

The impact of emotional intelligence on hospitality employees' work outcomes: A systematic and meta-analytical review

Abstract

Employees' emotional intelligence (EI) has been studied for over a decade in the hospitality field. While the existing literature has advanced our knowledge of this construct, mixed and inconsistent findings regarding the influence of EI on hospitality employees' work outcomes can be found in individual studies. To address such issues, we conducted a comprehensive literature review of the extant literature on hospitality employees' EI. This review yielded 60 empirical studies (from both hospitality and non-hospitality journals), based on which we investigated the background and trend of research into hospitality employees' EI. A total of 18 EI-related work outcomes were captured and classified into two groups. The direction, magnitude, and heterogeneity of the effect sizes of the relations between hospitality employees' EI and such work outcomes were meta-analyzed. The theoretical and practical implications are discussed in the light of our key findings.

Keywords:

Emotional intelligence; meta-analysis; systematic review; hospitality employees; work outcomes

1. Introduction

Since Daniel Goleman popularized EI in his best-selling book (Goleman, 1995), which has been named one of the 25 most influential management books by *Time* magazine, the concept of EI has achieved a substantial amount of popularity, and managerial research on such topic has also been flourishing in the recent years (Miao et al., 2017; Wolfe & Kim, 2013). In practice, it has become a buzzword for both individual life satisfaction and business effectiveness. People with a high level of EI have been found to have more harmonious relationships (Lopes et al., 2003), better physical and psychological well-being (Carmeli et al., 2009; Martins et al., 2010), and career success (García & Costa, 2013). From an organizational perspective, it is considered as an instrument for recruiting and selecting suitable job applicants, building team cohesion, leadership advancement, and productivity enhancement. A Fortune 500 establishment claimed that after adopting an EI-based selection tool, their sales revenues rose by nearly 70% (Kim et al., 2012). Statistics suggest that over 150 large consulting companies offered EI-related products and about 75% of Fortune 500 enterprises embraced such services (Joseph et al., 2015). More interestingly, in contrast to intelligence quotient, several academics found that EI can be trained and enhanced (Koc & Boz, 2019; Siskos et al., 2011).

Hospitality businesses pay much attention to “service with a smile” to enhance customers' satisfaction (Kim et al., 2016; Miao et al., 2019; Oh & Jang, 2019). Since service provider–consumer interactions entail the transmission of affect, managing frontline hospitality workers' emotional display has long been believed to be a critical aspect of maintaining customers' perceptions of service quality, eventually affecting the bottom line of an organization

39 (Lee & Ok, 2012; Park et al., 2021). Therefore, hospitality employees are expected to understand
40 customers' emotions and control their own emotions (e.g., displaying positive emotions and
41 suppressing negative emotions), which is normally included in their job descriptions (Loo, 2019).
42 Recently, a handful of hospitality studies have revealed that employees a high level of EI have
43 better work outcomes (Oh & Jang, 2019; Prentice & King, 2013). For example, since
44 emotionally intelligent individuals are more empathetic to the feeling of other people, it has been
45 found that they are better able to rectify service failures (Kim et al., 2012) and more likely to
46 exhibit citizenship behaviors (e.g., helping colleagues; Jung & Yoon, 2012).

47 Although EI has been empirically examined in the hospitality context for over a decade,
48 there are some drawbacks associated with their findings that are inevitable in individual research,
49 such as small sample sizes and measurement errors, leading to inconsistent results. For example,
50 whilst Choi et al. (2019) observed a strong correlation between hotel employees' EI and surface
51 acting, the same relation was weak in the study of Wen's et al. (2019) that also used a hotel
52 sample. Additionally, most of these individual studies adopted only a partial focus point, failing
53 to provide a comprehensive picture of the influence of EI. To date, there has been no systematic
54 literature review seeking to get a better understanding on how EI-research has been conducted
55 and how EI affects employees in the hospitality industry.

56 Since the associations between hospitality employees' EI and work outcomes remain
57 indeterminate, a systematic and meta-analytic review of empirical research on EI in the
58 hospitality context is needed to overcome the constraints of individual studies and draw a clear
59 picture of the work outcomes that are correlated to hospitality employees' EI. According to
60 Schmidt and Hunter (2014), meta-analysis is a thorough quantitative way to synthesize the
61 findings of individual research, resulting in conclusions that are more accurate than those that
62 can be drawn from an individual empirical study. Indeed, meta-analysis has been used in the past
63 to examine EI in non-hospitality settings. For example, in their review, Miao et al. (2016) meta-
64 analytically investigated the attitudinal work outcomes of EI, but its relations with behavioral
65 work outcomes were neglected. Furthermore, as already noted, no meta-analysis on EI has been
66 conducted in the hospitality context.

67 Given the importance of EI to both hospitality organizations and employees, and the
68 flaws in individual empirical studies, we aim to:

- 69 1. systematically search and review the empirical research findings of EI among
70 hospitality employees and summarize any work-related outcomes; and
- 71 2. investigate the direction, magnitude, and heterogeneity of the effect sizes of the
72 relations between EI and work outcomes using meta-analytic techniques.

73 In the following section, we discuss how EI has been conceptualized and measured in the
74 literature and how we define it in this study. The section also introduces the rationale behind our
75 classification of work-related outcomes. The next section shows the study's methods, including
76 the article selection process and the coding procedures and techniques used for data analysis.
77 Then, the results of the collected data are presented and interpreted. After that, the theoretical

78 and practical implications of our key findings and recommendations for future research are
79 discussed, followed by an acknowledgment of the limitations of the present study.

80 **2. Literature review**

81 *2.1 Conceptualization and measurement of EI*

82 Before formally conducting our meta-analytic review, it is necessary to clarify the
83 conceptualization of EI. As a subset of social intelligence, it is widely believed that EI originates
84 from Thorndike's (1920) human intelligence model, comprising abstract intelligence, mechanical
85 intelligence, and social intelligence (Joseph & Newman, 2010). The modern EI concept should
86 be credited to Salovey and Mayer (1990) who first mentioned the term EI and defined it as a
87 capacity or ability to perceive, control, utilize, and manage one's emotions. However, to date, the
88 state of EI is still paradoxical; according to Ashkanasy and Daus (2005), the conceptualization of
89 EI can be classified into three types: ability EI, trait EI, and mixed EI.

