1   **Hospitality Employee's Mindfulness and Its Impact On Creativity and Customer**

2   **Satisfaction: The Moderating Role of Organizational Error Tolerance**

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27   **Abstract**

28   Mindfulness refers to the psychological attentional state in which a person is conscious and

29   accepting of the present. It is increasingly emerging as an estimable quality, especially within the

30   hospitality industry where frontline employees' creativity is critical to sustaining high-reliability

31   organizations (HROs). Drawing on the literature on mindfulness, HROs, and creativity, this

32   study (1) examines the moderating effect of organizational error tolerance on the relationship

33   between employee mindfulness and creativity; and (2) investigates the mediating role of

34   creativity on the relationship between employee mindfulness and customer satisfaction. The

35   results of the multilevel path analyses performed on data collected from 303 restaurant

36   employees and their managers supported the study's hypotheses. Specifically, the relationship

37   between employee mindfulness and employee creativity was found to be contingent on

38   organizational environmental cues (i.e., organizational error tolerance). The study's findings

39   have implications for hospitality managerial practice, and research regarding employee

40   mindfulness, creativity, error management, and HROs.

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42   **Key words:** Mindfulness; Creativity; Error tolerance; Customer satisfaction

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47   **Introduction**

48   Among the various key performance indicators of organizational competitiveness in

49   hospitality organizations, customer satisfaction may be the clearest barometer. From service

50   delivery to service recovery, the ultimate goal of any hospitality organization is to meet or

51   exceed customers' expectations and thus satisfy the customers (e.g., Cheng et al., 2019).

52   Satisfied customers confer on an organization long-lasting benefits such as positive word-of-

53   mouth (WOM), reduced marketing costs (Dominici & Guzzo, 2010), customer loyalty (Gong &

54   Yi, 2018; Towler et al., 2011), and employee job satisfaction (Zablah et al., 2016). César Ritz,

55   the founder of the Ritz-Carlton Hotel Company, once observed, "Never say no when a client

56   asks for something, even if it is the moon. You can always try, and anyhow there is plenty of

57   time afterwards to explain that it was not possible" (Jaiswal, 2015, para. 6). This quotation not

58 only delineates the unique position that customers occupy but also underscores the important role

59 that creativity plays in enhancing customer satisfaction.

60 The creativity of hospitality frontline employees has long been overlooked by scholars and

61 practitioners who tend to narrowly conceptualize frontline employees' work as a series of

62 standardized operational routine tasks (e.g., Grobelna, 2016; Hon & Lui, 2016). First, service is

63 "essentially a series of interactions between participants, processes and physical elements" (Tax

64 & Stuart 1997, p. 107). Any change to these three elements leads to a new service encounter.

65 Frontline employees possess the first-hand information about service situation, and often need to

66 adopt discretion to improvise and customize their service in order to meet the requirements of

67 customers (Lages & Piercy, 2012). These improvisations and customizations, in turn, become

68 important raw materials for service and corporate innovation (Miles, 2010; Hon et al., 2014).

69 Uniformity in service encounters is difficult and not recommended because service production

70 and consumption are a dynamic process of customer– employee interaction, and customers'

71 requests can easily deviate from the standardized service procedure (Victorino et al., 2012).

72 Therefore, frontline employees play a prominent role not only in providing high-quality service,

73 but also in service innovation because innovation as creativity often derives from frontline

74 employees through their creative discretion during the service encounter (Miles, 2010). Second,

75 customers have great exigencies and would like their expectations to be not only met but also

76 exceeded. Third, hospitality organizations are encouraging employees to adopt novel service

77 production strategies to cope with increasingly fierce competition and gain a competitive edge

78 (e.g., Martin et al., 2013). Therefore, it is important to identify the factors that can promote

79 creativity among hospitality frontline employees and thereby lead to superior performance. Past

80 studies have identified various factors that enhance employee creativity. They include leadership

81   style (Dong et al., 2017), personality traits (Liu et al., 2016), organizational contexts (Hur et al.,

82   2016), and job characteristics (De Clercq et al., 2017). Yet the literature on creativity offers a

83   more systematic approach to the role that interactions between individual and environmental

84   factors play in employee creativity. According to the componential model of creativity, one's

85   attitude toward and motivation for completing job tasks are a function of organizational context.

86   Attitude, in turn, determines to what degree creativity is demonstrated (e.g., Conti et al., 1996;

87   Amabile, 2012). One individual factor that has drawn researchers' attention as a potential

88   influence of employee creativity is mindfulness.

89   Mindfulness is a key component of ancient Eastern philosophies and religions. In recent years it

90   has emerged as an increasingly important research area within the fields of clinical, personality,

91   and most recently industrial and organizational psychology. Mindful individuals attend to their

92   surroundings and focus on internal states (Brown & Ryan, 2003; Epstein, 1995). Previous work

93   has revealed that mindfulness is beneficial to personal well-being and life satisfaction (e.g.,

94   Ivtzan, I., & Lomas, 2016). Aetna, a world-influential managed health care organization, put in

95   place mindfulness interventions for 12,500 employees and discovered that employees with high

96   levels of mindfulness experienced a 20% improvement in sleep quality, a 19% decrease in pain,

97   and a 28% decrease in stress levels. The employees also became more productive with an

98   estimated monetary value of $3,000 per employee each year (Achor & Gielan, 2015). Research

99   findings on mindfulness in the workplace, especially with regard to the hospitality industry, are

100   scarce. Specifically, the question of whether, how, and conditions under which mindfulness

101   affects hospitality employees' work-related behaviors and organizational outcomes remains

102   largely unanswered. The current study focuses on employee mindfulness in restaurants to

103   investigate its influence on employee creativity and customer satisfaction. In addition to

104 mindfulness, which is an individual factor, the work environment influences employee creativity

105 at work (e.g., the componential model of creativity, Amabile, 2012; Kudesia, 2015). In fact, the

106 work environment may interact with mindfulness to influence employee creativity. One

107 organizational factor that may be closely related to employee mindfulness and creativity is how

108 errors and failures are addressed in an organization (e.g., HROs, Vogus & Rerup, 2018). The

109 literature on HROs considers that tolerating error occurrence provides employees with a

110 supportive work environment that facilitates frontline employees' self-regulation of attention

111 directed toward the surroundings and particularly the "small stuff". Processing information in a

112 mindful way enables frontline employees to better understand customers' needs, thereby

113 exercising the service discretion via creative solutions (e.g., Hales & Chakravorty, 2016; Weick

114 & Sutcliffe, 2015). In particular, as the frontline serves as the interface between customers and

115 employees, service production and consumption, it is where various and novel events occur, thus

116 providing an ideal environment that needs frontline employees constantly attend to (e.g., Salvato
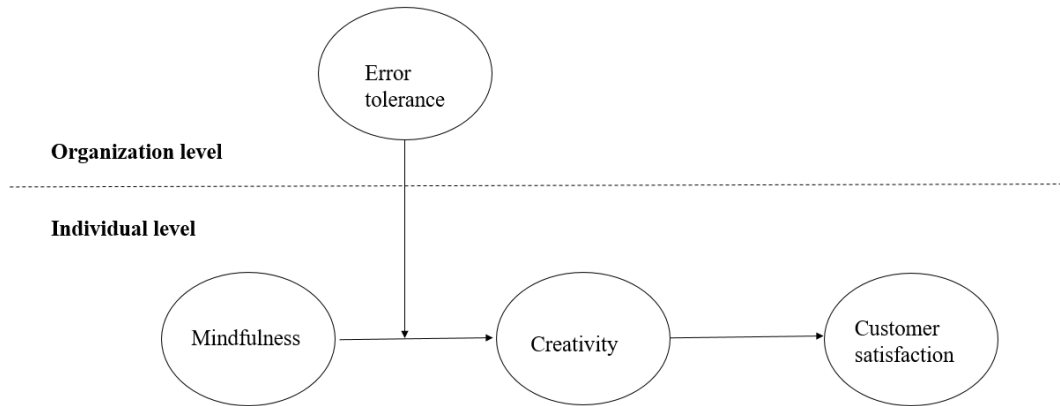
117 & Rerup, 2018).

