a positive effect on hotel employees' proactive P-EP.*
291

292 Besides examining the magnitude of the green HRM–P-EP relationship, the causal

293 mechanisms that might underpin that relationship have been this study's focus. Using a

294 variety of methodologies and measures, researchers have shown that connectedness to nature

295 leads to many desirable outcomes, such as belief in climate change (Wang, Geng, Schultz, &

296 Zhou, 2019), ecological behavior (Yang, Hu, Jing, & Nguyen, 2018), and pro-environmental

297 behaviors (Krettenauer, Wang, Jia, & Yao, 2020; Liu, Geng, Ye, & Zhou, 2019). The theory

298 of environmental identity developed by Clayton (2003) emphasizes the interconnected

299 aspects of the relationship between humans and nature. In particular, contact with nature (or

300 some elements of nature) can create a sense of belonging to or being part of it. This, in turn,

301 can lead to the development of a relationship between the individual and nature, which can

302 also affect the behavior associated with maintaining that relationship; for example,

303 volunteering in wildlife conservation organizations or demonstrating environmentally

304 friendly behaviors (Clayton, 2003).

305 It has been argued that in order for individuals to feel responsible for the environment and

306 take environmentally friendly actions, they must be in touch with nature and feel connected

307 to nature as a simple and plain member of their environment (Frantz & Mayer, 2014). Green

308 HRM practices enhance employees' environmental awareness of, motivation toward, and

309 involvement in green activities, which is assumed to increase employees' connectedness to

310 nature and green goals.

311 Rezapouraghdam et al. (2018) demonstrated the significant mediating role of connectedness

312 to nature between the causal relationship of workplace spirituality and employees' pro-

313 environmental behavior (organizational citizenship behaviour for the environment) in the

314 hospitality industry. They stated that connectedness to nature, as an emerging concept in the

315 hospitality industry, is a strong cognitive and effective predictor of pro-environmental

316 behavior. In another study, researchers investigated the mediating role of connectedness with

317 nature for pro-environmental behavior (Krettenauer et al., 2020). They asserted that effective

318 promotion of pro-environmental behavior among individuals should target culturally specific

319 mechanisms, such as connectedness with nature, which indicates the significant role of this

320 variable. Given these, it can be assumed that a relationship with nature may motivate

321 employees to show discretionary behavior such as proactive P-EP in addition to task-related

322 P-EP. In this regard, understanding the causal mechanisms through which connectedness to

323 nature mediates the green HRM and P-EP relationship is important for theory development

324 and practice. Therefore:

325 *H2a: Connectedness to nature mediates the impact of green HRM on task-related P-EP.*
326 *H2b: Connectedness to nature mediates the impact of green HRM on proactive P-EP.*

327 *Moderation hypothesis*

328 VBN theory provides the basis for research on regulatory factors that contribute to

329 sustainable environmental behaviors and attitudes (Stern et al., 1999; Stern, 2000).

330 Individuals' choices with respect to their activities to protect the environment can be

331 determined by personal norms, namely, an inner sense of commitment to act in a particular

332 manner. VBN theory states that green behavior is more likely to occur when there is a causal

333 chain of variables of values, beliefs, and norms, all of which influence the behavior of

334 organizational employees (Ghazali, Nguyen, Mutum, & Yap, 2019). Scholars believe that

335 there is a notable impact of individual ecological values on employees' green behavior; these

336 discoveries point to a coordinated connection between employees' green values and

337 employees' PEP (Yu & Yu, 2017).

338 According to Norton (2016), behavioral beliefs and personal characteristics play important

339 roles in both types of P-EP. Conscientiousness is the only component of the five-factor model

340 that plays a decisive and positive role in all the research results related to success

341 (Duckworth, Weir, Tsukayama, & Kwok, 2012). Numerous studies have established that

342 success results from a person's conscientious personality (e.g., Tu, Lu, Wang, & Liu, 2020;

343 Wilmot & Ones, 2019). However, the study of the role of conscientiousness in pro-

344 environmental behaviors and performance has been very limited, and more work needs to be

345 done on this valuable construct. A meta-analysis study of personality traits and personal

346 values by Parks-Leduc, Feldman, and Bardi (2015) established that conscientious individuals

347 tend to value order, adherence to rules, and the avoidance of risks. They also tend to value

348 fitting in (conformity) and having socially recognized accomplishments (achievement). To

349 understand P-EP in depth, both personal and organizational norms (a set of rules for human

350 behavior in the organization) should be considered. It is proposed that employees must

351 interact with the organization and the green practices established there in order to agree,

352 accept, and follow the organization's green behavioral activities (Unsworth, Dmitrieva, &

353 Adriasola, 2013). Although VBN theory explains and predicts P-EP (Hwang, Kim, & Kim,

354 2020; Kim & Stepchenkova, 2020; Sharma & Gupta, 2020), to the best of our knowledge

355 there has been no research on the effect of the interaction of individual and organizational

356 characteristics, norms, and values that can further enhance pro-environmental behavior

357 among employees in the hotel industry.