90 *2.1.1 Ability EI*

91 Drawing on their previous research (e.g., Salovey & Mayer, 1990), Mayer and Salovey
92 (1997) refined the definition of EI as the ability to conduct accurate reasoning about emotions
93 and the ability to regulate and utilize emotional information to assist thoughts. Grounded in such
94 definition, they presented the first EI theoretical model in which they conceptualized EI in four
95 aspects: (1) the ability to perceive accurately one's own emotions; (2) the ability to understand
96 and monitor others' emotions; (3) the ability to regulate emotions; and (4) the ability to utilize
97 emotions to guide one's actions. From their perspective, EI is a form of intelligence or talent and
98 thus can be considered as a cognitive ability.

99 Later, they developed their ability-EI measurement scales, such as Mayer-Salovey-
100 Caruso EI Test (MSCEIT; Mayer et al., 2002) and MSCEIT V2.0 (Mayer et al., 2003). Tending
101 towards the use of traditional criteria for intelligence assessments, they employed measurement
102 items with objectively correct and incorrect answers. Specifically, in ability EI assessments,
103 individuals are provided with emotion-related problem-solving questions and the grade of their
104 responses is weighed using preset standards (Mayer et al., 2003). Research shows that MSCEIT
105 has been successfully utilized to predict work outcomes (e.g., Rosete & Ciarrochi, 2005).

106 *2.1.2 Trait EI*

107 Nevertheless, some other scholars believe that EI should be viewed as an innate
108 characteristic rather than competencies or mental abilities (e.g., Goleman, 1995; Petrides et al.
109 2007). For example, Petrides and Furnham (2003) conceptualized EI as "a constellation of
110 behavioral dispositions and self-perceptions concerning one's ability to recognize, process, and
111 utilize emotion-laden information" (p. 278). From their perspective, EI is a lower-order construct
112 of the personality hierarchy that reflects the emotion-related aspects of personality (Petrides et
113 al., 2007). These scholars often hold the view that trait EI should be evaluated the way
114 personality traits are examined and must be tested through self-report surveys (Mikolajczak &
115 Luminet, 2008), since intrapersonal processes, namely perceptions and management of one's

116 own emotions, are more simply and directly assessed by self-evaluations of intrinsic states
117 (Petrides & Furnham, 2003). Common trait measures include the Wong and Law EI Scale
118 (WLEIS; Wong & Law, 2002) and the Assessing Emotions Scale (AES; Schutte et al., 1998).
119 For example, Wong and Law (2002) developed their trait EI scale with four dimensions to
120 investigate individuals' self-description/perceptions of their ability regarding self-emotion
121 appraisals, others' emotion appraisals, use of emotion, and regulation of emotion.

122 Simply put, whereas ability EI measurements require individuals to participate in tasks
123 that evaluate EI based on performance, trait EI measures require participants to self-report their
124 levels of EI. Such self-reported scales have been considered being less objective and more
125 vulnerable to fake or overstated answers than ability-based measures (Harms & Credé, 2010).
126 For example, based on a sample of 527 hospitality employees, Boz and Koc's (2019) research on
127 EI revealed that there was a huge disparity between respondents' self-reported emotional
128 appraisal capability and actual emotional appraisal ability (significantly lower than the former).
129 This may particularly happen to employees who have Dunning Kruger syndrome (Kruger &
130 Dunning, 1999); Individuals who are shortage of ability in a certain area (e.g., emotional
131 appraisal and management) often overestimate their capabilities (inflated self-efficacy).

132 *2.1.3 Mixed EI*

133 Bar-On (1997) defined EI as a constellation of non-cognitive competencies and
134 capabilities that affect an individual's ability to be successful in dealing with environmental
135 demands and difficulties. With this view, Bar-On's (1997) conceptualization is wider in scope
136 compared to the EI models established by Mayer and Salovey (1997) and Goleman (1995), since
137 Bar-On (1997) considered EI as a mixed construct – a combination of personality-like traits (e.g.,
138 emotional self-awareness) and competencies (e.g., stress management, interpersonal
139 relationships maintenance; Bar-On, 2004).

140 Bar-On's (2004) mixed EI measures (Emotional Quotient Inventory, EQ-i) also employ a
141 self-report approach; however, it is distinguished from other self-report instruments by involving
142 both trait-EI measures and traditional social capability measures. Likewise, the emotional and
143 social competency inventory (ESCI; Boyatzis et al., 2010) is another mixed-EI measure.
144 However, some believe that mixed-EI measures have obvious design flaws as their
145 conceptualization is too broad, and they naturally have conceptual overlaps with other models
146 (Joseph & Newman, 2010). Indeed, such models still lack sufficient empirical bases.

147 *2.1.4 A new model/measure of EI for hospitality*

148 In the hospitality field, drawing on different existing EI models (e.g., Mixed model, Bar-
149 On, 1997; Ability model, Mayer & Salovey, 1997), Cichy et al. (2007) created a new EI model
150 comprising IN (the ability to perceive and control one's own feelings), OUT (the ability to
151 understand others' feelings) and relationships (the ability to apply one's emotions to guide
152 thinking and acting while interacting with others). The validity and reliability of this model was
153 confirmed using hospitality samples (club leaders). In addition, their self-reported measurement
154 of EI has been found to be effective in predicting hospitality employees' work outcomes (e.g.,
155 contextual performance; Cichy et al., 2009). It is worth noting that, compared to MSCEIT (144

156 items; Mayer et al., 2002), and EQ-i (133 items; Bar-On, 2004), Cichy et al.'s (2007) measure
157 that only comprises 22 items may be applied more efficiently, allowing for practicality in real
158 workplace settings.

159 To sum up, the definition of EI is currently a field of controversy. A review of existing EI
160 models reflects that it could be defined as a cognitive ability or as a trait or as an array of skills
161 and characteristics concerning an individual's perceptions and assimilation of emotions,
162 understanding of self-feelings and others' feelings, and regulation of emotions to assist thoughts
163 and actions. Even though there is no single commonly agreed EI measure because of
164 discrepancies in definitions, considerable efforts have been made to empirically examine the
165 influence of EI on hospitality employees' work outcomes.

