

1 **Anxiety and Gratitude Towards the Organization: Relationships with Error Management**

2 **Culture and Service Recovery Performance**

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Abstract

According to affective events theory (AET), organizational contexts can produce “affective events” that shape individuals’ emotional experiences, subsequently influencing those individuals’ work behaviors. This study hypothesized that every time an error occurs in an error management culture, it is an affective event that can stimulate employees’ gratitude and reduce their anxiety toward their respective organizations. Gratitude and anxiety are positively and negatively associated with employees’ service recovery performance, respectively. Drawing on three waves of data collected from 218 hotel employees, this study found that error management culture was positively associated with gratitude and negatively associated with anxiety. Consequently, gratitude and anxiety influenced employees’ service recovery performance, as rated by the employees’ supervisors. These findings suggest that error management culture can influence employees’ service recovery performance through the culture’s impact on gratitude and anxiety.

Key words: Gratitude; Error management; Anxiety; Emotion; Service recovery performance.

67

Introduction

68 Human emotions are key components of psychological reactions to environmental
69 stimuli. Emotions play an important role in motivation and information-processing, and they
70 serve as environment-behavior interfaces (Lord & Kanfer, 2002). Despite emotions' importance,
71 their origins and influence on employees' work behaviors remain largely unknown, especially in
72 people-oriented hospitality organizations (e.g., Ashkanasy, Zerbe, & Hartel, 2016). Service
73 encounters not only facilitate the delivery of materials, but also fulfill the socioemotional needs
74 of both customers and employees (Bradley et al., 2010). Given the prevalence of customer-
75 centricity in the hospitality industry, hospitality organizations commonly put emphasis on
76 cultivating pleasant emotional experiences for customers. Yet they rarely investigate how
77 hospitality work settings are able to shape employees' positive emotions, thereby promoting
78 better job-related behaviors (Vargo & Lusch, 2004). In addition, although managerial research
79 has focused on linking organizational factors with employees' cognition, it has neglected the
80 important role played by emotions (Troth et al., 2018; Ashkanasy, Zerbe, & Hartel, 2016; Weiss
81 & Cropanzano, 1996). A more robust understanding of how employees develop more positive
82 emotions that then impact their work behaviors would strengthen both organizational managerial
83 literature and hospitality service management.

84 The current study draws upon affective events theory (AET) to establish a framework in
85 which organizational cultures serve as stable environmental stimuli that predispose certain types
86 of affective events to shape employees' discrete emotions, which in turn influence job behaviors
87 (Forgas, 1995; Fisher & Ashkanasy, 2000; Lam & Chen, 2012). Employees tend to "personate"
88 their organizations and consider them to be human-like entities (Waytz & Young, 2012). In this
89 way, employees develop discrete emotions toward their organizations based on the organizations'

90 different situational stimuli. In particular, as emotions are determined more by frequently
91 occurring hassles or uplifts than intense major events, an organizational culture is likely to exert
92 far-reaching influence on employees' emotional experiences (Fisher & Ashkanasy, 2000). This
93 research attends to one particular aspect of organizational cultures that produces environmental
94 stimuli affecting employees' emotions: error management culture (Gronewold, Gold, & Salterio,
95 2013). In doing so, this study uncovers how events as well as situations related to error handling
96 may affect employees' emotional experiences and job behaviors. The hospitality industry
97 involves service production that is characterized by variability, dependence, and intangibility
98 (Sparks, 2001), and this very nature of service production determines the inevitability, ubiquity,
99 frequency, and variety with which errors occur (Guchait, Simons, & Pasamehmetoglu, 2016).
100 Examples of common service errors include reservation errors, the assignation of incorrect
101 rooms, wrong orders, the undercooking or overcooking of food, and the forgetting or
102 misunderstanding of a client's request. Error management culture stems from error management.
103 Error management is an error handling approach that focuses on the actions to take after an
104 error's occurrence, such as error communication, error analysis, and the activation of positive
105 outcomes such as learning (van Dyck et al., 2005; Hagen, 2013).

106 Anxiety and gratitude are two fundamental human emotions. While anxiety is directed
107 toward stress, gratitude is directed toward benefits received (Powell & Enright, 2015; Ford et al.,
108 2018). Recognizing the significance and universality of employees' anxiety and gratitude toward
109 their organizations, this study examines the relationship between error management culture and
110 these two emotions. In particular, error handling within the context of error management culture
111 can determine the likelihood of employees' exposure to different affective situations. Effective
112 error handling constitutes an important organizational support for which employees are grateful

113 (Eisenberger & Stinglhamber, 2011). Effective error handling also reduces employees' anxiety
114 caused by stressors in error situations because of the social support embodied in error
115 management culture (Kurtessis et al., 2017; Kim & Stoner, 2008).