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119   Another major gap in the mindfulness research resides in the dearth of cross-level studies

120 that explore how contextual boundary conditions, especially at the organizational level, can

121 amplify or limit the salutary impacts of mindfulness (for an integrative review, see Sutcliffe et

122 al., 2016). Recognizing these gaps in the literature, we posed two research questions. First, what

123 impacts does individual mindfulness among hospitality frontline employees have on employees'

124 creativity and customers' satisfaction? Second, what sort of work environment can facilitate the

125 employee mindfulness-creativity link? Drawing upon the literature on mindfulness and high-

126 reliability organizing (Reina & Kudesia, 2020; Vogus & Rerup, 2018), we adopted a cross-level

127 approach to investigate how mindfulness (a personal factor) and organizational error tolerance

128   (an organizational factor) interactively influence employees' creativity, which in turn, impacts

129   customer satisfaction.

130   This study contributes to the literature on mindfulness at work, employee creativity, and

131   HROs. First and foremost, this study introduces customer satisfaction as a distal outcome

132   variable of mindfulness, thereby extending the nomological framework of mindfulness in the

133   customer-oriented hospitality context. Second, building upon the componential model of

134   creativity, this study identifies error tolerance as a contextual factor that moderates the impacts

135   of frontline employees' mindfulness on creativity, thereby taking an organization-individual

136   interactive perspective to understand creativity. In doing so, this study also explores how

137   employee mindfulness is a function of the way errors are handled in an organization, thus

138   contributing to research on the error management approach in HROs (creativity and customer

139   satisfaction; e.g., Frese & Keith, 2015; Vogus & Rerup, 2018). Third, this study adopts a cross-

140   level approach by introducing error tolerance as an organization-level boundary condition,

141   thereby answering the call for more cross-level research on mindfulness (Sutcliffe et al., 2016).

142   Ultimately, in this study, we developed a theoretical framework that delineates the combined

143   effects of employee mindfulness (individual-level) and error tolerance (organizational-level) on

144   employee creativity, a key performance variable which in turn influences customer satisfaction.

145   Figure 1 depicts this conceptual model.

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Figure with circles: Error tolerance (Organization level), and Individual level with Mindfulness → Creativity → Customer satisfaction, and Error tolerance pointing to Creativity.

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150   **Figure 1.** Conceptual model

151 **Literature review and hypothesis development**

152 *Mindfulness*

153 There has been a significant increase in scholarly interest in mindfulness, and it has led to the

154 development of various conceptualizations of the construct (e.g. Brown et al., 2007). Drawing

155 upon the commonalities that underlie these various conceptualizations, Dane (2011, p. 1000)

156 defined mindfulness as "a state of consciousness in which attention is focused on present-

157 moment phenomena occurring both internally and externally." Mindfulness is characterized by

158 its unique focus on the present and attentional breadth (e.g., Baas et al., 2014). It is critical to

159 notice that mindfulness is initiated by a top-down mechanism in which one actively and

160 deliberately attends to their surroundings and retains and remembers information so that the

161 mind is constantly focused on goal-related objects and does not easily wander. Purser and Milillo

162 (2015) pointed out the misconception that mindfulness means a lack of judgment. In fact,

163 mindfulness involves the active and continual evaluation of mental conditions compared to the

164 wholesome states, which are the healthy and ideal states of a person. This evaluation, in turn,

165 helps an individual to identify the source of stress (Dreyfus, 2011; Titmuss, 2013).

166 Researchers and practitioners have documented the benefits of mindfulness in the workplace, but

167 few such studies have been conducted in hospitality workplace settings. The hospitality industry

168 is dynamic, labor-intensive, and people-oriented. Therefore, mindfulness is an important

169 individual factor that influences organizational functioning in this industry (Raab & Mayer,

170 2004). For example, Hwang and Lee (2019) revealed that customers' mindfulness has a positive

171 impact on the customers' citizenship behavior via public self-awareness and affective

172 satisfaction. Zivnuska et al. (2016) revealed a positive relationship between individual

173 mindfulness and resource accumulation and personal well-being. Andrews et al. (2014) found

174 that mindfulness is positively related to promotion-oriented regulatory focus and job satisfaction.

175 Zivnuska et al. (2016) revealed a positive relationship between individual mindfulness and

176 resource accumulation and personal well-being. Data collected from hotel frontline employees

177 showed that collective mindfulness mediated the relationship among authentic leadership,

178 collective thriving, and prosociality (Wu & Chen, 2019). While these studies have opened up a

179 productive discussion regarding the role of mindfulness, empirical findings on mindfulness

180 among hospitality employees are still scarce and important research gaps remain. In particular,

181 little is known regarding the the relationship between mindfulness and hospitality employees' job

182 behaviors as well as the boundary conditions under which mindfulness leads to positive

183 outcomes.

184 *Mindfulness and creativity*

185 Given the importance of hospitality organizations meeting or exceeding customer expectations

186 by providing high-quality service experiences, the creativity of hospitality frontline employees is

187 of special significance when it comes to customers evaluating their experiences (Hon & Lui,

188 2016). Frontline employees are in a critical position to explore novel ways of providing high-

189 quality and efficient service as they possess abundant first-hand information about service

190 delivery in interacting with customers. Employee creativity is an individual-level phenomenon,

191 and is defined as any ideas and acts that extends beyond the existing work standards or

192 procedures in order to provide better service production or delivery (Hon & Lui, 2016; Lai et al.,

193 2014). In particular, the exercise of discretion in decision making and subsequent actions should

194 be considered as a particularly important embodiment of creativity among hospitality frontline

195 employees. Despite the standardized work procedure, frontline employees often need to deviate

196 from their routine to achieve customers' expectations via customization and improvisation (Lai

197 et al., 2014, Zhou & Shalley, 2003). Extensive research has been conducted to identify the

198 antecedents of employee creativity, including transformational leadership, supervisor and

199 organizational support, and individual characteristics (e.g., self-efficacy, personality traits,

200 learning orientation; Jaiswal & Dhar, 2015). However, the predictive relationship between

201 employee mindfulness and creativity has not been investigated specifically in the hospitality

202 work setting even though there is empirical evidence suggesting that employee mindfulness

203 enhances employee creativity (e.g., Lebuda et al., 2016; Zheng & Liu, 2017).