166 ***2.2 The influence of EI on employees' work outcomes***

167 As discussed earlier, there are divergent conceptualizations and measurements of EI in the
168 existing literature. Besides, contemporary scholars have captured a good deal of different factors
169 as latent outcomes of EI. Drawing on existing theories, and in line with previous meta-analytic
170 reviews' (Xu et al., 2020) classification scheme for outcomes of emotion-related constructs, two
171 broad categories of outcomes of EI are considered in the present review: attitudinal and
172 behavioral outcomes. Emotions or moods are basic components of human experience. Several
173 theories (e.g., affection event theory; Weiss & Cropanzano, 1996) and empirical studies (e.g.,
174 Wegener et al., 1994) have captured emotions' wide-ranging influences on cognitive processes
175 and attitudes. It is therefore not surprising to see that employees' EI, as a sign of how they can
176 perceive and regulate their emotions, plays an important role in their work attitudes (Mignonac
177 & Herrbach, 2004). Besides, in social psychology, it is widely accepted that employees'
178 behaviors are directed by their attitudes toward the job (see the theory of planned behavior
179 [Ajzen, 1991] and the progressive consequence model [Kirkpatrick, 1959]). We thus believe that
180 EI will lead to both attitudinal and behavioral work outcomes.

181 ***2.2.1 Attitudinal outcomes***

182 EI should have influences on hospitality employees' work attitudes since research has
183 revealed that individuals' mood is a powerful predictor of their affection toward work (Miao et
184 al., 2016). According to affection events theory (Weiss & Cropanzano, 1996), every person has
185 an average affective mood level; some are on the positive half (state positive affect) while others
186 are inclined to be on the negative half (state negative affect), leading to different attitudinal
187 outcomes. The theory also highlights that in organizational settings, average mood level can be
188 reduced or boosted by negative or positive job circumstances; how employees interpret work
189 events and how they handle their moods is related to their affection toward work.

190 EI covers the ability to reason about favorable and undesirable events at work (Mayer, &
191 Salovey, 1997). Since emotionally intelligent people can perceive and regulate their emotions, it
192 is highly possible that they are not only more capable of maximizing their positive moods and
193 self-esteem (e.g., identifying more wellbeing, exactment and support from the job or
194 organization), but also more adept at resisting the impact of negative situations that could

195 undermine their positive mood (Rivera Jr, 2019). Consequently, they are more likely to view
196 their job as satisfying. In addition, emotionally intelligent employees tend to develop high levels
197 of affection towards their job, perhaps because EI helps them facilitate harmonious relationships
198 with others. Given that people who are high in EI are better at reading others' emotions and
199 feelings, they can harness their empathy ability to develop better social relationships in their
200 workplace (Christie et al., 2015).

201 Due to the nature of hospitality work (e.g., person-to-person service interactions),
202 hospitality employees are more likely to suffer relatively more psychological stress, especially
203 during peak hours or when facing troublesome guests (Loo, 2019). In such situations, employees
204 with a high level of EI are regarded as more resilient because they are better at evaluating their
205 emotions and may therefore have a better and deeper understanding of the causes of stress and
206 then come up with strategies to overcome the negative emotional impact of them (Sy et al.,
207 2006). Consequently, they are more likely to have longer job tenure (Prentice et al., 2019).

208 In the hospitality sector, customers' perception of service quality is substantially reliant
209 on the performance of the employees who deliver the service (Prentice et al., 2020; Xu et al.,
210 2020). As EI signifies talents to bring emotions, empathy and intelligence together to enrich
211 mutual understanding in service encounters (Baker, 2019), it is expected that the more EI service
212 workers have, the more positive service experience customers perceive. For example, since
213 people with high EI are adept at observing others' emotions and in turn use such emotional
214 knowledge to guide their actions, they have a higher chance of accurately understanding
215 customers internal state and adaptively expressing emotions that please others (Koc, & Boz,
216 2019).

217 The discussion above suggests that EI has a positive impact on hospitality employees'
218 work attitudes. Several empirical hospitality studies have indeed confirmed such influences by
219 exhibiting the positive influence of EI on job satisfaction (Wolfe & Kim, 2013), organizational
220 commitment (Mohamadkhani & Nasiri Lalardi, 2012), customer satisfaction (Prentice, 2019) as
221 well as the inhibitory effect of EI on turnover intentions (Huang et al., 2018).

222 ***2.2.2 Behavioral outcomes***

223 Given the theory of planned behavior (Ajzen, 1991) and the progressive consequence
224 model (Kirkpatrick, 1959) in which effective emotion management can help a person to sustain a
225 positive affective state that stimulates positive work attitudes (see affection events theory; Weiss,
226 & Cropanzano, 1996), EI can also promote pro-social work behaviors. Several theories can also
227 explain the positive associations between EI and various performance-related outcomes. For
228 example, Fredrickson's broaden-and-build theory (2001) points out that positive emotions can
229 facilitate behavioral repertoires, broaden behavioral flexibility, and enhance attentional scope, all
230 of which should improve employee performance.

231 Regarding task performance, an empirical study by Tsai et al. (2007) found that
232 emotionally intelligent employees had high levels of self-efficacy and task persistence leading to
233 the confidence and perseverance to perform their work at a high standard, even when facing

234 obstacles. In his bestselling book, Goleman (1995) mentioned that emotionally intelligent people
235 are more empathic and have a better understanding of human nature. Thus, emotionally
236 intelligent individuals may also have more tendency to perform helping behaviors (e.g., altruism
237 organizational citizenship behaviors; Tofighi et al., 2015). EI has been related to positive social
238 exchanges (e.g., team cohesiveness, trust), which help to promote a corporate and innovation
239 culture (Barczak et al., 2010); this finding might clarify the link between EI and employees’
240 creative behaviors (Darvishmotevali et al., 2018; Tsai & Lee, 2013). Because EI is about the
241 ability to regulate emotions, emotionally intelligent employees are less likely to engage in
242 deviant workplace behaviors (e.g., counterproductive work behaviors; Al Ghazo et al., 2018).

243 In the extant hospitality literature, empirical studies have not only captured the positive
244 relations of EI with various performance outcomes (Hanzaee & Mirvaisi, 2013; Jung & Yoon,
245 2012; Prentice & King, 2013; Prentice et al., 2019) but also its influence on hospitality
246 employees’ choice of emotional labor strategies (e.g., Kim et al., 2012; Kwon et al., 2019),
247 coping styles (e.g., Jung & Yoon, 2016; Kim & Agrusa, 2011) and service recovery (e.g., Kim et
248 al., 2012). For example, because emotionally intelligent service employees tend to have more
249 capacity to capture and understand other people’s state of mind (e.g., empathy), they are more
250 likely to choose deep acting emotional strategies which involve sincerely adjusting mood to
251 show hospitality, when dealing with difficult guests (Ro, & Olsen, 2019). Research also reveals
252 that emotionally intelligent individuals have more awareness of which emotions are acceptable
253 or unacceptable in interpersonal interactions (Lee & Ok, 2012) and, thus, they are more likely to
254 act reasonably and calmly get others’ cooperation and ease tensions triggered by interpersonal
255 contacts (Kim et al., 2019; Koc, & Boz, 2019). This is important for hospitality organizations,
256 particularly when facing service failure.