116 In view of the ubiquity and frequency of service failures, one key work performance
117 indicator among hospitality employees is service recovery performance, which describes an
118 employee's ability to take the appropriate actions following a service failure in order to regain
119 customer satisfaction (Karatepe, 2006). As service recovery performance is closely related to the
120 handling of errors or failures, an investigation of the relationship between error management
121 culture and employees' service recovery performance via employees' gratitude and anxiety
122 toward their organizations is necessary.

123 The current study attempts to answer one overarching research question: How does
124 organizational error management culture influence employees' emotional experiences of anxiety
125 and gratitude toward their organizations, which in turn influence the employees' service recovery
126 performance? The objectives of this research are twofold: (1) to examine the relationship
127 between error management culture and anxiety as well as gratitude and (2) to investigate how
128 service recovery performance is influenced by gratitude and anxiety. The mediating effects of
129 gratitude and anxiety between error management culture and service recovery performance are
130 also tested. The present study makes several contributions to the scholarly understanding of error
131 management, employees' emotions, and service recovery performance. First, this paper
132 introduces employees' anxiety and gratitude toward their organizations as two discrete emotions
133 that are influenced by error management culture. To date, no studies have focused on employees'
134 anxiety or gratitude toward their hospitality organizations or the organizational cultural factors
135 that are the emotions' antecedents. The literature on emotions in the workplace mostly revolves

136 around general positive and negative affects (PANAS; Watson, Clark, & Tellegen, 1988), rather
137 than the development and impact of discrete emotions. This study helps to fill this research gap
138 by examining the antecedents and outcomes of gratitude and anxiety. Second, research on error
139 management culture largely focuses on behavioral outcomes via underlying cognitive
140 mechanisms, neglecting possible emotional paths (Lord, Klimoski, & Kanfer, 2002). However,
141 error management culture may not only influence what people think, but also what people feel.
142 This study expands on the nomological network of error management culture by exploring its
143 emotional outcomes (Hagen, 2003). Ultimately, the study establishes a comprehensive linkage
144 among organizational culture (error management culture), employees' emotions (gratitude and
145 anxiety), and work behaviors (service recovery performance).

146 **Literature Review and Hypothesis Development**

147 *Organizational Culture and Error Management Culture*

148 Organizational culture refers to shared and valid assumptions regarding the means to
149 “perceive, think, and feel in relation to those problems” among organizational members (Schein,
150 2010, p. 18). Organizational culture governs employees' cognitive and affective aspects; namely,
151 how things are understood and interpreted in the workplace (Kunda, 2009). In an organization
152 with a strong organizational culture, employees are able to work effectively without fear of
153 uncertainty and ambiguity. Indeed, an organizational culture can set shared workplace norms and
154 behaviors, facilitating cognitive processing and reducing complexity (Trice & Beyer, 1993).

155 As one particular aspect of organizational culture, error management culture describes
156 employees' perceptions of their organizations' shared beliefs and practices related to error
157 analysis, error communication, assistance in error situations, and error competence and learning
158 (van Dyck et al., 2000, 2005; Gronewold et al., 2013). Organizational culture enables members

159 to share a common and distinct way of relating to things. When an error occurs, one may be
160 confused about what to think and do, vacillating between the almost intuitive tendency to cover
161 up the error and the desire to admit it and ask for help. Error management culture renders error
162 handling more efficient by creating shared understandings of error occurrence and guiding
163 members to envisage errors without bias and focus on problem-solving and learning (Schneider,
164 Ehrhart, & Macey, 2013; Alvesson, 2012). Error management becomes an aspect of
165 organizational culture when every organizational member embraces the idea that error
166 occurrence is unavoidable and the focus should be on active handling (van Dyck et al., 2005).
167 Error management emphasizes minimizing the consequences of errors and seeing the errors as
168 potentially even valuable and positive.

169 *Affective Events Theory and Network Theories of Emotion*

170 AET adopts an event-based approach to the study of emotions and provides a framework
171 indicating how work environment features can eventually influence individual job behaviors
172 driven by the emotional experiences generated. This “context-emotions-attitude-behaviors”
173 framework suggests that job behavior or job performance is a function of employees’ discrete
174 emotions toward their organizations, which are determined by organizational factors.