358 It is apparent that the interaction impact of green HRM and conscientiousness is essential for

359 enhancing employees' green behavior. The tendency of highly conscientious individuals to

360 show self-discipline, act dutifully, and strive for achievement and success could explain their

361 deeper engagement in pro-environmental actions (Pavalache-Ilie & Cazan, 2018). Applying

362 VBN theory, this study proposes that conscientious employees will tend to feel connected to

363 nature and exhibit pro-environmental behaviors when there is green HRM in the

364 organization. Accordingly, the following hypotheses are proposed:

365 *H3a: The interaction impact of green HRM and conscientiousness will enhance hotel*
366 *employees' task-related P-EP.*

367 *H3b: The interaction impact of green HRM and conscientiousness will enhance hotel*
368 *employees' proactive P-EP.*

369 *H3C: The interaction impact of green HRM and conscientiousness will enhance hotel*
370 *employees' connectedness to nature.*

371

372　The study model (Figure 1) shows a structural analysis of the study variables (green HRM,

373　conscientiousness, connectedness to nature, task-related and proactive P-EP).

374

375　**(Figure 1)**

Methodology

Research design

376 The present research is designed based on hypo-deductive quantitative analysis (Bansal,

379 Smith, & Vaara, 2018). Thus, the research model and hypotheses were developed based on

380 theories and related studies in the literature and then evaluated using quantitative data

381 collected via a survey among hotel employees in Almaty, Kazakhstan. Finally, the reliability

382 and validity of the data were analyzed, and the hypotheses tested, using advanced statistical

383 techniques and software.

Research context

385 The study was conducted in Almaty, one of the most visited cities in the Republic of

386 Kazakhstan. Kazakhstan is an important member of the Silk Road from China to Europe

387 (Gursoy & Altinay, 2021), and Almaty, as an ancient site, was once on the great Silk Road.

388 Almaty is in southeastern Kazakhstan and is the former capital and largest city of

389 Kazakhstan. The city is developed and modern, and is a center of knowledge, culture, history,

390 industry, and economy, which significantly contributes to Kazakhstan's development

391 (Ostrovskiy, Garkavenko, & Rybina, 2021; Smykova, 2012). According to available

392 information, Kazakhstan intends to significantly reduce the risks, damage, and harmful

393 activities to the environment in the country. For example, Kazakhstan has been taking bold

394 steps in waste management to enhance the country's share of municipal solid waste recycling

395 (Amantayeva, Alkuatova, Kanafin, Tokbolat, & Shehab, 2021).

396 Almaty is the first city in central Asia to have begun to identify circular economy

397 opportunities. The city aims to achieve sustainable growth by means of new cross-sectoral

398 circular economy strategies such as shifting paradigms. The city is one of Kazakhstan's most

399 important tourist destinations, with more than 40 five- and four-star hotels and numerous

400   food and beverage services. As an integral part of the tourism industry, hospitality has made a

401   notable contribution to improving and developing domestic and foreign economic relations in

402   the country (Myrzaliyev et al., 2018). However, to the best of the authors' knowledge, the

403   environmental policies of the hotel industry in Kazakhstan have not yet been seriously

404   researched. The hospitality industry makes significant contributions to environmental

405   pollution (e.g., via effluents from energy and water consumption, production and use of

406   consumable and durable goods, toxic air pollutants and ozone-depleting substances, and solid

407   and hazardous waste creation) (Arici & Uysal, 2021; Gürlek & Koseoglu, 2021). Further

408   research is thus needed to examine the process therein and find solutions, and to identify

409   practical strategies to prevent and reduce these environmental issues to the greatest extent

410   possible. The current research is one of the first studies to examine green HRM and its

411   outcomes among hotel employees in Almaty, Kazakhstan.

412   *Sample and participants*

413   Judgment sampling was applied to identify four- and five-star hotels to increase the

414   likelihood of selecting the most appropriate sample. High-star hotels are more likely to adopt

415   progressive green HRM policies and practices in their operations due to the fact that their

416   basic structure and organizational culture make it easier for them to accept and implement

417   green planning (Pham et al., 2020; Abdou, Hassan, Dief, & Moustafa, 2020). Moreover, four-

418   and five-star hotels have shown a high commitment to protecting nature and the environment

419   in all sectors (Abdou et al., 2020). Previous studies on green HRM and environmental

420   outcomes have also collected data from similar-star hotels (Ababneh, 2021; Abdou et al.,

421   2020; Pham et al., 2019).

422   Procedural and statistical remedies were applied to reduce common method bias before and

423   during data collection and analysis, (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). First,

424   the questionnaires included instructions on how to fill out the survey, and information about

425   the voluntary nature of the survey and the confidentiality and anonymity of the responses.

426   Second, the authors ensured that the language of each item was as clear and simple as

427   possible. Third, the order of the statements was designed to reduce the probability of

428   respondents "guessing" the answer of choice (Malhotra, Kim, & Patil, 2006).