257 However, despite the positive influences of EI on behavioral outcomes, we notice that
258 some theories (e.g., resource allocation theory; Kanfer & Ackerman, 1989) posit that self-
259 emotion control might have a negative impact on job performance, since emotion management
260 requires attentional resources and thus may distract attention away from the work task at hand.
261 Considering these mixed notions, we have attempted to better understand the influence of EI on
262 hospitality employees’ behavioral outcomes using meta-analytic techniques.

263 **2.3 Meta-analysis**

264 Although meta-analysis was first used in health research, such techniques are now widely
265 applied to many other disciplines, such as education, psychology, and social sciences (Doan et
266 al., 2021; Peng et al., 2014; Zhu et al., 2020). Meta analysis can be defined as a “statistical
267 means that utilizes rigorous methods to detect, collect, evaluate and synthesize quantitative
268 findings from all the available independent works that meet pre-specified criteria, in order to
269 answer a specific research question” (Kim & Schwartz, 2013, p. 354). In this case, meta-analysts
270 regard the findings of individual works as ‘samples of analysis’ rather than the responses from
271 individual research subjects. A meta-analytical review, therefore, can be considered as a ‘study
272 of quantitative studies’. Compared to an independent work or a small sub-group of studies that
273 are unable to offer a robust foundation for theories or scientific results, statistically synthesizing

274 the findings of individual quantitative studies can lead to more reliable and accurate predictions
275 on the same research phenomenon (Guzeller & Celiker, 2019; Kim et al., 2018).

276 Apart from quantifying the magnitude of the relations in the primary studies, as a form of
277 systematic review, by reviewing the existing research, meta-analyzes also seek to detect the
278 missing pieces in the extant knowledge, to provide insights for future research, and to mitigate
279 bias when making a conclusion. The purpose of this meta-analysis is to offer a meta-analytical
280 review of what dates regarding the influence of EI in hospitality work settings.

281 **3. Methods**

282 ***3.1 Literature search and study inclusion***

283 A systematic search was conducted to identify relevant studies via online databases. The
284 databases included EBSCO Hospitality and Tourism Complete and Google Scholar. The search
285 terms were a combination of “emotional intelligence,” and “hospitality,” “tourism,” “lodging,”
286 “hotel,” “restaurant,” “café,” “service,” and “travel,” published in hospitality and tourism journals
287 (e.g., *International Journal of Hospitality Management*, *International Journal of Contemporary*
288 *Hospitality Management*, and *Journal of Human Resources in Hospitality and Tourism*), as well
289 as in non-hospitality journals (e.g., *Journal of Vocational Behavior and Service Business*).

290 To be considered for inclusion, a study must have fulfilled the following three conditions:

- 291 1. conducted with working individuals employed in the hospitality industry;
- 292 2. reported a correlation coefficient between EI and at least one outcome;
- 293 3. quantitative research, based on either cross-sectional, longitudinal, or experimental data.

294 A study must also measure EI with over one item and with respect to one of the following
295 conditions:

- 296 1. ability EI using the measures proposed by Mayer and Salovey (1997) and Mayer et al.
297 (2002, 2003); or
- 298 2. trait EI using the measures developed by Wong and Law (2002) or Schutte et al. (1998);
299 or
- 300 3. mixed EI using the measures developed by Bar-On (1997, 2004) or Boyatzis et al. (2010);
301 or
- 302 4. an alternative scale which could be directly mapped onto the conceptual frameworks of the
303 above studies and their relevant measurement items.

304 Studies were excluded if they met any of the following conditions:

- 305 1. conducted on non-hospitality workers or students;
- 306 2. failed to report data needed for effect size calculations;
- 307 3. were secondary research; or
- 308 4. were not written in English.

309 There were four steps during the process of study selection. Step 1 yielded 345 potential
310 journal articles, conference papers, and dissertations/theses from Hospitality and Tourism
311 Complete and Google Scholar. Of this number, 177 papers were excluded after screening titles in
312 Step 2. The abstracts of these 168 remaining studies were then reviewed in Step 3 and 36 papers
313 were excluded. In Step 4, the full text was checked to identify inappropriate studies and 76 papers
314 were excluded. At the end of this process, 60 papers remained for further analysis.

315 **3.2 Data coding and analysis**

316 The final sample of 60 studies were all recorded in Microsoft Excel 2019. Two main steps
317 were involved in the coding process. Firstly, specific study characteristics including the year of
318 publication, type of publication, source name, research design, and contextual information were
319 coded to provide descriptive background information. Secondly, statistical information such as
320 sample size and scale reliability, along with the instruments and correlation coefficients of all
321 relationships between EI and its outcomes, were coded in order to conduct the meta-analysis.
322 When reliability scores were missing, average reliability was calculated from the remaining studies.
323 Only combined correlations that had been respectively drawn from three or more individual studies
324 were further analyzed and interpreted (Hunter & Schmidt, 2004).

325 To obtain an unbiased effect size for each relation between EI and its outcomes, effect sizes
326 from independent studies were combined following the meta-analytic procedures suggested by
327 Hunter and Schmidt (2004). The Pearson Product–Moment Correlation Coefficient (r) was
328 adopted as the effect size index when integrating data across individual studies. Hunter and
329 Schmidt’s (2004) approach enabled us to correct for latent sampling and measurement error using
330 the Cronbach’s alpha values and sample size reported in each individual work. To be considered
331 statistically significant, the 95% confidence interval of a mean corrected correlation had to exclude
332 zero. Cohen’s (1992) rules of thumb were used to assess the magnitude of the mean corrected
333 effect size, where $r < 0.3$ indicates low magnitude, $r \geq 0.3$ is moderate, and $r \geq 0.5$ is high.
334 Additionally, an 80% credibility interval and Q-statistics were calculated to examine the
335 heterogeneity of each mean-corrected effect size. The potential moderators are present if a
336 credibility interval is large and includes zero, and when a Q-statistic is significant (Hunter &
337 Schmidt, 2004).