175 According to AET, the work environment stimulates the production of emotions through
176 environmental stimuli (Gaddis, Connelly, & Mumford, 2004). For instance, organizations high in
177 organizational supportiveness produce affective events that result in positive emotions, which
178 then contribute to organizational citizenship behaviors (Ford, Wang, Jin, & Eisenberger, 2018).
179 In addition, AET sheds light on the fact that compared to intense but infrequent affective events,
180 frequent events that accumulate over time can exert more profound effects on the generation of
181 emotions, thereby revealing the potential impacts of organizational culture on emotions (Glomb,

182 Steel, & Arvey, 2002). Situations or events occurring in the workplace are often multi-faceted
183 and their meaning can be equivocal (Weick, 1995). Organizational culture is a critical tool of
184 organizational socialization because it provides cues related to meaning, interpretation, and
185 decoding (Zerbe, Hartel, & Ashkanasy, 2010). AET highlights the important role played by
186 accumulative affective events flowing from daily hassles and uplifts in shaping employees'
187 emotional experiences (Glomb, Steel, & Arvey, 2002). Thus, it is reasonable to believe that
188 organizational culture is a strong work environment feature that influences employees' emotions
189 through relevant affective events such as error-related situations.

190 Network theories of emotion supplement AET to provide a more robust explanation of
191 how emotions generated through episodic affective events can eventually become persistent
192 (Singer & Salovey, 1988). Rooted in the literature of memory, network theories of emotion hold
193 that emotional experiences are stored in individuals' memories. Each discrete emotion is
194 recorded in an individual's memory as an emotional schema that helps the individual to develop
195 corresponding emotions when encountering similar situations (Singer & Salovey, 1988; Moors,
196 2009). In other words, momentary emotional experiences that result from affective events can
197 become persistent emotions over time via repeated pairings between the stimulus and the
198 experience of an emotion. Every time a stimulus appears, the emotional schema encoded in the
199 memory is activated and guides the generation of emotions (Moors, 2009). For instance, working
200 under abusive supervision tends to shape an emotional schema centered on fear, which is an
201 outcome of the repetitive pairing of abusive supervision and fear stored in the memory.

202 Organizational culture is characterized by its continuity, strength, and stability, as well as its
203 ability to "provide meaning and predictability" (Schein, 2010, p. 16). Taking AET and network
204 theories of emotion in tandem, the current study considers how organizational culture not only

205 serves as environmental stimuli to generate episodic emotional experiences resulting from
206 affective events, but also facilitates the transformation from episodic to persistent emotions.

207 *Gratitude*

208 Gratitude can be conceptualized at three levels in the organizational context: the event
209 level, the individual level, and the organizational level, which correspond to episodic gratitude,
210 persistent gratitude, and collective gratitude, respectively (Fehr, Fulmer, Awtrey, & Miller, 2017).
211 When experiencing accumulative organizational events that trigger episodic gratitude, one tends
212 to develop persistent gratitude, defined as “a stable tendency to feel grateful within a particular
213 context” (Fehr, Fulmer, Awtrey, & Miller, 2017, p. 363). On the basis of the aforementioned
214 network theories of emotion, this study adopts the concept of persistent gratitude, which best
215 captures the level of the emotion on which organizational culture can have an impact.

216 Based on organizational support theory (Eisenberger, 1986; Kurtessis et al., 2017), this
217 study argues that error management culture can be regarded as one important component of the
218 organizational support perceived by employees that can accordingly shape their gratitude toward
219 their organizations. Error management culture incorporates a series of behaviors that reflect
220 different forms of support directed toward the person in need (van Dyck et al., 2005). These
221 behaviors are based on the shared mindset that the person who makes the error should be cared
222 for through various emotional and tangible supports because everyone makes errors. All these
223 emotional and physical supports are expected to shape the gratitude of employees who are forced
224 to confront error situations. In addition, AET holds that emotional experiences that result from
225 affective events are most strongly determined by their peaks of intensity and outcomes
226 (Fredrickson, 2000). Thus, an error situation may not be pleasantly perceived by employees at
227 the beginning, but this perception may improve if the error is successfully handled within a

228 strong error management culture. This “happy” ending can set a positive tone for the whole
229 episode, thereby stimulating positive emotions toward the given organization.