429   In 2020, a formal survey was conducted. Of 41 hotels (8 five-star and 33 four-star hotels), 15

430   agreed to cooperate with us (5 five-star and 10 four-star hotels). With the approval of the

431   respective human resource departments, sealed-envelope questionnaires were distributed

432   among hotel employees in different departments. The respondents were required to answer

433   the statements honestly and return the completed questionnaire to the designated person. Out

434   of 286 questionnaires issued, a total of 222 were returned; of these, two were removed due to

435   incomplete or missing data, and the rest were considered valid for further analysis (response

436   rate = 76.9%). The sample size corresponds to that of other studies conducted in Kazakhstan

437   (Trusheva & Syzdykbaeva, 2018; Nahipbekova & Kuralbayev, 2018; Kelesbayev,

438   Abubakirova, & Sanlier, 2018).

439   Respondents' demographic information indicates that the study sample is heterogeneous.

440   Results indicate that respondents vary in age, work experience, education, and gender.

441   The results show that out of 220 questionnaires, 36.82% (n = 81) were completed by

442   employees of five-star hotels, and the rest (63.18%, n = 139) by those of four-star hotels. Of

443   the respondents, 53.2% (n = 117) were between the ages of 18 and 27, while only 0.5% (n =

444   1) were aged 58 or above. More than half of the respondents (55.9%, n = 123) had

445   undergraduate degrees, and 23.2% (n = 51) had completed vocational education. More than

446   half of the respondents (55.9%, n = 123) were men, and the rest were women (44.1%,

447   n = 97). In terms of tenure, 33.6% (n = 74) had work tenure of between one and five years;

448   only 5.5% (n = 12) had 16 years or more of work tenure.

449   *Measurement*

450   Six items adapted from Shen and Benson (2016) and Hsiao et al. (2014) and used by Kim et

451   al. (2019) were used to evaluate green HRM. Employee task-related P-EP was tested by using

452   three items from Bissing-Olson et al. (2013), which were also used by Dumont et al. in their

453   2017 study. Employee proactive P-EP was evaluated using a further three items from the

454   work of Bissing-Olson et al. (2013), which were again used by Dumont et al. (2017).

455   Connectedness to nature was tested using six items from Gosling and Williams (2010), which

456   were also adopted by Rezapouraghdam et al. (2018). Finally, conscientiousness was tested

457   using nine items from the work of John and Srivastava (1999), which were also adopted by

458   Abbas and Raja (2019). The respondents were asked to respond to all the questions on a five-

459   point Likert scale. All the measurement instruments were created in English, translated into

460   Russian by a professional Russian–English translator, and back-translated into English to

461   check their comparability.

462   *Analysis*

463   Statistical analysis of data was performed using AMOS statistical software package.

464   Structural equation modeling was used to conduct a series confirmatory factor analysis (CFA)

465   to evaluate measurement reliability and validity and model fit based on the data, and also to

466   examine the hypothesized relationships of the constructs.

467 **Results**

468 *Data Normality*

469 In the first step, a normality test was conducted. Skewness and kurtosis were examined to

470 evaluate the data normality. As shown in Table III, the skewness and kurtosis values for each

471 construct were within the accepted range of ±2, and thus confirm data normality (George and

472 Mallery, 2010; Hair, Black, Babin, & Anderson, 2010).

473 *Construct Validity and Reliability of Measurement Instruments*

474 The accuracy (validity) and consistency (reliability) of the measurements were tested via

475 maximum likelihood estimation using AMOS. The factor loadings ranged from 0.633–0.732

476 for green HRM, 0.798–0.831 for task-related P-EP, 0.717–0.755 for proactive P-EP, 0.655–

477 0.809 for connectedness to nature, and 0.531–0.898 for conscientiousness. Three items

478 (CON1, CON3, and CON5) from the conscientiousness measures, one item (GHRM1) from

479 the green HRM measures, and one item (PRO1) from the proactive P-EP measures were

480 removed from subsequent analysis due to their non-significant loadings and to increase the

481 average variance extracted (AVE) value. Cronbach's alpha values were above 0.70 for all

482 four variables (green HRM = 0.832, task-related P-EP = 0.854, proactive P-EP = 0.702,

483 connectedness to nature = 0.813, and conscientiousness = 0.882), which provides evidence of

484 construct reliability.