204   As creatures of habit, individuals tend to behave in fairly routine ways, including (1) acting

205 without keeping behavioral intentions in mind—namely, demonstrating a lack of self-awareness;

206 and (2) acting without monitoring and adapting their attempts (Reina & Kudesia, 2020). It is

207 unlikely that a creative person holds fixed opinions about their tasks and work. Creative thoughts

208 can be formed in two ways. One can either change how they think about the problem and

209 solution or reorganize their knowledge structures related to problem-solving. Mindfulness is

210 likely to directly promote creativity in three ways. First, mindfulness tends to decrease discursive

211 thought, which refers to "the tendency to put experience into words" (Kudesia, 2015, p. 199).

212   Considered to be a past-oriented linguistic medium between a person and the reality, discursive

213   thought has been associated with accurate and analytic ways of thinking that reduce flexible

214   cognition (Hayes & Wilson, 2003). Parke and Kelly (2014) revealed a positive relationship

215   between cognitive flexibility and the resistance to discursive thought. Mindfulness may cultivate

216   creativity by enabling one to step back from discursive cognition and develop a more malleable

217   way of thinking. In other words, mindfulness may allow one to detach from existing assumptions

218   regarding problem-solution representation (Kudesia et al., 2015). Second, mindfulness enhances

219   working memory, which is a cognitive system that temporarily stores and makes sense of

220   information (e.g., Capurso et al., 2014). Working memory can improve divergent thinking by

221   helping one develop various ideas synchronously, and it can improve convergent thinking by

222   aiding one in reconsidering the representation of the problem and solution. Both divergent and

223   convergent thinking are indispensable to the cognitive process of creativity (Williams, 2004).

224   Colzato et al.'s (2012) study accordingly suggests that mindfulness contributes to creativity by

225   improving both divergent and convergent thinking. Third, mindfulness benefits attention

226   regulation, which is defined as the extent to which one can maximize their attention to and focus

227   on goal-related behavior. Mindfulness allows one to better organize cognitive resources and

228   optimize their attentional focus in order to handle goal-oriented tasks (Kozasa et al., 2012).

229   Creativity often requires the processing of large amounts of complicated information in order to

230   identify opportunities for problem-solving (Capurso et al., 2014). As a result, mindfulness

231   provides a high level of focus and the broad attention necessary to improve creativity (Carson,

232   2003). Previous studies have examined the relationship between mindfulness and creativity in

233   different ways. Zheng and Liu (2017) found that mindfulness buffers the negative relationship

234   between abusive supervision and creative performance via self-efficacy in the workplace. Baas et

235   al. (2014) focused on the dimensionality of mindfulness and found that only some dimensions of

236   mindfulness consistently show positive impacts on creativity

237   In the hospitality context, because of the variability of customers and user participation in

238   service production, every service delivery is to some degree unique (Koc, 2019). This uniqueness

239   requires frontline employees to be cognitively flexible to respond to customers' needs in

240   different service encounter situations; namely, to practice reduced discursive cognition. Service

241   production and delivery also involves a long chain of consecutive tasks with the participation of

242   employees from different departments (Wang et al., 2020a). This suggests the importance of

243   employees' processing complex information and elastically regulating their attention, tasks that

244   correspond to the working memory and attention regulation aspects of mindfulness, respectively.

245   Accordingly, we predicted that employee mindfulness enhances employee creativity.

246   **Hypothesis 1**: Mindfulness is positively related to creativity among hospitality frontline

247   employees.

248   *Customer satisfaction*

249   Because hospitality organizations are customer-oriented enterprises, they regard customer

250   satisfaction as the ultimate indicator of service quality and organizational performance (e.g.,

251   Ahearne et al., 2005). Customer satisfaction is "a measure of how your organization's total

252   product performs in relation to a set of customer requirements" (Hill & Alexander, 2017, p. 2).

253   Satisfied customers confer various benefits including but not limited to sustainable profitability,

254   customer loyalty, reduced costs, and positive WOM. Research on performance measurement and

255   service quality management considers customer satisfaction to be a fundamental criterion when

256   assessing service frontline employees in terms of performance efficiency and effectiveness

257   (Schneider & White, 2004; Zhao & Mattila, 2013). Research findings suggest that frontline

258   employees should adopt a problem-solving mindset in order to provide personalized service and

259   offer novel solutions that are tailored toward addressing idiosyncratic customer needs (Dong et

260   al., 2015). In this study, frontline employees' creativity was hypothesized to promote customer

261   satisfaction by (1) producing positive disconfirmation and (2) inducing positive emotions. Given

262   the characteristics of service coproduction, frontline employees' creative initiatives play a

263   particularly important role in enhancing customer satisfaction. Although service delivery

264   involves both customers and employees, customers typically do not lead the service production

265   process or propose a solution. Instead, customers wait for frontline employees to direct the

266   service delivery process and expect a satisfactory solution when something goes wrong (Dong et

267   al., 2015). First, customer expectations of service quality are formed prior to the customers'

268   actual experiences. These expectations evolve into not only an anticipation of satisfaction but

269   also comparative referents. Based on these referents, positive (i.e., the actual experience exceeds

270   expectations) or negative (i.e., expectations surpass the actual experience) disconfirmation may

271   occur (Qazi et al., 2017). Positive disconfirmation leads to customer satisfaction (Oliver &

272   DeSarbo 1988). Customers aim to achieve correspondence between their levels of satisfaction

273   and expectations to avoid potential dissonance. By providing customers with services that entail

274   either novel operations or the personalization of standardized work procedures based on the

275   customers' unique expectations (Madjar & Ortiz-Walters, 2008), employees can foster positive

276   disconfirmation and enhance customer satisfaction. Second, creative service provision tends to

277   include affective events that elicit positive emotions (e.g., delight) from customers when they are

278   pleasantly surprised. This contention is consistent with affect event theory (Weiss &

279   Cropanzano, 1996). Accordingly, employee creativity may serve as a strong promoter of

280   customer satisfaction by helping customers generate positive emotional experiences.

281   In addition, the relationship between mindfulness and customer satisfaction via the mediating

282   role of employee creativity can be elucidated from the perspective of stress and coping. With the

283   increasing adoption of new technologies and demanding expectations from customers,

284   hospitality organizations are facing the challenge of maintaining their people-oriented nature to

285   achieve customer satisfaction, thereby constituting a salient stressor for frontline employees

286   (Nasifoglu et al., 2020). Various mindfulness-based interventions (e.g., Mindfulness-Based

287   Stress Reduction (MBSR; Kabat-Zinn, 2003; Mindfulness-Based Cognitive Therapy [MBCT];

288   Segal et al., 2002; mindfulness meditation, Grepmair et al., 2006) are designed with the purpose

289   of reducing the job stress to promote health benefits among both clinical and nonclinical

290   populations. Moreover, in the dynamic work setting, prominent empirical evidence has

291   demonstrated the negative association between mindfulness and stress (e.g., Li et al., 2017; Jang

292   et al., 2020). Based on the transactional model of stress and coping and self-regulation of

293   behavior theory, we consider that facing the ubiquitous job stressor of achieving customer

294   satisfaction, employees can adopt both emotion-focused and problem-solving approach to cope

295   with stressors (e.g., Huang et al., 2018). Specifically, mindfulness at work represents an emotion-

296   focused coping tool, whereas employee creativity is a problem-focused coping approach. Both

297   emotion-focused and problem-focused coping strategies are referred to as engagement coping

298   (Carver & Connor-Smith, 2010). Taken together, one way to achieve the ultimate goal of

299   customer satisfaction for frontline employees is to adopt one engagement coping, composed of

300   mindfulness as emotion-focused and creativity as problem-solving approach. Therefore, the

301   following hypothesis was proposed:

302   **Hypothesis 2**: Hospitality frontline employees' creativity mediates the relationship between

303   mindfulness and customer satisfaction.