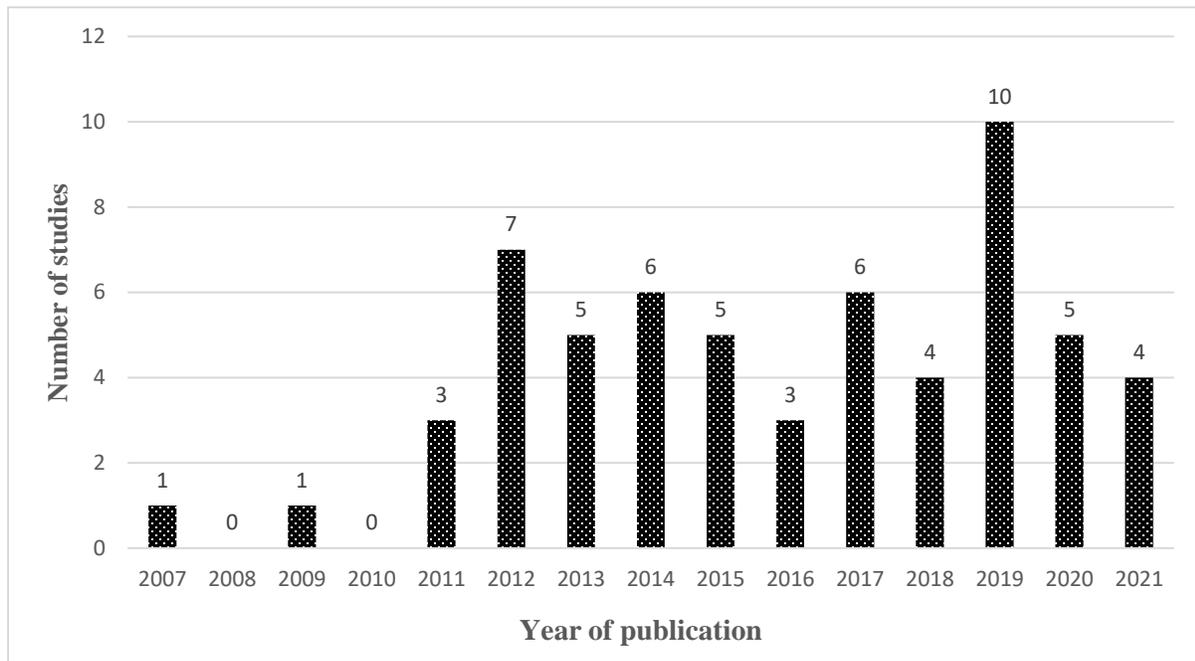
338 **4. Findings**

339 **4.1 Sample description**

340 The first study on hospitality employees’ EI was conducted by Sy et al. (2006); however,
341 its publication was in a non-hospitality journal (the *Journal of Vocational Behavior*). The first EI
342 study in the hospitality literature was Cichy et al. (2007) published in the *Journal of Hospitality &*
343 *Tourism Research*. Figure 1 shows the year of publication of the 60 studies included in the review.
344 Overall, 26 (43%) studies were published from 2011 to 2015, and 32 (53%) studies were published
345 from 2016 until recently. The publication of studies investigating EI of hospitality employees
346 seems to be increasing, despite lower numbers in some years.

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350 **Figure 1.** Publication year (2007 to 2021) of the studies included in the review (K = 60)

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352 In terms of types of publication, 55 (92%) studies were published as journal articles, while
353 3 (5%) were conference papers and 2 (3%) were theses (Table 1). Out of the 55 journal articles,
354 40 were published in hospitality journals, while 15 were published in non-hospitality journals. The
355 three hospitality journals with the largest numbers of EI studies were the *International Journal of*
356 *Hospitality Management* (N = 9, 15%), the *International Journal of Contemporary Hospitality*
357 *Management* (N = 5, 8%), and the *Journal of Human Resources in Hospitality and Tourism* (N =
358 5, 8%).

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366 **Table 1.** Summary of systematic review results (K = 60)

Aspect	Name or type	N	%
Type of publication	Hospitality journal	40	67
	Non-hospitality journal	15	25
	Conference paper	3	5
	Thesis	2	3
Name of journal	<i>International Journal of Hospitality Management</i>	9	15
	<i>J. of Human Resources in Hospitality and Tourism</i>	5	8
	<i>Int. J. of Contemporary Hospitality Management</i>	5	8
	Other	41	69
Type of measurement	Wong and Law (2002)	37	62
	Schutte et al. (1998)	7	12
	Bar-On (1997)	2	3
	Other	14	23
Study sector	Hotel	32	53
	Restaurant	11	18
	Other (e.g., casino, travel agency, airline)	10	17
	Did not specify	7	12
Country of study	Korea	11	18
	USA	10	17
	China	9	15
	Malaysia	6	10
	Other	24	40
Research design	Cross-sectional (single source/single level)	53	88
	Cross-sectional (multi source/multi-level)	7	12
Type of analysis	SEM/path	26	43
	Regression/correlation	24	40
	HLM	3	5
	Other	7	12