485 Composite reliability (CR) and AVE values were used to test convergent validity (CR > 0.70;

486 AVE > 0.50; CR > AVE) (Fornell & Larcker, 1981). After that, the AVE and CR values for

487 each latent variable were greater than 0.50 and 0.70, respectively (e.g., for green HRM, CR =

488 0.881; AVE = 0.598). Maximum shared squared variance (MSV), average squared variance

489 (ASV), and the square root of the AVE were calculated to evaluate the discriminant validity

490 (MSV < AVE; ASV < AVE) (Hair et al., 2010). The MSV and ASV results for each latent

491 variable are lower than the AVE values, and the square root of the AVE of each latent

492 variable is greater than its correlation coefficients with other variables (e.g., for green HRM,

493 MSV= 0.360; ASV = 0.375; √AVE = 0.733). Together, these results confirm the convergent

494 and discriminant validity, which indicates that the common method bias is not a threat in the

495 current study. Measurements, standardized loadings, and values for Cronbach's alpha, CR,

496 AVE, √AVE, MSV, and ASV are provided in Table I.

497 **(Table I)**

498 *Goodness-of-Fit Statistics for the Research Model*

499 The factorial validity and the measurements' goodness-of-fit were also tested by conducting

500 two series of CFAs. As shown in Table II, the five-factor model fits the data reasonably well

501 (χ^2 = 270.364, *df* = 199; χ^2/df =1.359; comparative fit index [CFI] = 0.964; incremental fit

502 index [IFI] = 0.965; goodness of fit index [GFI] = 0.901; and root mean square residual

503 [RMR] = 0.053).

504 **(Table II)**

505

506 *Descriptive Statistics*

507 Table III reports the means, correlations, and standard deviations among the main study

508 constructs. Green HRM correlated significantly (p < .001) with task-related P-EP (r = 0.290),

509 proactive P-EP (r = 0.517), connectedness to nature (r = 323), and conscientiousness (r =

510 .313). Task-related P-EP correlated significantly (p < .001) with proactive P-EP (r = 0.368)

511 and conscientiousness (r = 0.417), and correlated significantly (p < .01) with connectedness

512 to nature (r = 0.174). Proactive behavior correlated significantly (p < .001) with

513 connectedness to nature (r = 0.283) and conscientiousness (r = .286). The result shows no

514 significant correlation between connectedness to nature and conscientiousness (r = 0.103).

515 **(Table III)**

516

517 *Direct, Mediating, and Interaction Effects*

518 Table IV presents the findings for the direct effects and the two mediating effects. H1a and

519 H1b assess the causal relationship between green HRM and task-related P-EP, and proactive

520 P-EP, respectively. The findings demonstrate that green HRM is positively related to task-

521 related P-EP (β = 0.282, p < 0.001) and proactive P-EP (β = 0.459, p < 0.001), which

522 supports H1a and H1b. The results of the mediation analysis indicate that the relationship

523 between green HRM and task-related P-EP (β = 0.174, p < 0.01), and green HRM and

524 proactive P-EP (β = 0.285, p < 0.001), are mediated by connectedness to nature. Therefore,

525 H2a and H2b are confirmed.

526 **(Table IV)**

527

528

529 Interaction analysis was used to test hypotheses H3a, H3b, and H3c (Table V & Figure 2).

530 H3a proposes that conscientiousness moderates the impact of green HRM on task-related P-

531 EP.

532 The results demonstrate that green HRM (β = 0.282, t = 4.344, p < .001) and

533 conscientiousness (β = 0.417, t = 6.789, p < .001) impact positively on task-related P-EP. The

534 interaction effect of green HRM and conscientiousness (β = 0.402, t = 6.494 p < .001) on

535 task-related P-EP is significant, suggesting that conscientiousness strengthens the positive

536 effect of green HRM on task-related P-EP.

537   H3b proposes that conscientiousness moderates the impact of green HRM on proactive P-EP.

538   The results demonstrate that green HRM (β = 0.459, t = 7.636, p < .001) and

539   conscientiousness (β = 0.277, t = 4.272, p < .001) impact positively on proactive P-EP. The

540   interaction effect of green HRM and conscientiousness (β = 0.461, t = 7.683, p < .001) on

541   proactive P-EP is significant.

542   H3c proposes that conscientiousness moderates the impact of green HRM on connectedness

543   to nature. The results demonstrate that green HRM (β = 0.330, t = 5.168, p < .001) impact

544   positively on connectedness to nature; however, the findings show a non-significant beta

545   coefficient for the impact of conscientiousness (β = 0.103, t = 1.540, n.s.) on connectedness

546   to nature. Although the direct effect of conscientiousness was not significant, the results show

547   a significant effect of green HRM and conscientiousness (β = 0.272, t = 4.176, p < .001) on

548   connectedness to nature.

549

550   **(Table V)**

551
552
553

554   **(Figure 2)**

555 **Conclusions**

556 *Discussion*

557 Previous research in the area of environmental behaviors has suggested that green attitudinal

558 and behavioral outcomes contribute to environmental sustainability through huge waste and

559 cost reductions that save money, time, and resources (e.g., Pham et al., 2020; Singh et al.,

560 2020). In addition, environmental behaviors contribute to dealing with environmental problems

561 and strengthening an organization's sustainable development (Pham et al., 2019). In this

562 connection, the present study tests the direct, mediating, and interaction effects of

563 organizational and personal factors to predict task-related and proactive P-EP in the context of

564 hospitality.