304   *Error tolerance*

305   Personal development is closely related to the self-improvement that results from trying

306   something new, making errors, and ultimately rectifying them (Frese & Keith, 2015). The

307   characteristic features of the hospitality industry (e.g., service coproduction, the simultaneity of

308   service production and consumption) increase the likelihood of error occurrence (Wang et al.,

309   2020b). Van Dyck et al. (2005, p. 1229) defined errors as "unintended deviations from plans,

310   goals, or adequate feedback processing as well as an incorrect action that results from lack of

311   knowledge." Although error occurrence is a constant phenomenon in the workplace, most

312   organizations perceive errors as negative events because of the negative consequences that result

313   from them (Hagen, 2013). However, researchers and practitioners have contended that error

314   occurrence can result in positive outcomes such as learning and creativity (Frese & Keith, 2015).

315   Errors are closely related to creativity for several reasons. First, creativity often necessitates the

316   exploration of a new and uncharted field, thereby increasing the likelihood of error occurrence.

317   Second, the errors that result from exploration provide valuable feedback, which can stimulate

318   further exploration and foster novel attempts (Bledow et al., 2009). Some creative practices (e.g.,

319   brainstorming) even serve as forerunners of error management.

320   Weinzimmer and Esken (2017, p. 5) introduced the concept of error tolerance and defined it

321   as "the conditions that exist within an organization that allow organizational members to take

322   risks, pursue innovative solutions, and develop superior knowledge without fear of repercussions

323   for making mistakes." It is clear from this definition that error tolerance is an organization-level

324   contextual factor that provides employees with a supportive work environment characterized by

325   the acceptance of error occurrence. In particular, literature on HROs (e.g., that which focuses on

326   error management) underlines the necessity for every manager and employee to understand and

327 practice error tolerance in order to achieve effective error handling. This shared understanding

328 implies that error tolerance is an organizational feature that entails a shared and commonly

329 accepted perception in terms of attitude toward errors among all employees (Schneider et al.,

330 2011). In organizations with high levels of error tolerance, errors are not perceived negatively,

331 and risk-taking is allowed. In particular, error tolerance is characterized by a work environment

332 in which employees' needs for the protection of vulnerability and supportiveness are fulfilled.

333 Error tolerance may also facilitate the exchange of information about error situations, and this

334 exchange of information may in turn cultivate a positive context in which employees are

335 motivated to be creative. When employees make errors, they tend to feel psychologically

336 vulnerable as they may worry about negative feedback and feel anxious about punishment (Hon

337 et al., 2014). Error tolerance helps employees adopt more positive and accepting attitudes toward

338 failure situations without the fear of punishment (Frese & Keith, 2015).

339 *Interaction effects between mindfulness and error tolerance on employee creativity*

340   Although studied outside of the hospitality work context, a weak but significant positive

341 association between mindfulness and creativity has been found in organizations (e.g., Lebuda et

342 al., 2016). However, the moderating roles of this association, especially the organization-level

343 moderators, have long been overlooked. Given the social attributes of mindfulness,

344 mindfulness's impacts are contingent on its contextual aspects (Sutcliffe et al., 2016). The

345 manifestation of individual mindfulness's influence involves a process of self-regulation, as

346 maintaining mindful attention requires one's constant monitoring and adaptation of their

347 attentional state (e.g., Malinowski, 2013; Lian et al., 2017). Thus, identifying the enacting factors

348 of self-regulation becomes critical in understanding how mindfulness makes an impact (Reina &

349 Kudesia, 2020). The literature on self-regulation indicates that both ability and motivation

350   determine the level of self-regulation (Vago & Silbersweig, 2012). Specifically, one's appraisal

351   of their environment exerts impacts on their motivation to initiate self-regulation, which in turn

352   influences their mindfulness level (Kudesia, 2019). Reina and Kudesia (2020) introduced a

353   theoretical model capturing the dynamics between the manifestation of mindfulness and

354   situations. According to this model, three motivational factors related to the allocation of

355   cognitive resources contribute to the emergence and manifestation of mindfulness: metacognitive

356   beliefs, mental fatigue, and situational appraisal. Situational appraisal refers to one's

357   fundamental judgment about whether a situation attracts cognitive resources to tasks, referred to

358   as task attentional pull, or drives cognitive resources away from tasks, referred to as off-task

359   attentional demands (Randall et al., 2014; Beal et al., 2005). Drawing on this conceptualization

360   of situational appraisal, this study proposed that the extent to which errors are tolerated or

361   accepted at work is a contextual factor likely to influence the motivational force of self-

362   regulation. Specifically, error tolerance creates positive social interactions, including the open

363   discussion of the sources of errors and their solutions, without fear of others' negative feedback

364   (e.g., Reb et al., 2015; Wang et al., 2020a). Ultimately, error tolerance entails an organizational

365   context wherein employees are induced by means of allocated cognitive resources to engage in

366   the self-regulation process, a process that subsequently influences the extent to which

367   mindfulness impacts employee creativity.

368   The link between mindfulness and error handling has also been saliently demonstrated in the

369   literature on HROs. HRO researchers consider mindfulness to be a joint quality among

370   organizational members that entails the collective ability to closely monitor the surroundings and

371   swiftly attend to and act on unexpected details (e.g., Hales & Chakravorty, 2016). In the HRO

372   literature, mindfulness involves the active discussion of the "small stuff" that may strengthen

373 employees' ability to learn from deviations (e.g., errors, unexpected events; Weick & Sutcliffe,

374 2015). Vogus and Rerup (2018) emphasized the critical role frontline employees play in

375 maintaining high organizational reliability. The frontline is where variability, unexpected events,

376 and changes take place (e.g., Salvato & Rerup, 2018). Processing small stuff in a mindful way

377 during service delivery makes frontline employees more likely to attend to unusual situations

378 (e.g., near misses) and implement timely, adaptive, and innovative solutions. As a result, the

379 mindfulness of frontline employees becomes a pathway to achieving more reliable work (e.g.,

380 superior performance resulting from creativity) when the level of organizational error tolerance

381 is higher. Given this information, the following hypothesis was formulated.

382 **Hypothesis 3**: Organizational error tolerance moderates the strength of the relationship between

383 mindfulness and creativity. Specifically, the relationship is stronger among hospitality frontline

384 employees who report high rather than low levels of organizational error tolerance.