230 Moreover, this study argues that error occurrence may constitute a particularly optimal
231 situation where organizational support can result in valuable and rewarding outcomes. Fehr et al.
232 (2017) argued that one’s experience of gratitude is dependent on the recognition of benefits
233 received. According to the law of emotion (Frijda, 1988), individuals become accustomed to
234 certain situations and have fewer and fewer affective reactions to them. Compared to those
235 situations in which employees may not be able to recognize organizational support due to
236 habituation, error situations are episodes that are outside of the scope of habituation and comfort;
237 thus, employees feel a strong need for help and support from their organizations. Accordingly,
238 gratitude is more likely to emerge when there is organizational support in error situations.

239 **Hypothesis 1:** Error management culture is positively related to employees’ gratitude.

240 *Anxiety*

241 Identified as a psychological strain that reflects one’s emotional response to stressors,
242 anxiety is a negative emotion one typically experiences when perceiving a potential harm or
243 barrier to achieving their goals because of an event (Lazarus, 1991). Criticism, negligent
244 supervisors, and coworkers are typical stressors that can cause negative emotional reactions such
245 as anxiety and hostility (Motowidlo, Packard, & Manning, 1986). Error occurrence is a common
246 stress-producing situation, or stressor. One way to reduce anxiety is to improve work conditions,
247 thereby eliminating stressful situations that may lead to anxiety (Motowidlo, Packard, &
248 Manning, 1986). Waterman et al. (2007) showed that after error occurrence, a majority of
249 physicians feel anxious and have problems with insomnia. In the hospitality industry, employees
250 confront errors on a daily basis due to the nature of service production, easily leading to the

251 experience of persistent anxiety. In other words, anxiety is an emotional outcome of the daily
252 hassles individuals experience and that accumulate over time (e.g., Schwarzer & Hallum, 2008).

253 Error management culture is able to alleviate employees' anxiety via different channels,
254 as explained by the theory of social support (e.g., Kessler, Price, & Wortman, 1985; Kim &
255 Stoner, 2008). Social support is a multi-dimensional construct that includes different aspects of
256 support: tangible support, emotional support, and informational support (e.g., Winnubst, 2017;
257 Kim & Stoner, 2008). This study argues that different aspects of error management culture
258 contribute to social, emotional, and informational support. First, a critical part of error
259 management culture is error analysis and error competence, which constitute tangible support for
260 employees who are often stressed out due to a lack of knowledge and poor error handling skills.
261 Second, in an organization with a strong error management culture, employees feel that they are
262 understood rather than criticized by others when an error happens. This suggests the affective
263 aspect of social support, which is referred to as emotional support. Third, communicating error
264 information without fear is an important reflection of error management culture that facilitates
265 the timely identification and handling of errors. This corresponds with informational support,
266 which emphasizes communication between the stressed person and the supportive partner. Beehr
267 and McGrath (1992) suggested that social support is expected to reduce the anxiety caused by
268 stressors in the following ways: (1) directly influencing the anxiety, (2) moderating the
269 relationship between stressors (e.g., stress-producing environmental circumstances [SPECs]) and
270 anxiety, and (3) weakening the perceived strength of the stressors. Linking these intervening
271 mechanisms of social support with the three different types of social support, it is expected that
272 error competence and analysis (tangible social support) reduces stressors by helping employees
273 reevaluate the occurrence of an error as a stressor. Error communication (informational social

274 support) provides employees with the knowledge necessary to handle errors, thus reducing
275 stressors. Emotional social support tends to be activated once the psychological strain (e.g.,
276 anxiety) has manifested itself. In particular, if one feels anxious after making an error, the feeling
277 of being cared for and understood reduces the level of anxiety. Therefore, the following
278 hypothesis is formed:

279 **Hypothesis 2:** Error management culture is negatively related to employees' anxiety.

280 *Service Recovery Performance*

281 As the production of hospitality service products is error-prone (Bowen & Ford, 2002), it
282 is essential for hospitality employees to recover from service failures and errors in order to
283 regain customer satisfaction (Guchait et al., 2014). Service recovery performance refers to a
284 frontline service employee's competence in resolving service failures to the satisfaction of
285 customers (Babakus et al., 2003). As service failures and errors are inevitable, the action taken
286 after a service error or failure is critical. Therefore, service recovery performance constitutes one
287 critical facet of a hospitality employee's job performance.