565 The findings support hypothesis H1a, according to which green HRM has a positive effect on

566 task-related P-EP. This result is consistent with the findings of the studies of Chaudhary

567 (2020), Lu, Liu, Chen, and Long (2019), and Dumont et al. (2017), who also found that the

568 organization's green HRM practices influence employees' task-related attitudes and

569 performance. Task-related P-EP involves behavior that is formally required by the organization

570 and is performed within the context of the employee's duties (Bissing-Olson et al., 2013). In

571 line with the arguments of Chaudhary (2020) and Cabral and Jabbour (2020), the present

572 study's findings show that by involving employees in green activities, green HRM promotes

573 environmental activities; in other words, green HRM practices increase employees' awareness

574 of the environment and create positive behavior toward the environment in their lives. These

575 findings are particularly important in the context of the hospitality industry, as they show that

576 the industry is taking an approach to protecting the environment that is collective and

577 responsible, creating awareness among hospitality employees through green HRM practices.

578 The results of this study also provide support for H1b, according to which green HRM has a

579 positive effect on proactive P-EP. This important finding is in line with the results of Saeed et

580 al.'s (2019) study, which showed that employees take the initiative and engage in proactive P-

581 EP in addition to carrying out their defined job duties under green HRM. The results also agree

582 with those of Chaudhary (2020) and Dumont et al. (2017), who found that green HRM was

583 related to extra-role workplace green behavior on the part of employees. The findings of our

584 study suggest that the hospitality industry's approach to environmental protection is proactive

585 in terms of both HRM practices and employee behaviors. The latter are not mutually exclusive,

586 and well-designed green HRM practices could lead to proactive P-EP in the hospitality

587 industry.

588 The support for H2a and H2b confirms the significant indirect relation between green HRM

589 and employees' task and proactive P-EP via a mediating role of connectedness to nature. That

590 is, employees who reported the presence of green HRM and of green practices in their

591 workplace exhibited a sense of connectedness to nature and then engaged more with P-EP in

592 their hotels. The findings of this research support environmental identity theory, which

593 proposes that if individuals gain environmental knowledge and training they will identify as

594 part of the environment and feel more connected to nature. This feeling of connectedness to

595 nature causes them to show more environmental behaviors.

596 These findings, which align with those of Rezapouraghdam et al. (2018), Restall and Conrad

597 (2015), and Barbaro and Pickett (2016), suggest that implementing green HRM practices and

598 satisfying the spiritual and intrinsic needs of employees will stimulate their sense of

599 connectedness to nature, and ultimately provides a condition that enhances their tendency to

600 exhibit different types of P-EPs. The results also show that if employees have a better

601 understanding of the environment and look at themselves as part of it, and reach a point at

602 which they can contribute to protecting it, they will take responsibility for getting involved

603 with environmental issues and activities in the workplace (Kim et al., 2019; Roscoe,

604 Subramanian, Jabbour, & Chong, 2019).

605 It can also be argued that connectedness to nature as a result of green HRM practices in the

606 workplace can lead to conducting eco-friendly tasks and behaviors using a sense of

607 connectedness to the environment and, of course, environmental protection strategies. The

608 results confirm that green HRM leads to employees' commitment to act in the best interest of

609 the natural environment and to protect it. In this respect, the greening of organizations and

610 implementation of green HRM practices appears to result, to a large extent, from the

611 aggregation of a multitude of pro-environmental behaviors in the workplace, such as task-

612 related and proactive P-EP, via creating a sense of affiliation with nature (Barbaro and Pickett,

613 2016; Boiral, Paillé, & Raineri, 2015; Restall & Conrad, 2015; Rezapouraghdam et al., 2018).

614 Moreover, it could be argued that the nature-loving culture in Kazakhstan and the desire to

615 protect the environment and live in tandem with nature (Seilov, 2015) explains the mediating

616 effect of connectedness to nature in the relationship between green HRM and P-EB.

617 Furthermore, the interaction effect of green HRM and conscientiousness strengthens the

618 positive impact on task-related and proactive P-EP; thus, hypotheses H3a and H3b are

619 supported. Previous research (Obeid et al., 2017; Schmidt & Ryan, 1993; Terrier et al., 2016;

620 Wilmot & Ones, 2019) has identified conscientiousness as the most reliable predictor in all

621 occupations among the five personality traits that influence employees' job performance. The

622 findings of our study are in line with the suggestion of previous research that conscientious

623 employees possess all the qualities necessary to contribute to the organization's environmental

624 goals, and that employees with the personality quality of conscientiousness are more disposed

625 to contribute to these goals (Ababneh, 2021). In addition, consistent with the VPN theory that

626 states employees are more likely to engage in certain behavior when they believe that their

627 organization acknowledges and values those actions; the results show that contentious

628   employees engage in green behavior when they perceived that their organization and

629   colleagues considered and valued environmental issues. More specifically, if hotel

630   organizations introduce environmentally friendly HRM practices, they can expect more

631   committed environmentally friendly behavior (both task-related and proactive P-EP) from

632   conscientious employees than they can expect from less conscientious employees.