385

386 **Method**

387 *Sample and procedure*

388   Data from 304 frontline employees and their general managers working in 42 restaurants in

389 Istanbul, Turkey, were collected at a single point in time. While the employees answered

390 questions on mindfulness and error tolerance, the general managers evaluated the creativity of

391 their employees and the extent to which the employees were able to satisfy their customers (i.e.,

392 perceived customer satisfaction). Twenty-nine percent of the participants were female, and sixty

393 percent of participants were from 18 to 30 years old. Eighty-seven percent of participants have

394 worked in the investigated restaurants for at least six months. Seventy-five percent have

395 completed the high school. Prior to supervisors' participation, one coauthor personally gave

396   supervisors a guidance on rating of customer satisfaction, with the purpose of reducing the

397   potential rating bias (Roch & O'Sullivan, 2003). First, we ensured that the collected data is

398   completely confidential and only accessible by the research team. Second, supervisors were

399   informed that they should attach importance to survey questions by considering it as a formal

400   performance evaluation which in turn, may influence employees' job-related outcomes, such as

401   salary raise, promotion. Third, we emphasized that supervisors' evaluation of employees'

402   creativity and their ability to satisfy customers should be based on employees' integral

403   performance, not on the performance of the day when the survey was conducted.

404   Previous studies have indicated some merits of employees' evaluation from their supervisors

405   (e.g., Hekman et al., 2010; Netemeyer & Maxham, 2007). First, supervisors tend to put efforts on

406   information processing when evaluating employees' performance, as they understand the

407   important implications behind it. Second, supervisors' evaluation is based on employees' overall

408   performance over a period of time, as opposed to one-time service delivery. Third, supervisors

409   can receive particular training that helps reduce evaluation bias.

410   *Measurements*

411   All items were rated on a seven-point Likert-type scale ranging from 1 = strongly disagree to

412   7 = strongly agree. The seven-item measure adopted from Dane and Brummel (2014) was used

413   to measure mindfulness. One sample item included, 'I find myself doing things without paying

414   attention'. Creativity was measured with five items adopted from Coelho and Augusto (2010).

415   One sample item is 'On the job this employee is inventive in overcoming barriers'. Customer

416   satisfaction was measured with three items developed by He, Li and Lai (2011). The Cronbach's

417   alpha estimates ranged from 0.74-0.91. One sample item is 'I think that customers are satisfied

418   with this employee's service generally'. Error tolerance was measured with five items developed

419 by Weinzimmer and A.Esken (2017). One sample item is, 'Managers are generally accepting of

420 errors'. The null model for error tolerance suggested an ICC(1) of .24, indicating that 24% of the

421 variance in error tolerance resided at the hotel-level. Therefore, we treated error tolerance as a

422 second-level variable and aggregated it at the hotel level (Woehr et al., 2015). The zero-order

423 correlations among the study variables are summarized in Table 1.

	M	SD	1	2	3	4	5
1. Mindfulness	5.41	1.28	--	.15[b]	.08	.08	.005
2. Error tolerance [c]	4.38	0.63	.39*[a]	--	.11	.004	.03
3. Creativity	5.14	1.26	.28*	.33*	--	.18	.04
4. Customer satisfaction	5.46	1.09	.29*	.06	.43*	--	.006
5. Tenure	2.86	1.26	.07	.17*	.21*	.08	--

Goodness-of-fit statistics
$\chi^2 (144) = 261.95$, p < .05
$\chi^2/df = 1.82$
CFI= .95, IFI = .94
RMSEA = .05

424 **Table 1.** Means, standard deviations, and correlations.
425 CFI = comparative fit index; IFI = incremental fit index;
426 RMSEA = root mean square error of approximation.
427 *p < .05
428 a. Correlations are below the diagonal.
429 b. Squared multiple correlations above the diagonal.
430 c. Error tolerance was aggregated at the hotel level.

431 **Results**

432 *Analytic Strategy*

433   Given the nested structural of our model, we used multilevel path analyses in Mplus to test

434 our hypotheses (Muthén & Muthén, 2017). We used the MLR parameter estimates, which are

435 robust to nonnormality and nonindenpendence of observations (Muthén & Muthén, 2017). First,

436 following the recommendations of Zhang, Zyphur, and Preacher (2009), we tested a cross-level

437 mediation model to estimate the main effects and the indirect effect. The indirect effect of

438 mindfulness on customer satisfaction via creativity was estimated using Monte Carlo simulation

439   procedures with the open-source software R (Preacher et al., 2010). This method was found to

440   yield more accurate estimation of an indirect effect in multilevel modeling, where the sampling

441   distribution is usually asymmetric (Preacher et al., 2010). Then, to test the cross-level

442   moderating effect of error tolerance, we specified at the between-group level the cross-level

443   moderating effect of error tolerance on the random slope between mindfulness and creativity as

444   well as the cross-level main effect of error tolerance on creativity. We grand-mean centered error

445   tolerance, and group-mean centered mindfulness and employee organizational tenure to make the

446   results more interpretable and obtain unbiased estimates of the within-group level main effects

447   and the cross-level interaction effect (Hofmann & Gavin, 1998).

448   *Preliminary Analysis*

449   The data from 303 completed surveys were subject to a Confirmatory Factor Analysis to

450   confirm the validity and reliability of the measures (see Table 1 and Table 2). One item from

451   mindfulness was removed because of the low factor loading. The model fit indices of the overall

452   measurement model had a good fit with the data ($\chi^2 = 261.95$, df $= 144$, p < 0.05; CFI $= 0.95$;

453   TLI $= 0.94$; RMSEA $= 0.05$; $\chi^2/df = 1.82$). All factor loadings for items were greater than 0.5 and

454   were statistically significant (p < 0.01), indicating convergent validity. The average variance

455   extracted (AVE) was used to examine convergent validity. The AVE scores for mindfulness,

456   creativity, and customer satisfaction ranged from .53 to .80, exceeding the 0.50 threshold,

457   indicating convergent validity (Hair et al., 2010). The AVE score for error tolerance was .42. The

458   convergent validity is still adequate with AVE less than 0.5 if the composite reliability of that

459   measure is higher than 0.6 (Fornell & Larcker, 1981). The composite construct reliabilities

460   (CCR) for error tolerance is .78, thus indicating the convergent validity. To test the discriminant

461   validity, the AVE values for any two constructs were compared with the square of the correlation

462   estimate between them (Hair et al., 2010). In all cases, the AVE was greater than the squared

463   correlation estimates, indicating discriminant validity. In addition, the CCR values ranged

464   from .78 to .95, exceeding the 0.70 threshold, indicating the construct reliability. Therefore, the

465   measures possessed adequate reliability and validity.