288 Positive and negative emotions involve different psychological mechanisms in
289 determining behaviors, with negative emotions leading to more specific and short-lived negative
290 outcomes and positive emotions creating broader and long-lasting positive effects (Forgas &
291 George, 2001; Fredrickson, 2001). Job-specific stress theory argues that affective states can lead
292 individuals to selectively expose themselves to either the causation or elimination of stressors
293 (Forgas & George, 2001; Zellars, Perrewe, Hochwarter, & Anderson, 2006). In particular,
294 negative emotions (1) enable individuals to interpret things negatively, (2) cause individuals to
295 selectively emphasize negative events, and (3) decrease individuals' motivation to control or
296 change the situation (e.g., Necowitz & Roznowski, 1994). In addition, the conservation of

297 resources (COR) model (Hobfoll, 1989) posits that individuals realize the limitations of their
298 resources and behave in a way they believe will protect their resources. An employee who is
299 experiencing anxiety towards their organization is experiencing psychological strain; thus, the
300 employee needs to spare limited resources to cope with their anxious state. As a result, they have
301 fewer resources available to engage in job tasks such as service recovery efforts (Cox, Kuk, &
302 Leiter, 1993). Taken together, this study predicts a negative relationship between employee
303 anxiety and service recovery performance.

304 Positive emotions, on the other hand, can positively influence job behaviors through the
305 broaden-and-build mechanism. An employee's gratitude towards their organization is likely to be
306 a strong predictor of their service recovery performance. According to the broaden-and-build
307 theory of positive emotions, the experience of positive emotions such as joy, interest, and love
308 brings about several long-lasting benefits. It (1) broadens one's "thought-action repertoires"
309 (Fredrickson, 2001, p. 10), (2) counteracts the negative effects of the experience of negative
310 emotion, and (3) builds psychological resilience and contributes to psychological well-being
311 (Fredrickson & Joiner, 2002). In addition, positive emotions help individuals focus on their
312 present development in order to better prepare for the future (Fredrickson, 1998). Therefore,
313 gratitude, as a discrete positive emotion, is likely to bring about these long-lasting benefits
314 (Emmons & Shelton, 2002). Moreover, as gratitude is directed towards the organization,
315 employees tend to become willing to repay the organization's kindness and support by engaging
316 in behaviors they believe will help the organization based on the theory of social exchange
317 (Bartlett & DeSteno, 2006). Namely, an employee who experiences gratitude towards their
318 organization may reciprocate with a better service recovery performance in service failure
319 situations. AET proposes a comprehensive framework that integrates environmental stimuli as

320 antecedents, triggered emotions as mediators, and actual behaviors as outcomes. By the same
321 token, this study proposes that gratitude and anxiety serve as the underlying emotional
322 mechanisms through which error management culture influences employees' affect-driven
323 service recovery performance.

324 **Hypothesis 3:** Anxiety is negatively related to service recovery performance.

325 **Hypothesis 4:** Gratitude is positively related to service recovery performance.

326 **Hypothesis 5:** Gratitude and anxiety mediate the relationship between error management culture
327 and service recovery performance.

328 *Control Variable*

329 Emotions are not just outcomes stimulated by external environment, but also influenced
330 by dispositional traits (Harmon-Jones & Harmon-Jones, 2010). People have different levels of
331 trait affects based on personality differences. George (1991) defined emotion traits as expected
332 experience of emotion with the environmental stimuli controlled for. As a result, emotional
333 reactions are a result of interactive effects of trait and state affects. A commonly used tool to
334 assess the trait affects is the broad positive affect and negative affects schedule (PANAS)
335 (Watson, Clark, & Tellegen, 1988). Therefore, in order to eliminate the influence of individual
336 differences in emotion generation and expression, this study uses PANAS as a control variable to
337 more accurately assess the emotions that are influenced solely by the work environment.