633   The results partially supported H3c, which proposes that the interaction impact of green HRM

634   and conscientiousness will enhance hotel employees' connectedness to nature. However, the

635   results show a non-significant correlation between conscientiousness and connectedness to

636   nature, while the interaction impact of these two variables significantly and positively impact

637   connectedness to nature. It can be argued that conscientiousness in work alone does not drive

638   feelings of connectedness to nature. Conscientious employees may exhibit environmentally

639   friendly behaviors based on their defined tasks; however, as the current study results show,

640   these same conscientious employees, if the organization trains them in environmental

641   management and protection, may become environmentally friendly and feel more connected to

642   nature.

643   *Theoretical Contributions*

644   This study is the first to examine the mediating and interaction mechanisms of green HRM

645   practices, connectedness to nature, and conscientiousness on employees' P-EP in the context of

646   hospitality in Kazakhstan (Almaty), Central Asia. The proposed model and the results provide

647   a comprehensive overview of previous relevant findings and add to the current state of

648   knowledge of green HRM, personal traits, P-EP, and the hospitality industry in three main

649   ways.

650   First, the application of social exchange theory provides insight into the direct effects of green

651   HRM on task-related and proactive P-EP in the hospitality industry. Previous research (e.g.,

652   Peng et al., 2020; Pham et al., 2020; Yong, 2020) studied either the impact of traditional HRM

653   practices on P-EP or the impact of green HRM practices on general employee behavior. It

654   neglected the important linkage between green HRM practices and task-related and proactive

655   P-EP in the hospitality industry. Our study is one of the first to demonstrate how green HRM

656   leads to both types of employee green behaviors in the workplace.

657   The empirical results show that connectedness to nature has a fully mediating effect in the

658   relationship between green HRM and P-EB. These findings may answer the question regarding

659   the conditions under which employees with green training show task and proactive P-EP.

660   Second, although green HRM has been shown to affect positive attitudinal, behavioral, and

661   performance outcomes, to the best of our knowledge there has not been a single experimental

662   study that has considered the intermediating process of connectedness to nature in the above

663   relationships (Barbaro and Pickett 2016; Rezapouraghdam et al. 2018). In addition, the present

664   study is one of the first to use environmental identity theory to investigate and show that green

665   HRM, through stimulating employees' connectedness to nature, impacts their P-EP.

666   Third, this study uses VBN theory to make a distinct contribution to the existing body of

667   knowledge, demonstrating the moderating role of conscientiousness in the relationship between

668   green HRM and employees' green performance. Previous research (e.g., Hassan et al., 2016;

669   Tu et al., 2020; Zhang et al., 2020) acknowledged conscientiousness as one of the antecedents

670   of job and organizational performance. However, as far as we know, no studies have gone

671   further to understand the role played by conscientiousness in conjunction with green HRM in

672   task-related and proactive P-EP in general and in the hospitality industry in particular

673   (Ababneh, 2021). Our study demonstrates that conscientiousness in the *presence* of green

674   HRM practices strengthens the green behaviors of employees in the workplace.

675

676 *Practical Contributions*

677 The findings of this study confirm the need to embed a green philosophy and environmentally

678 friendly practices in the hospitality industry. The results demonstrate a strong need for the

679 introduction and implementation of green HRM practices that can help shape employee P-EP.

680 The introduction of environmentally friendly practices in hotels will contribute to the

681 establishment of environmental behavior among personnel and will facilitate the smooth

682 implementation of employees' green duties and tasks. A green system can be established at

683 different stages and levels in hospitality organizations by embedding green philosophy within

684 the key HRM practices of selection and recruitment, training, and performance appraisal and

685 reward.

686 Hospitality organizations can adopt green selection methods as a first step toward

687 implementing strategic green HRM and selecting environmentally friendly employees. It is

688 important to assess candidates' environmental concerns by asking environment-related

689 questions during selection and recruitment interviews. Eco-friendly training and development

690 as part of green HRM are essential to inform employees about the importance of environmental

691 issues and encourage them to carry out their routine tasks in an environmentally friendly

692 manner. In addition, giving employees autonomy and the chance to be involved in

693 environmental decision-making may promote their proactive P-EP. Green performance

694 appraisal (GPA) may also encourage employees to show green behaviors. Hospitality

695 organizations could set "green goals" for each department, each team, and each employee and

696 develop green performance indicators along with green reward management in which

697 employees are rewarded for their green performance.

698 The findings of this study also indicate that organizations should consider environmental

699 programs from a broader perspective. In addition to the green HRM package, individuals'

700 talents and characteristics are crucial for employee involvement in the organization's

701 environmental initiatives. In particular, this study provides evidence that recruiting staff with

702 work conscientiousness reinforces the direct impact of green HRM interventions on

703 environmental action. Managers need to know that in order to implement and achieve green

704 goals, they need employees with rich personal resources (e.g., conscientiousness) who take a

705 positive attitude toward the organization's goals and show a high level of interaction when

706 performing both task-related and proactive P-EP.