466

	Factor loadings	CCR	AVE	Cronbach's Alpha	Skewness; Kurtosis
Error tolerance (self-rated)		.78	.42	.75	
1 Managers are generally accepting of errors	.58				-.24;-.74
2 Employees are allowed to take risks	.77				-.39;-.57
3 Managers are tolerant of errors when employees pursue innovative solutions	.57				-.61;.38
4 The company understands that making errors is part of taking risk	.63				-.79;.34
5 Risk taking is encouraged without the fear of punishment	.67				-.61;-.17
Mindfulness (self-rated)		.87	.53	.86	
1 I break or spill things because of carelessness, not paying attention, or thinking of something else	.70				-.91;-.30
2 I find it difficult to stay focused on what's happening in the present	.80				-.67;-.67
3 I tend to walk quickly to get where I'm going without paying attention to what I experience along the way.	.79				-.79;-.51

	Loading	CCR	AVE	α	
4 I forget a person's name almost as soon as I've been told it for the first time.	.69				-.88;-.44
5 I rush through activities without being really attentive to them.	.74				-1.11;.33
6 I find myself doing things without paying attention.	.57				-.99;1.00
Creativity (supervisor-rated)		.95	.78	.95	
1 This employee tries to be as creative as he/she can in his/her job	.85				-.91;1.12
2 This employee experiments with new approaches in performing his/her job	.92				-.91;.95
3 When new trends develop, this employee is usually the first to get on board	.92				-.87;.71
4 I feel that this employee is creative in performing his/her job	.93				-.83;.63
5 On the job this employee is inventive in overcoming barriers	.80				-1.30;1.99
Customer satisfaction (supervisor-rated)		.92	.80	.92	
1 Customers are satisfied with this employee's service generally	.90				-.70;.12
2 Customers are provided with high quality service by this employee	.92				-.71;.38
3 Customers this employee serves feel pleased in this restaurant	.86				-.77;.79

467   **Table 2**. Factor loadings, CCR, AVE, and Cronbach' alpha results

468

Main and Indirect Effects

470   We first tested a path model to estimate the main effect of mindfulness and error tolerance

471   on creativity as well as the indirect effect of mindfulness on customer satisfaction via creativity.

472   Organizational tenure was controlled on both creativity and customer satisfaction.

473   Unstandardized path coefficients are presented in Table 3. At within-group level, mindfulness

474   was significantly related to creativity ($\gamma = .17$, $SE = .07$, $p = .013$), which in turn was

475   significantly related to customer satisfaction ($\gamma = .36$, $SE = .06$, $p < .001$), supporting Hypothesis

476   1. However, the direct effect of mindfulness on customer satisfaction was not significant ($\gamma =$

477    $-.01$, $SE = .04$, $p = .855$). In addition, the main effect of error tolerance on creativity was also

478   significant ($\gamma = .55$, $SE = .22$, $p = .012$). Moreover, a 20,000-repetition Monte Carlo test

479   suggested that creativity mediated the association between mindfulness and customer satisfaction

480   (unstandardized indirect effect $= .11$; 95% CI [.02, .11]). Thus, Hypothesis 2 was supported.

Cross-Level Interaction Results

482   Hypothesis 3 proposed a cross-level interaction of error tolerance on the relationship

483   between mindfulness and creativity. To assess the cross-level moderating effect of error

484   toleration, we ran a separate multilevel path analyses where the random slope of the relationship

485   between mindfulness and creativity was regressed on error tolerance at the between-group level.

486   As shown in Table 3, the cross-level moderating effect of error tolerance on mindfulness was

487   significant ($\gamma = .09$, $SE = .04$, $p = .024$). Simple slope test suggested that the association between

488   mindfulness and creativity was stronger when error tolerance is high ($+1SD$; $\gamma = .23$, $SE = .06$, p

489    $< .001$) than when it is low ($-1SD$; $\gamma = .11$, $SE = .08$, $p = .179$). Figure 2 presents the Johnson-

490   Neyman (J-N) region of significance for the conditional relationship between mindfulness and

491   employee creativity (Bauer & Curran, 2005). According to Figure 2, the regression of creativity

492   on mindfulness is significant and positive when employees rated organizational error tolerance as

493   4 or above. Further, the conditional indirect effect of mindfulness on customer satisfaction via

494   creativity is significant and stronger for high error tolerance (unstandardized estimate = .08, 95%

495   CI [.03,.12]) than for low error tolerance (unstandardized estimate = .04, 95% CI [-.02,.09]),

496   supporting Hypothesis 3.

Table 3. Unstandardized coefficients of the Multilevel Models

Variable	Cross-level Mediation				Cross-level Moderated Mediation			
	Creativity		Customer Satisfaction		Creativity		Customer Satisfaction	
	Estimate	*SE*	Estimate	*SE*	Estimate	*SE*	Estimate	*SE*
Within-group level								
Mindfulness	0.17*	0.07	-0.01	0.04	-0.22	0.21	0.16	0.09
Creativity			0.36***	0.06			0.33**	0.10
Control: Organizational tenure	0.10	0.06	0.05	0.04	0.12*	0.06	-0.02	0.06
Between-group level								
Intercept	1.57	1.01	4.48***	1.00	1.72	1.04	3.22**	0.98
Error management	0.55*	0.22			0.50	0.29		
Creativity			0.15	0.24			0.07	0.14
Cross-level interaction								
Mindfulness×Error Management					0.09*	0.04		

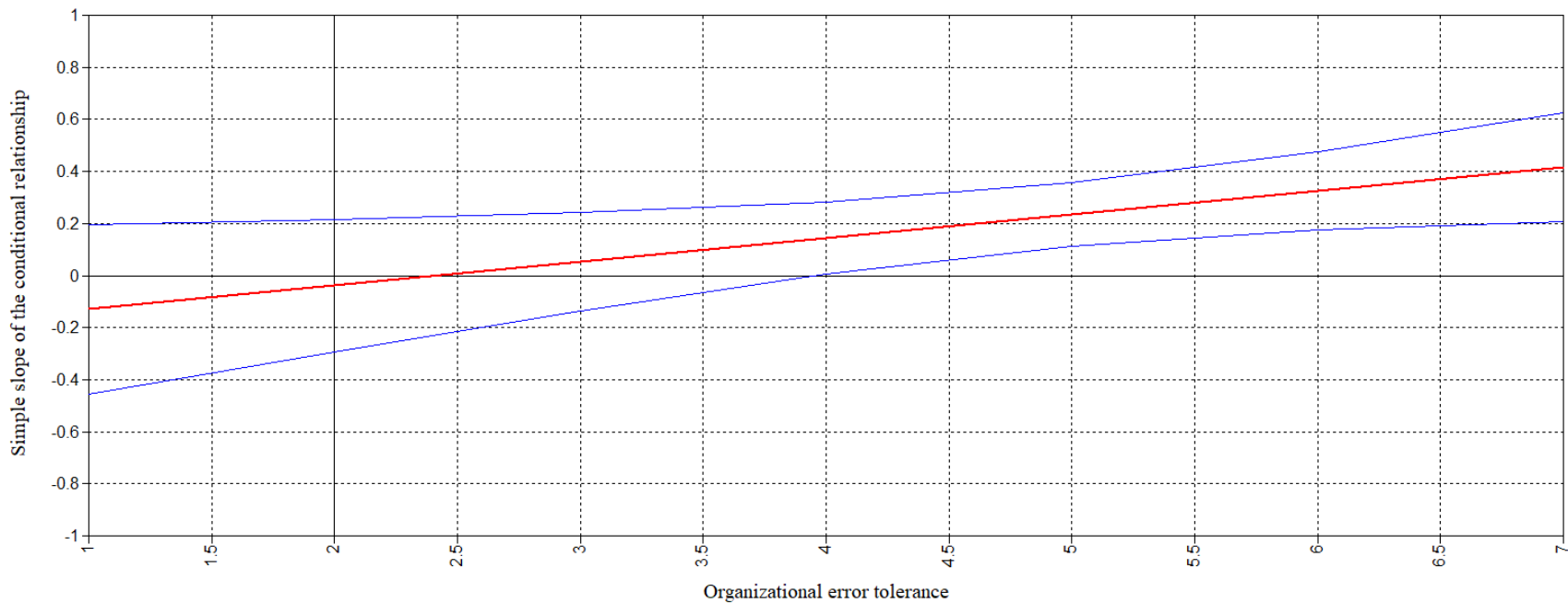Note. Within-group level: $N = 303$; Between-group level: $N = 42$; *$p < .05$, **$p < .01$, ***$p < .001$.