338 **Methodology**

339 *Participants and Procedure*

340 Using non-probability convenience sampling, one of the co-authors of this study
341 approached a five-star hotel chain that owns six hotels located in Istanbul, Turkey, and presented
342 to senior management the research concept as well as the criteria for recruiting participants. After

343 receiving the consent of the general managers, the co-author personally visited hotels to
344 distribute surveys to frontline employees and their direct supervisors. Participants were asked to
345 complete the survey during their work hours. No incentives were provided. The researcher
346 personally collected the completed surveys in sealed envelopes to ensure confidentiality. The
347 data were collected at three time points with an interval of one month between each time point.
348 At time 1, 249 employees participated, 246 employees also participated at time 2, and 218
349 participated at time 3, resulting in a response rate of 88 percent. Employees' participation in this
350 study was voluntary, and they received no rewards for participation. Participants answered the
351 questions regarding error management culture, anxiety, gratitude, and PANAS. Moreover,
352 participants' supervisors evaluated participants' service recovery performance in order to
353 eliminate the social desirability bias. Sixty-eight percent of participants were male, and fifty-
354 three percent of participants ranged in age from twenty-one to thirty years old. Sixty-two percent
355 of participants had worked in the hospitality industry for more than one year. Thirty-nine percent
356 completed college, and thirty-four percent completed high school.

357 *Measures*

358 Demographic information and items on error management culture were included in the
359 survey at Time 1. Gratitude and anxiety were measured at Time 2. PANAS were assessed at Time
360 3. Service recovery performance was also measured at Time 3 by participants' supervisors.
361 Participants responded on a 7-point Likert scale ranging from 1 = strongly disagree to 7 =
362 strongly agree for error management culture, gratitude, anxiety, and service recovery
363 performance. For PANAS, a 7-point Likert scale (1=not at all, 7=extremely) was used to assess
364 employees' general moods. The internal reliabilities (Cronbach's alphas estimates) ranged from
365 .78 to .94.

366 *Error Management Culture* ($\alpha = .93$). A sixteen-item measure developed by van
367 Dyck et al. (2005) was used. One sample item is “*Our errors point us to what we*
368 *can improve*”.

369 *Gratitude* ($\alpha = .89$). An eight-item scale was used to measure participants’
370 gratitude toward the organization where they work adapted from the Gratitude
371 Questionnaire–6 (GQ-6) (McCullough, Emmons, & Tsang, 2002). One sample
372 item is “*I have so much to thank my organization for*”.

373 *Anxiety* ($\alpha = .88$). Participants reported their experience of anxiety in the
374 workplace using a four-item scale (Glazer & Kruse, 2008). One sample item is “*I*
375 *have felt fidgety or nervous as a result of my job*”.

376 *Service Recovery Performance* ($\alpha = .94$). Supervisors evaluated participants’
377 service recovery performance using a six-item scale developed by Lin (2010).
378 One sample item is “*This employee can often manage well service recovery*”.

379 *Positive Affects and Negative Affects Schedule (PANAS)* ($\alpha = .80$ for PA; $\alpha = .78$
380 for NA). The 20-item PANAS were used to measure employees’ general mood
381 tendencies (Watson, Clark, & Tellegen, 1988). Participants responded on a 7-point
382 Likert scale (1=not at all, 7=extremely) to assess the extent to which the different
383 feelings and emotions fit their general moods. A sample item is “*Indicate to what*
384 *extent you generally feel upset (NA) /active (PA)*”.

385 **Results**

386 *Preliminary Analysis*

387 The data were subject to a Confirmatory Factor Analysis to confirm the validity and
388 reliability of the measures (see Table 1 and Table 2). Three items were removed because of the

389 low factor loadings. The model fit indices of the overall measurement model had a good fit with
390 the data ($\chi^2 = 630.13$, $df = 409$, $p < 0.05$; CFI = 0.95; IFI = 0.95; RMSEA = 0.05; $\chi^2/df = 1.54$).
391 All factor loadings for items were greater than 0.5 and were statistically significant ($p < 0.01$),
392 indicating convergent validity. The average variance extracted (AVE) was used to examine
393 convergent validity. The AVE scores for gratitude, anxiety and service recovery performance
394 ranged from .60 to .71, indicating convergent validity (Hair et al., 2010). The AVE score for error
395 management culture was .49. The convergent validity is still adequate with AVE less than 0.5 if
396 the composite reliability of that measure is higher than 0.6 (Fornell & Larcker, 1981). The
397 composite construct reliabilities (CCR) for error management culture is .94, thus indicating the
398 convergent validity. To test the discriminant validity, the AVE values for any two constructs were
399 compared with the square of the correlation estimate between them (Hair, Black, Babin, &
400 Anderson, 2010). In all cases, the AVE was greater than the squared correlation estimates,
401 indicating discriminant validity. In addition, the CCR values ranged from 0.89 to 0.94, exceeding
402 the 0.70 threshold, indicating the construct reliability (Fornell & Larcker, 1981). Therefore, the
403 measures possessed adequate reliability and validity. Although the data were collected from three
404 time points, with service recovery performance rated by employees' supervisors, Harman's
405 Single-Factor Test was conducted to rule out the possible common method bias (Podsakoff,
406 MacKenzie, & Podsakoff, 2012). All items were loaded on the four proposed latent factors, as
407 well as a single method factor. The CFA results indicated that the four-factor model fits the data
408 significantly better ($\chi^2 = 630.13$, CFI = 0.95, RMSEA = 0.05) than the one-factor model in which
409 all items were loaded onto one latent construct ($\chi^2 = 2152.14$; CFI = 0.63; RMSEA = 0.14; $\Delta\chi^2 =$
410 1522.01, $p < .01$). the results suggested that the common method variance should not be a
411 problem in the current study.