Limitations and Future Research

708 This study has some limitations that should be noted as opportunities for further research. First,

709 it examines green HRM as a general environmental practice that leads to environmental

710 performance. It is recommended that future researchers focus on staff recruitment and

711 selection, as well as green training and development methods, in order to study the issue more

712 deeply and examine the effect of specific actions on green performance. Second, future studies

713 could usefully focus on other possible green HRM outcomes, including green consumer

714 behavior, green innovation, customer satisfaction, organizational citizenship behavior, and

715 environmental sustainability. Third, the current study has examined P-EP as a consequence of

716 green HRM; however, this research is limited by the division of P-EP across departments.

717 Therefore, in order to measure employees' green behavior in hotels and achieve more

718 comprehensive results, it is recommended that each hotel be divided by department, such as

719 front office, human resources, and housekeeping. Fourth, in this study conscientiousness served

720 as a moderator between green HRM and P-EP. A valuable extension would be to include other

721 personal and organizational factors as moderators, such as environmental self-efficacy,

722 intrinsic motivation, organizational support, and supervisors' personality traits. Fifth, the

723 process of data collection for this study was carried out in a single period of time; future studies

724   should consider applying a time lag. Sixth, the current study was conducted in Central Asia, a

725   destination that may not be well-known to many readers/tourism academics. In addition, the

726   focus of this study was not on COVID-19, this virus has forced humanity to question its

727   relationship with the environment and appreciate the importance of health and environmental

728   protection for the long-term survival of humankind (Gursoy, Can, Williams, & Ekinci, 2021).

729   Therefore, more studies in this field on similar statistical populations are needed to better

730   generalize the results. The effects of local culture and of COVID-19 may significantly impact

731   green behavior among employees; this represents an avenue for future research. Finally, since

732   the research method of this article is quantitative and the data are numerical, it is suggested that

733   future studies adopt a qualitative or mixed methods design, using interviews or other data

734   collection methods to obtain more in-depth information.

735

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Figure 1: The proposed model of P-EP

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1046   Table I Results of construct validity and reliability

	Items	Λ	Alpha	CR*	AVE**	√AVE	MSV	ASV
	Green Human Resource Management		0.832	0.881	0.598	0.733	0.360	0.375
GHRM1	Adequate trainings to promote environmental management	-						
GHRM2	Considering how well an employee is doing at being eco-friendly	0.721						
GHRM3	Relating employee's eco-friendly behavior to rewards and compensation	0.633						
GHRM4	considering personal identity-environmental management's fit for recruitment & selection	0.733						
GHRM5	Fully understanding the extent of the organization's environmental policies	0.711						
GHRM6	Encouraging employees to provide suggestions on environmental improvement	0.732						
	Task- Related P-EP		0.854	0.911	0.773	0.879	0.212	0.268
TR1	Adequately completed assigned duties in environmentally friendly ways	0.831						
TR2	Fulfilled responsibilities specified in my job description in environmentally friendly ways	0.809						
TR3	Performing tasks that are expected of me in environmentally friendly ways	0.798						
	Proactive P-EP		0.702	0.870	0.770	0.878	0.360	0.384
PRO1	Having a chance to get actively involved in environmental protection	0.755						
PRO2	Taking initiatives to act in environmentally friendly ways	0.717						
PRO3	Doing more for the environment at work than I was expected to	-						
	Connectedness to Nature		0.883	0.910	0.628	0.793	0.152	0.174
CNT1	I often feel that I am a part of nature	0.750						
CNT2	I often feel close to the natural world around me	0.717						
CNT3	I never feel a personal bond with things in my natural surroundings like trees, wildlife, or the view on the horizon	0.772						
CNT4	I often feel disconnected from nature	0.655						
CNT5	My own welfare is linked to the welfare of the natural world	0.809						
CNT6	I recognize and appreciate the intelligence of other living things	0.770						
	Conscientiousness		0.815	0.866	0.524	0.724	0.212	0.227
CON1	Seeing myself as a person who does a thorough job	-						
CON2	Can be somewhat careless	0.553						
CON3	A reliable worker	-						
CON4	Tending to be disorganized	0.576						
CON5	Seeing myself as a lazy person	-						
CON6	Persevering until finishing the task	0.531						
CON7	Doing things efficiently	0.755						
CON8	Seeing myself as a person who follows the plans	0.639						
CON9	Easily distracted	0.898						

Note: All items are measured by a on a five point Likert scale., * Composite reliability, ** Average Variance

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1050 Table II Factorial validly results

Models	Descriptions	χ2	df	χ2/df	CFI	GFI	IFI	RMR
Five factor Model	F1: GHRM; F2: TRP-EP F3: PP-EP; F4: CNT; F5: CONS	270.364	199	1.359	0.964	0.901	0.965	0.053
Four factor Model	F1: GHRM; F2: TRP-EP & PP-EP; F3: CNT; F4: CONS	368.182	203	3.393	0.917	0.867	0.918	0.083