Figure 2. Johnson-Neyman (J-N) region of significance for the conditional relationship between mindfulness and employee creativity.

Discussion

474 **Discussion**

475 With many organizations launching mindfulness interventions (e.g., Apple, Procter & Gamble,

476 Aetna) to promote health, enhance satisfaction, and increase motivation among their employees

477 (e.g., Schultz et al., 2015), the current research focalizes restaurant frontline employees'

478 mindfulness at work in their dynamic work setting, and examines how mindfulness influences

479 their creativity and customer satisfaction. Integrating literature on mindfulness, creativity with

480 the HROs, this study adopted a cross-level approach and identified one organizational factor,

481 error tolerance, that influenced the extent to which individual mindfulness boosts employee

482 creativity. Moreover, we investigated the underlying mechanisms by which individual

483 mindfulness can impact customer satisfaction via creativity. Two major findings unfolded. First,

484 the positive impacts of mindfulness on employee creativity are stronger when the organization

485 has higher level of error tolerance. Second, employee creativity mediated the relationship

486 between mindfulness and customer satisfaction. Taken together, while the existing research on

487 the mindfulness-creativity relationship is promising, it does not adequately account for

488 contextual factors that may impact that relationship, as the componential model of creativity

489 proposed (e.g., Kudesia, 2015). The results corroborate the importance of understanding the

490 boundary conditions under which mindfulness can influence employee creativity and other job

491 outcomes.

492 *Theoretical implications*

493   Despite increasing interest in the important benefits mindfulness bestows on employees,

494 especially those who work in dynamic environments or have jobs that necessitate emotion

495 regulation and superior performance (e.g., employees in the hospitality work setting; Vogus,

496 2011; Vogus & Rerup, 2018), research on mindfulness in relation to hospitality frontline

497   employees remains limited (Glomb et al., 2011). Addressing this oversight, we investigated

498   frontline employees' mindfulness and its influence on employee creativity and customer

499   satisfaction in the dynamic restaurant work environment. Mindfulness has been linked to key

500   work-related outcomes (e.g., job satisfaction, turnover intentions, emotion regulation; Andrews

501   et al., 2014; Zeller & Levin, 2013). One meta-analysis identified inconsistencies in the research

502   findings on the relationship between mindfulness and creativity, which implicitly underscored

503   the need to address such inconsistencies by identifying the moderators of this relationship

504   (Lebuda et al., 2016). In particular, evidence of the top-down effects of organizational factors on

505   the manifestation of individual mindfulness is scarce. While Reb et al. (2015) found that

506   organizational support influences the manifestation of employee mindfulness, Sutcliffe et al.

507   (2016, p. 74) indicated that "further work is therefore needed to better understand the

508   circumstances under which mindfulness is conducive to performance and, as noted above, the

509   forms of performance to which it is conducive, especially at the organizational level." Drawing

510   on the existing mindfulness literature, we disentangled the extent to which the relationship

511   between mindfulness and creativity is influenced by organizational error tolerance, recognizing

512   that an error-tolerant organizational environment can boost the cognitive resources allocated for

513   self-regulation, a key process for mindfulness (Reina & Kudesia, 2020). Our results thus

514   contribute to the mindfulness literature in the boundary-condition respect. Moreover, our

515   research illustrates how organizational factors influence the association between individual

516   mindfulness and creativity, thereby contributing to the cross-level approach to studying

517   mindfulness (e.g., Sutcliffe et al., 2016).

518   The existing literature underscores the need for further research on the creativity of frontline

519   employees, especially those who work in the customer-oriented hospitality industry, where

520   customers have high expectations for service quality (Madjar & Ortiz-Walters, 2008;

521   Martinaityte et al., 2019). Given the characteristics of service production and delivery in the

522   hospitality industry, managerial researchers have ascribed importance to the effects that the work

523   environment has on frontline employees (e.g., Zeithaml et al., 2010). According to self-

524   determination theory, employee creativity is an autonomous behavior contingent not only on

525   employees' problem-solving abilities but also on their motivation to use these abilities to cope

526   with the demands of various service situations. The componential model of creativity has yielded

527   an integrated perspective that incorporates both the individual and environmental antecedents of

528   creativity (Conti et al., 1996; Zhang & Zhou, 2014). This study addressed the lack of research

529   taking a person-environment integrated view by examining the effects of mindfulness and

530   organizational error tolerance on employee creativity and customer satisfaction. The results

531   reveal that the mindful hospitality frontline employees of highly error-tolerant organizations

532   were more creative than those who were not mindful and that employee creativity was a

533   predictor of customer satisfaction. Although previous studies have noted the influence of

534   mindfulness on creativity (e.g., Lebuda et al., 2016), this is the first empirical study to consider

535   error tolerance as an organizational factor that influences the impacts of mindfulness on

536   creativity. This study also establishes a connection between the literature on error management

537   and that on HRO. In this study, error tolerance, the concept that is at the center of error

538   management literature, was found to facilitate individual mindfulness's role in contributing to

539   HRO. In particular, error tolerance drive superior performance markers such as creativity and

540   customer satisfaction identified in the study (Frese & Keith, 2015; Sutcliffe et al., 2016).

541   In addition, given that service is ultimately delivered to customers, it is surprising that

542   managerial research within the customer-centered hospitality industry has not yet examined the

543 relationship that organization- and employee-related constructs share with customer-oriented

544 outcomes. As a result, there are noteworthy gaps in the literature on the effects of organizational

545 factors and of integrative managerial approaches. Many organization- and individual-level

546 factors have been linked to customer satisfaction. They include employee satisfaction

547 (Bulgarella, 2005), employee empowerment (Ugboro & Obeng, 2000), employee personality

548 (Ekinci & Dawes, 2009), and service climate (Ram, Swapna, & Prabhakar, 2011). However, past

549 findings have underscored the importance of integrating both individual and organizational

550 factors to better understand customer satisfaction (Harter et al., 2002). In this study, we

551 examined two individual-level antecedents (i.e., employee mindfulness and creativity) and an

552 organization-level factor (i.e., error tolerance) that influences customer satisfaction. The present

553 study is the first to yield empirical evidence that supports a positive link between hospitality

554 frontline employee mindfulness and customer satisfaction. These findings not only extend the

555 mindfulness literature but also delineate mindfulness's salutary influence on organizational

556 competitiveness.