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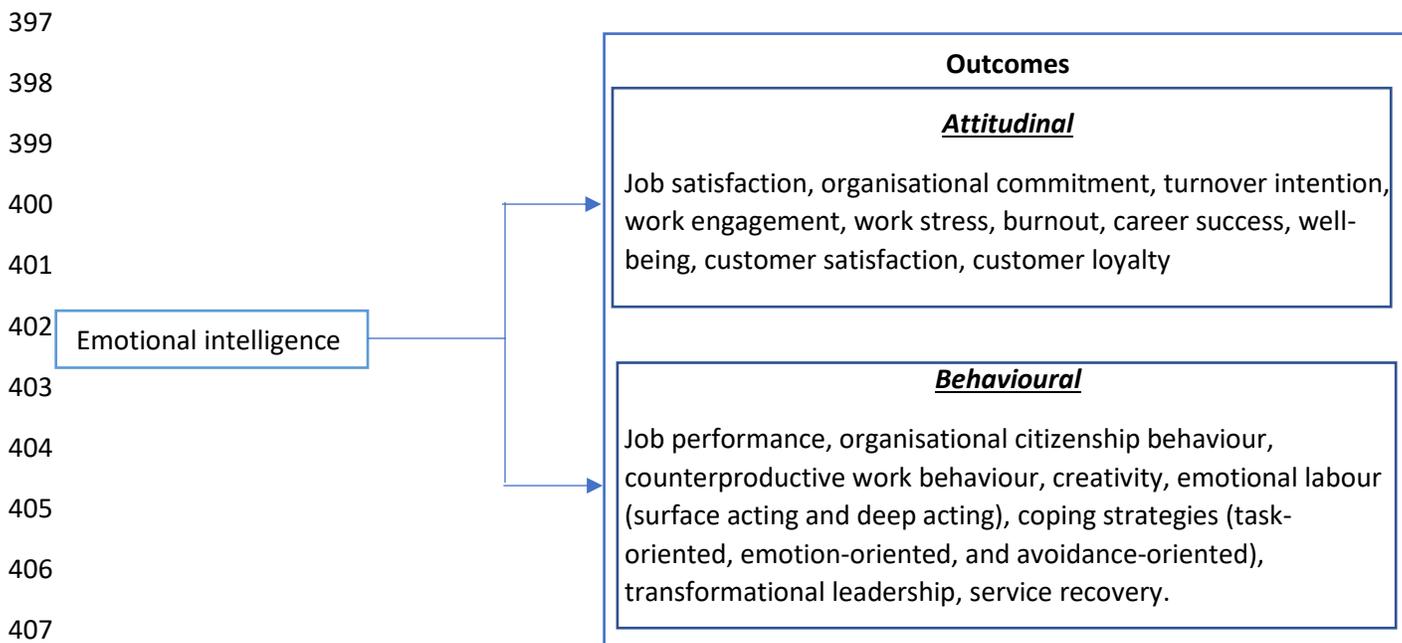
368 When investigating emotional intelligence, only self-reported measurements were used.
 369 Items developed by Wong and Law (2002) were the most popular (N = 37, 61%) with the highest
 370 average reliability score (α) of .88, followed by items developed by Schutte et al. (1998; N = 7,
 371 12%) with the average reliability score (α) of .83. Two (3%) studies employed the measurement
 372 developed by Bar-On (1997); the average reliability score (α) was 0.72. Fourteen (23%) studies
 373 used other alternative scales when measuring EI in their studies. Overall, most studies viewed EI
 374 as trait EI rather than mixed EI or other types.

375 More than half of the studies (N = 32, 53%) were conducted on employees from the hotel
 376 industry, followed by employees from the restaurant industry (N = 11, 18%). The other hospitality
 377 sectors such as casino, travel agency, and airline have received less attention from researchers
 378 when examining EI. Regarding study location, the concept of EI has received attention from
 379 researchers in many countries. Hospitality employees in Korea (N = 11, 18%) and the USA (N =
 380 10, 17%) have been examined the most. There were also 9 (15%) studies using Chinese employees
 381 as their sample and 6 (10%) studies on Malaysian employees.

382 Regarding research design, all EI studies were cross-sectional studies. Most measured
 383 hospitality employees' EI outcomes using single source and single level data. For example, only
 384 a few studies tested the influence of EI on employee work outcomes from multiple sources, such
 385 as management or customer perspectives (e.g., customer perceived service quality and satisfaction).
 386 Regarding analytic techniques, most studies employed SEM analysis (N = 26, 43%), followed by
 387 regression/correlation analysis (N = 24, 40%). HLM analysis (N = 3, 5%) was less popular among
 388 EI researchers.

389 **4.2 Meta-analysis results**

390 The outcomes of EI were summarized and then categorized into two domains (attitudinal
 391 and behavioral outcomes) as shown in Figure . The empirical results from our meta-analysis are
 392 reported in Table 2. For each meta-analytic relation, we reported the total number of studies (K),
 393 the cumulative sample size (N), the mean correlation (r), the average corrected correlation (ρ), the
 394 95% CI, the 80% CR, and the Q-statistics. However, considering potential secondary sampling
 395 error, the results of any combined correlations of less than three individual studies are not presented
 396 or further interpreted.



408 **Figure 2.** Work outcomes of emotional intelligence

410 **Table 2.** Relationship between emotional intelligence and work outcome variables

Work outcomes	K	N	r	ρ	SD ρ	95% CI	80% CR	Q
• <i>Attitudinal</i>								
Job satisfaction	18	4398	0.45	0.51	0.20	[0.48, 0.53]	[0.31, 0.70]	140***
Organizational commitment	4	1064	0.45	0.50	0.23	[0.45, 0.56]	[0.19, 0.82]	87***
Turnover intention	3	1402	-0.30	-0.40	0.88	[-0.46, -0.33]	[-0.54, -0.25]	16***
Burnout	6	2169	-0.41	-0.47	1.00	[-0.51, -0.43]	[-0.66, 0.29]	53***
Work stress	5	1741	-0.19	-0.21	0.82	[-0.26, -0.16]	[-0.62, 0.19]	156***
• <i>Behavioral</i>								
Job performance	14	2935	0.36	0.42	0.27	[0.38, 0.45]	[0.20, 0.63]	91***
Organizational citizenship behavior	6	1770	0.39	0.44	0.24	[0.40, 0.48]	[0.22, 0.67]	67***
Emotional labor (<i>Surface acting</i>)	10	2779	-0.17	-0.15	0.76	[-0.22, -0.14]	[-0.46, 0.09]	106***
Emotional labor (<i>Deep acting</i>)	8	2256	0.31	0.36	0.29	[0.33, 0.42]	[0.24, 0.51]	29***
Coping (<i>task- oriented</i>)	3	1034	0.42	0.49	0.17	[0.44, 0.56]	[0.34, 0.66]	20***
Coping (<i>emotion- oriented</i>)	3	1034	-0.10	-0.12	0.73	[-0.19, -0.05]	[-0.72, 0.43]	100***
Service recovery	3	873	0.33	0.38	0.29	[0.32, 0.46]	[0.12, 0.68]	39***

Note: K = number of studies, N = cumulative sample size, r = mean correlation, ρ = average corrected correlation, SD ρ = standard deviation of ρ , CI = confidence interval, CR = credibility interval, Q = Q-statistic, *** = $p < 0.001$.

411 **4.2.1. Attitudinal outcomes**

412 The relations between EI and attitudinal outcomes were meta-analytically explored based
413 on 10,057 respondents from 33 different samples. Apart from job satisfaction (K = 18), all the
414 attitudinal outcomes were each drawn from less than 10 individual studies. The result of the meta-
415 analyzes revealed that job satisfaction was not only the most frequently studied attitudinal outcome
416 but also the most strongly correlated to EI ($\rho = 0.51$) followed by organizational commitment (ρ
417 = 0.50). Apart from work stress ($\rho = 0.21$), EI also had moderate inhibiting effects on burnout (ρ
418 = -0.47) and turnover intention ($\rho = -0.40$). Q-statistics were statistically significant for all the
419 attitudinal outcomes, reflecting significant heterogeneity among effect sizes for the relations
420 between EI and the attitudinal outcomes.