1051 *Note:* F = Factor, GHRM = Green HRM; TRP-EP = Task-related P-EP; PP-EP; Proactive P-EP; CNT= Connectedness to Nature; CONS = Conscientiousness

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1056 **Table** III Descriptive Statistics and Correlations

Variables	Mean	Standard Deviation	Skewness	Kurtosis	1	2	3	4	5
1- Green HRM	3.215	0.772	-0.484	0.023	1.000				
2-Task- Related P-EP	3.371	0.876	-0.445	0.085	0.282*	1.000			
3- Proactive P-EP	3.148	0.937	-0.332	-0.178	0.459*	0.315*	1.000		
4- Connectedness to Nature	3.375	0.745	0.143	-0.578	0.330*	0.174*	0.285*	1.000	
5- Conscientiousness	3.868	0.710	-0.916	1.152	0.324*	0.417*	0.277*	0.103	1.000

1057 *Note :*$p<.001$ (2-tailed test).

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1069   **Table** IV Direct and Mediating Effects

		Dependent Variable					
		Task-Related P-EP		Proactive P-EP		Connectedness to Nature	
	Variables	β(p)	t	β(p)	t	β(p)	t
		Direct effect					
	Independent						
H1a&H1b	Green HRM	0.282(.00)	4.4344	0.459(.00)	7.636	0.330(.00)	5.168
		Mediating Effect					
	Mediator						
H2a&H2b	Connectedness to Nature	0.174(.01)	2.617	0.285(.00)	4.396		

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1074   **Table** V Interaction effect

	Dependent variable					
	Task-related P-EP		Proactive P-EP		Connectedness to Nature	
Variables	β(p)	t		t	β(p)	t
Independent: GHRM	0.282(.00)	4.344	0.459(.00)	7.636	0.330(.00)	5.168
Moderator: CONS	0.417(.00)	6.789	0.277(.00)	4.272	0.103(.13)	1.540
Interaction effect: GHRM×CONS	0.402(.00)	6.494	0.461(.00)	7.683	0.272(.00)	4.176

1075   *Note:* GHRM = Green HRM; CONS = Conscientiousness

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Summary of Hypotheses

H1a: Green HRM → Task-related P-EP
H1b: Green HRM → Proactive P-EP
H2a: Green HRM → Connectedness to Nature → Task-related P-EP
H2b: Green HRM → Connectedness to Nature → Proactive P-EP
H3a: Green HRM × Conscientiousness → Task-related P-EP
H3b: Green HRM × Conscientiousness → Proactive P-EP
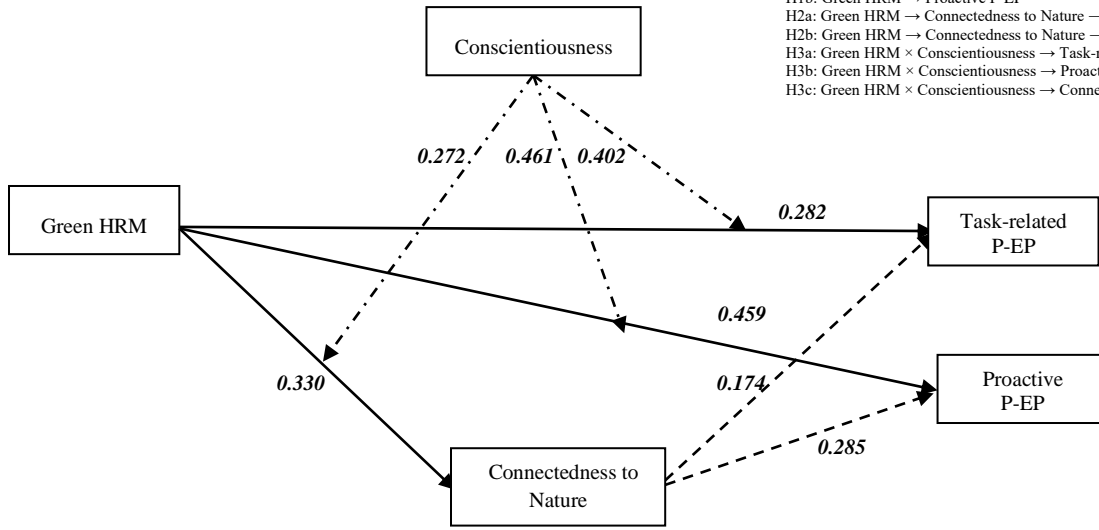H3c: Green HRM × Conscientiousness → Connectedness to Nature

Conscientiousness

Green HRM

0.272   *0.461*   *0.402*

0.282   Task-related P-EP

0.459

0.330   *0.174*   Proactive P-EP

Connectedness to Nature   *0.285*

Figure 2: Results of path analysis of mediating and interaction model of P-EP

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