	M	SD	1	2	3	5
1. EMC T1	5.29	1.11	--	.32	.10	.06
2. Gratitude T2	4.81	1.35	.57*	--	.08	.05
3. Anxiety T2	3.29	1.46	-.31*	-.29*	--	.12
4. SRP T3	5.54	1.02	.25*	.23*	-.34*	--
Goodness-of-fit statistics						
$\chi^2(418) = 764.83, p < .05$						
$\chi^2/df = 1.83$						
CFI = .93, IFI = .93						
RMSEA = .06						

412 *Note.* EMC = error management culture; SRP = service recovery performance;
413 CFI = comparative fit index; IFI = incremental fit index;
414 RMSEA = root mean square error of approximation.
415 T1= Time 1; T2= Time 2; T3= Time 3

416 * $p < .05$

417 a. Correlations are below the diagonal.

418 b. Squared multiple correlations above the diagonal.

419

420 **Table 1.** Means, standard deviations, correlations, and CFA results

421

	Factor	CCR	AVE	Cronbach's
<i>Error management culture</i>				
1	.59	.94	.49	.94
2	.63			
3	.69			
4	.70			
5	.73			
6	.72			
7	.79			
8	.75			
9	.68			
10	.64			
11	.67			
12	.78			
13	.70			
14	.72			
15	.69			
<i>Anxiety</i>				
1	.85	.89	.66	.88
2	.87			
3	.79			
4	.73			
<i>Gratitude</i>				
1	.84	.90	.60	.89

2	.80			
3	.74			
4	.79			
5	.74			
6	.70			
<i>Service recovery</i>		.94	.71	.94
1	.83			
2	.90			
3	.89			
4	.90			
5	.74			
6	.79			

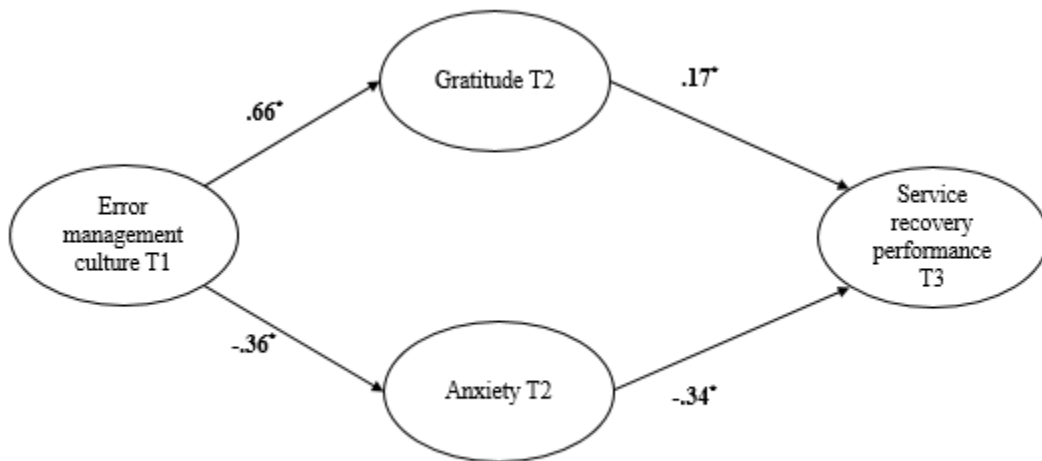
422 Note. CCR = composite construct reliability; AVE = average variance extracted.