421 **4.2.2 Behavioral outcomes**

422 The associations between EI and behavioral outcomes were meta-analytically explored
423 based on 12,681 respondents from 47 different samples. Job performance was the most frequently

424 studied ($K = 14$), followed by emotional labor (surface acting; $K = 10$). Among behavioral
425 outcomes, EI had relatively stronger relations with coping (task-oriented; $\rho = 0.49$), organizational
426 citizenship behavior ($\rho = 0.44$) and job performance ($\rho = 0.42$). In addition, the relations of EI
427 with emotional labor (deep acting; $\rho = 0.36$) and service recovery ($\rho = 0.38$) also exhibited
428 moderate effect sizes. EI was found to have an inverse relation with emotional labor (surface acting;
429 $\rho = -0.15$) and coping (emotional-oriented; $\rho = -0.12$), respectively. Q-statistics were statistically
430 significant for all behavioral outcomes, reflecting significant heterogeneity among effect sizes for
431 the relations between EI and behavioral outcomes.

432 **5. Discussion**

433 This paper is the first systematic and meta-analytical review of EI in the hospitality context
434 industry. The results of this systematic review provide a holistic overview of what has been
435 achieved. Also, the implementations of the meta-analytical techniques offer additional insights
436 into how EI statistically correlates with different work outcomes of the hospitality employees. The
437 results of this study have significant theoretical and practical implications, as follows.

438 **5.1. Theoretical implications**

439 First, the present review endorses that EI is an important construct worthy of future
440 research. Although links between emotional intelligence and work outcomes such as job
441 performance have been an area of major controversy (Cherniss, 2010), the nonnegligible impact
442 of EI on hospitality employees' work outcomes has been showed by our meta-analytic results. In
443 comparison to the influence of situational factors such as transformational leadership (Gui, et al.,
444 2020; $\rho = 0.42$), or servant leadership (Gui et al., 2020; $\rho = 0.32$) on performance, EI as a personal
445 resource was found to have the same or stronger effect ($\rho = 0.42$). When comparing the effects of
446 EI on performance, EI of hospitality employees ($\rho = 0.42$) is nearly three times stronger than those
447 in academia (MacCann, et al., 2020; $\rho = 0.12$) and double that of other industries (O'Boyle, et al.,
448 2010; $\rho = 0.24$). Therefore, it is important to consider the context of the hospitality industry in the
449 literature of EI given the significance of its predictive power.

450 Second, most EI studies in the hospitality context considered EI as a trait ($N=41$, 73%).
451 These studies used a self-reported research design when measuring employee EI. As mentioned in
452 the previous section, EI has three different conceptualizations and measurements, including trait
453 EI, ability EI, and mixed EI. While the self-reported measurement (trait EI) is assessed internally
454 within individual response daily, the performance-based approach (ability EI) is measured
455 externally within the criterion of performance in a certain condition. Because of the distinctions in
456 the mental process to evaluate, different EI measurement could provide different results. While the
457 study of Miao et al. (2017) found that the impact of self-reported EI on job satisfaction ($\rho = 0.32$,
458 was lower than mixed EI, $\rho = 0.39$, and much higher than ability EI, $\rho = 0.08$), the result in our
459 study is much higher ($\rho = 0.51$) with significant Q statistic. This means that there is a possibility
460 that other contextual factors in the hospitality can influence the correlation between EI and job
461 performance. However, research in the hospitality context lacked enough empirical evidence of

462 ability and mixed EI to make a comparison between the three dimensions. Thus, we recommend
463 that hospitality scholars extend the theoretical framework of EI in the dimensions of ability EI and
464 mixed EI.

465 Third, the results revealed that most previous studies focused on positive outcomes and
466 neglected possible negative outcomes of employee EI in the hospitality context. In our study, EI
467 had moderate negative effects on turnover intention ($\rho = -0.40$) and burnout ($\rho = -0.47$). EI may
468 become a liability when it enables employees to manipulate and harm others. For example, Choi
469 et al. (2019) and Jung and Yoon (2012) have provided empirical evidence to show the relationship
470 of EI with unexpected work-related outcomes (e.g., counterproductive work behavior). Employees
471 with high EI can cause psychological discomfort when they are too aware of negative emotions in
472 themselves and others (Davis & Nichols, 2016). It is thus essential to recognize a possible optimal
473 amount of a personal resource, such as EI, that will enable the achievement of a specific target
474 without becoming a wasted or harmful and over-demanding resource (Miao et al., 2017). Hence,
475 hospitality scholars may need to investigate the curvilinear relationship of EI with desirable work
476 outcomes.

477 Fourth, as shown in Table 2, the meta-analytical results also revealed that many previous
478 studies only focused on organizational effectiveness outcomes, while individual outcomes were
479 substantially fewer. EI should be considered as an important construct to investigate, regarding its
480 impact on employee well-being, life satisfaction, and career development (García & Costa, 2013;
481 Lopes et al., 2003). Various theories can explain the influence of employee EI on their personal
482 achievement. For example, the competency theory posits that employees with a high level of EI
483 can be good at recognizing and managing emotions and at building a positive relationship with
484 people (Amdurer et al., 2014). They may receive more opportunities to obtain constructive
485 feedback and to endorse leadership roles. In the hospitality context, employees continuously
486 interact with many people, ranging from their team and their team leaders to their customers; hence,
487 their EI competency might influence their career success. Thus, we urge future studies to focus
488 more on the influences of EI on individual outcomes.

489 Fifth, according to our meta-analytical results, significant Q-statistics and large credibility
490 intervals were found in the relations between EI and different outcomes. These results open
491 multiple directions for researchers who are interested in undertaking further studies about EI on
492 unique work environment. As mentioned previously, EI of hospitality employees has a higher
493 impact on job performance and satisfaction than other industries. This means that there are possibly
494 boundary conditions that may strengthen or weaken the impact of EI on various outcomes. For
495 instance, based on the job demand–job resources model (Bakker & Demerouti, 2007), research
496 using a service employee sample in China found that organizational justice as a job resource
497 moderated the relationship between EI and work engagement (Zhu's et al. 2015). We encourage
498 further investigation into how EI (a personal resource) may interact with job resources and its
499 interaction impact on work outcomes.