557 Our findings also contribute to error management literature by suggesting that error tolerance in

558 the workplace fosters employee creativity. The argument that errors (a) are indicators of what is

559 and is not working and (b) draw attention to and increase awareness of error information

560 (Bledow et al., 2009) is incontestable. However, the relationship between error occurrence and

561 employee creativity is not straightforward. In fact, this relationship depends on how errors are

562 treated in the workplace. Error management emphasizes corrective action following error

563 occurrence. The manner in which employees respond (i.e., their behaviors) to errors is largely

564 contingent on the extent to which their organizations are perceived to be tolerant of errors (Zhao,

565 2011). Past findings have revealed that work environments that are characterized by open

566   communication, mutual support, and cooperation in error situations promote employee creativity

567   (e.g., Wang et al., 2018). The current study delineates the moderating effects of error

568   management strategies on the relationship between employee mindfulness and creativity.

569   *Practical implications*

570   Frontline employees serve as an interface between customers and the backstage of service

571   delivery. The present findings suggest that frontline employee mindfulness enhances creativity

572   and customer satisfaction. Thus, the present findings underscore the importance of promoting

573   employee mindfulness. Scholars have noted that specific forms of training, practice, and

574   experience can help employees become more skillful at mindfully focusing their attention in

575   specific work contexts (Hülsheger et al., 2013). Researchers have found support for the

576   effectiveness of meditation-based programs (e.g., mindfulness-based stress reduction) that aim to

577   help individuals focus on the present (Hölzel et al., 2011). While other individual-level

578   antecedents of work outcomes (e.g., personality, cognitive abilities) are relatively stable and

579   enduring, employee mindfulness can be improved through training (Dane & Brummel, 2014). In

580   recent years, there has been a growing interest in the implementation of mindfulness-based

581   training programs to enhance employee well-being and other organizationally relevant outcomes

582   such as job performance (Burton et al., 2017; Hyland et al., 2015). Several factors render

583   mindfulness training particularly relevant and valuable to hospitality organizations and

584   managers. One factor is the growing body of preliminary evidence suggesting that mindfulness

585   training is associated with various organizationally relevant outcomes such as improved

586   performance and engagement and reduced stress-related strains (Allen et al., 2015). Another

587   factor is the well-publicized success of the mindfulness training programs that organizations such

588   as Target, Google, Intel, and Aetna have provided to their employees (Eby et al., 2019). For

589   instance, Google has proposed an employee program called *Search Inside Yourself*. This

590   program not only encourages employees to adopt mindfulness as a means to relieve stress but

591   also acts as a comprehensive psychological intervention that aims to promote various aspects of

592   well-being and potential (e.g., flow, creativity, serenity). Intel launched the Awake@Intel

593   mindfulness program. Participants in the program experienced a two-point drop in feeling

594   overwhelmed and a three-point improvement in feeling happy (Schaufenbuet, 2015). Finally, the

595   beneficial effects of mindfulness training interventions on stress are particularly relevant to

596   hospitality organizations because of the stressful nature of hospitality employees' jobs and the

597   high costs that are associated with employee stress.

598   The effect that organizational error tolerance has on employee creativity and customer

599   satisfaction is another important finding of this study. This finding suggests that hospitality

600   managers should recognize and emphasize the importance of error tolerance. Managers play a

601   critical role in cultivating an error-tolerant environment because they are responsible for

602   implementing policies and procedures and communicating the organization's priorities to

603   employees (Ostroff et al., 2012). Managers should focus on creating an environment in which

604   errors are tolerated rather than covered up. This would afford employees the freedom to

605   proactively pursue their goals without fear of failure (Weinzimmer & Esken, 2017). Managers

606   can create an error-tolerant environment by allowing employees to pursue innovative activities,

607   openly discussing errors as they occur, and avoiding punishing employees when errors are made

608   (Weinzimmer & Esken, 2017). Finally, managers should ensure that they do not underestimate

609   the irreplaceable and unique role that frontline employees play in ensuring organizational

610   competitiveness. From the perspective of customers, frontline employees are (1) the service

611   itself, (2) the organization itself, (3) the brand itself, and (4) the marketers (Zeithaml et al.,

612   2008). It is highly unlikely that managers can supervise all service encounters between

613   employees and customers. Employees' latitude and autonomy with regard to the service delivery

614   process are crucial determinants of customer satisfaction because managers allow employees to

615   customize services based on customer needs and expectations (e.g., Martin et al., 2013).

616   Therefore, creating a work environment in which employees are motivated to experiment with

617   new ideas and generate creative solutions should be not only a short-term goal but also a long-

618   term organizational strategy (Mathieu et al., 2007). This is particularly important given the

619   increased expectations of today's customers. Specifically, the mere provision of standardized

620   services is unlikely to exceed customers' expectations. Instead, the inclusion of "wow" factors in

621   the service process is more likely to satisfy customers. Each frontline employee plays a central

622   role in creating these "wow" factors and meeting diverse customer demands (Barnes et al.,

623   2010).

624   *Limitations and suggestions for future research*

625   The creativity of hospitality frontline employees plays a significant role in enhancing

626   customer satisfaction and consequently organizational competitiveness. This study investigated

627   how differences in organizational error tolerance influence the effects of mindfulness on

628   employee creativity. Despite the significance of the findings, some limitations merit

629   acknowledgement. These limitations should be addressed in future studies. First, all the data

630   were collected at a single point in time. Therefore, the data may have been adversely influenced

631   by common method bias. Future studies should adopt cross-lagged panel designs to examine

632   causal relationships. Second, although the Mindful Attention Awareness Scale (MAAS)

633   developed by Brown and Ryan (2003) has been broadly adopted in studies measuring

634   mindfulness, MAAS captures only the facet of mindfulness related to the self-regulation of

635 attention; it ignores the meta-cognitive orientation of mindfulness that highlights an open and

636 accepting state (Bishop et al., 2004). Future research should consider adopting other scales that

637 can measure both facets of mindfulness. Third, although previous studies have adopted

638 supervisor-rated employee creativity and customer satisfaction (e.g., Farabee, 2011; Yao et al.,

639 2010; Tierney et al., 1999; Rogg et al., 2001), it may have been better to collect data about

640 customer satisfaction directly from customers than from employees' managers. When

641 supervisors assessed the extent to which frontline employees were able to satisfy clients, it is

642 more like a perceived customer satisfaction from supervisors' viewpoint. Future studies should

643 directly assess the customer satisfaction from customers, which would greatly improve the

644 reliability of the assessment. Fourth, the present findings suggest that mindful employees tend to

645 be more creative than employees who are not mindful. Given the characteristics of hospitality

646 employees' jobs (i.e., high levels of emotion regulation, long working hours, and high levels of

647 cooperation), future studies should aim to ascertain the extent to which mindfulness confers other

648 benefits on hospitality employees. In addition, future studies should explore other organizational-

649 contextual factors (e.g., a supportive work environment) that activate mindfulness in employees

650 and consequently cultivate creativity.

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