500 It was found in previous studies that, while the attitudinal and behavioral outcomes of EI
501 rated by employees were common, few of these outcomes were assessed by other data sources,
502 such as supervisors, co-workers, and family members. The over-reliance on self-reporting

503 questionnaires has possibly resulted in common-method variance effects (e.g., the mood state of
504 respondents acting to attenuate or inflate their answers; Podsakoff et al., 2012). Although EI was
505 widely studied as an individual difference concept, future studies may consider EI at a team (e.g.,
506 the team's EI) or organizational level (Lopes, 2016), or whether organizational culture could
507 promote individual EI (Rosete & Ciarrochi, 2005). For example, the study of Barczak et al. (2010),
508 who considered team EI as the ability of a team to share the same sense of managing emotional
509 processes, found that team EI had a significant relationship with team trust and collaborative
510 culture. All studies in this review used a cross-sectional approach, while longitudinal and
511 experimental approaches were scarce. Given that EI can be taught and improved over time,
512 according to the ability-based model (Mayer & Salovey, 1997), the effectiveness of EI-related
513 organizational interventions should be assessed using empirical evidence. The ability-based model
514 suggests that employees can learn to better perceive, facilitate, understand, and manage emotion.
515 Therefore, future studies may want to take longitudinal and experimental approaches to investigate
516 the impact of EI training programs to see how individual hospitality employee's EI can be
517 improved.

518 In addition, previous studies mainly concentrated on employees in the hotel and restaurant
519 businesses (72%) in four countries, including Korea, the United States, China, and Malaysia (61%),
520 while many other sectors and countries received less attention. The ignorance of the perspectives
521 of employees in other contexts can lead to limited knowledge of how contextual factors may
522 influence EI and its outcomes. Again, this could be the reason for the significant Q-statistics in our
523 results. Therefore, it is suggested that more EI studies are needed on employees from different
524 sectors of the hospitality industry and from different countries (e.g., Africa, South America) to
525 investigate the boundary conditions of how EI influences hospitality employees' work outcomes.

526 ***5.2. Practical implications***

527 This study found that EI was a significant predictor of employee job satisfaction in the
528 hospitality industry, producing the strongest effect size ($\rho = 0.51$). According to the theory of goal
529 setting (Diener et al., 1999), job satisfaction can reflect the level of goal achievement that
530 employees perceive at work. The higher effect size of EI on job satisfaction of employees in the
531 hospitality context can be explained by the changing nature of market and customer demand in the
532 hospitality industry. In such a context, continuous interpersonal interactions between employees
533 and their co-workers, leaders and customers occur, which requires employees to use their EI to a
534 greater extent to complete tasks and achieve workplace goals. Importantly, our finding suggests
535 an alternative way to deal with human resource issues that organizations can invest in - recruiting
536 emotionally intelligent people to have satisfied employees.

537 In contrast, our meta-analytical results also revealed the relatively strong effect size of
538 burnout and turnover intention, which was one of the negative attitudinal outcomes of EI.
539 Participating in the hospitality industry under the pressure of work, employees with a low EI score
540 could easily become irritated and stressed (Choi et al., 2019). This result should be highlighted as
541 a warning for hospitality organizations about the risks of having employees with low EI. Based on
542 the theory of person-organisation fit (Kristof, 1996), organizations are required to identify their

543 values and their suitable employees to create a positive match and increase an employee's
544 organizational attachment. Taken together, hospitality practitioners may want to use these findings
545 to change their human resources practices (e.g., recruitment policies) to include measuring EI to
546 detect hospitality employees who are more likely to show affection toward their job and less
547 emotional exhaustion.

548 Even though EI tests have been used widely in the process of recruiting and retaining new
549 employees, these tests are mainly based on trait EI (Jung & Yoon, 2012). It is recommended that
550 hospitality managers should apply both self-reported trait EI and performance-based ability EI
551 tests to better evaluate the influence of employee EI. A performance-based ability EI approach can
552 allow managers to integrate the results of supervisors and co-workers rating of an employee's
553 performance, while at the recruitment stage, the self-report EI test can be beneficial in the
554 identification of suitable candidates. According to Hodzic et al. (2018), an intervention to improve
555 employee ability EI can be easier to conduct than trait EI. Thus, the performance-based approach
556 can be a beneficial tool for hospitality managers to intervene and prevent the emotional issues that
557 can emerge among employees as they perform their jobs.

558 In addition to job satisfaction and burnout, we found significant correlations of EI with
559 emotional labor (deep acting; $\rho = 0.36$) and job performance ($\rho = 0.42$). These are another two
560 popular outcomes of EI that had strong attention from academia when examining the impact of
561 hospitality employee EI. Hospitality and tourism services require employees to have continuous
562 interaction with customers and to deal with unpredicted events and requests. According to Lopes
563 (2016), EI can be enhanced through the intervention of training. Based on our findings, we suggest
564 hospitality organizations can invest in training to enhance employees' ability to perceive and
565 regulate their emotions, thereby improving their emotional expression and service quality towards
566 customers. For example, managers could incorporate sensitivity components into such training
567 programs as 'acted out' scenarios or role playing (see Han et al., 2017), online training with images
568 depicting facial expression reorganization (see Koc & Boz, 2020), and mindfulness workshops
569 (see Johnson & Park, 2020) to enhance employees' emotional self-control and relationship
570 management.

571 **6. Limitations and future studies**

572 The current study has several limitations. First, the systematic review only focused on
573 quantitative studies. While the current approach achieved our study's objectives, the study lacks
574 narrative insights from qualitative and conceptual studies. Future review papers could include a
575 wider range of studies on EI in the hospitality industry, to provide a better picture of how EI has
576 been conceptualized (Nunkoo et al., 2013). Second, while this study employed a comprehensive
577 and rigorous data collection method, the sample size could be improved. Several of the
578 meta-analytical distributions between EI and its outcomes have a limited number of samples.
579 This can cause a second-order sampling error, as in other meta-analysis papers (Hu & Yang,
580 2021). For the same reason, we could not run the moderating analysis in this study. Thus, we
581 must alert the reader to exercise caution when acknowledging the preliminary results of this

582 study. We suggest that future studies conduct the meta-analysis again while including more
583 papers, to generate further findings.

584 Lastly, because our review only included studies published in English, it may have
585 excluded the results of studies in other languages. While most of the highest-level papers are
586 published in the top tier of English language journals, there are academic works in other
587 languages with rich contextual information. Cognizant of these limitations, we call for further
588 studies on the EI of hospitality employees, in different languages and using multi-cultural
589 research approaches. Such research and comparisons with our results would provide more insight
590 into the effects of hospitality employees' EI.

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