423 **Table 2.** *Convergent and discriminant validity test results*

424 *Tests of Hypotheses*

425 The structural equation modeling (SEM) was used to test the hypothesized relationships
426 controlling for PANAS to test Hypotheses after ensuring that the overall measurement model was
427 adequate and acceptable. Overall, the structural model had a good fit with the data ($\chi^2 = 795.92$,
428 $df = 474$, $p < 0.05$; CFI = 0.93; IFI = 0.93; RMSEA = 0.06; $\chi^2/df = 1.68$). As Figure 1 indicated,
429 error management culture was positively related to gratitude ($\beta = 0.66$, $p < 0.01$), thereby
430 supporting H1. As expected, error management culture was negatively related to anxiety,
431 supporting H2 ($\beta = -0.36$, $p < 0.01$). The results of H1 and H2 indicate that error management
432 culture exerted significant, disparate impacts on gratitude and anxiety: It promoted positive
433 emotions (gratitude) and reduced negative emotions (anxiety). In particular, error management
434 culture was found to have stronger impacts on employees' gratitude than on employees' anxiety
435 toward their organizations. There are several possible reasons for this interesting result. First,
436 error management culture involves moral elements that may trigger employees' positive moral
437 emotions, such as gratitude toward their organizations, as identified in this study. Second, as
438 expected, the results confirmed the law of emotion in that individuals in error situations

439 particularly appreciate the support reflected in error management culture, which may stimulate
 440 strong feelings of gratitude. Third, hospitality employees' anxiety toward their organizations may
 441 be traced back to various factors, such as workplace incivility and work-family balance, which
 442 ultimately reduce the impact of error management culture. Moving to hypothesis 3, the results
 443 indicated a significant negative relationship between anxiety and service recovery performance
 444 ($\beta = -0.34, p < 0.01$), thus H3 was supported. Support H4, gratitude is positively related to
 445 service recovery performance ($\beta = 0.17, p < 0.05$). The findings from H3 and H4 suggested the
 446 opposite impacts of gratitude and anxiety on service recovery performance: gratitude positively
 447 influences service recovery performance whereas anxiety negatively affects service recovery
 448 performance.



449 **Note.** * $p < .05$. $\chi^2 = 795.92, df = 474, CFI = 0.93, TLI = 0.93, RMSEA = 0.06; \chi^2/df = 1.68$

450 Next, the bootstrapping was used to test the indirect effect of error management culture
 451 on service recovery performance through gratitude and anxiety (see Table 3). The bias-corrected
 452 bootstrapped 95% confidence interval for the indirect effect does not include zero ($\beta = .23, CI_{.95}$
 453 $[.13, .32], p < .05$). In particular, gratitude and anxiety were respectively mediated the
 454 relationship between error management culture and service recovery performance (Standardized

455 estimate_{gratitude} = .10, CI_{.95} [.02, .19], p < .05; Standardized estimate_{anxiety} = .12, CI_{.95} [.06, .19],
 456 p < .05). The significant mediation effects revealed that organizational error management culture
 457 positively influenced employees' service recovery performance through its impacts on the
 458 employees' two discrete emotions toward their organizations: gratitude and anxiety. The results
 459 confirm the macrostructure of AET in that work environment features were found to influence
 460 affect-driven behaviors via affective reactions (discrete emotions).

461 In addition, a competing model with an additional linkage between error management
 462 culture and service recovery performance was analyzed and compared with the hypothesized
 463 model. The competing model also showed the good model fit ($\chi^2 = 793.80$, $df = 473$, $p < 0.05$;
 464 CFI = 0.93; IFI = 0.93; RMSEA = 0.06; $\chi^2/df = 1.68$). The result of Chi-Square difference test
 465 between two models was not significant ($\Delta \chi^2 = 2.11$, $\Delta df = 1$, $p > 0.05$), confirming the adequacy
 466 of the proposed model based on the theoretical plausibility and model parsimony (Preacher,
 467 2006; Schermelleh-Engel, Moosbrugger, & Müller, 2003).

Model pathways	Estimated effect	95% CI	
		Lower CI	Upper CI
EMC → GRA&ANX → SRP	.23*	.13	.32
EMC → GRA → SRP	.10*	.02	.19
EMC → ANX → SRP	.12*	.06	.19

Notes: EMC = Error management culture; GRA = Gratitude; ANX=Anxiety; SRP = Service recovery performance; *p < 0.05

468 **Table 3.** Indirect effects and 95% confidence intervals (CI) for the paths

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Discussion

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The ultimate goal of this study was to understand the relationship among error management culture, experiences of discrete emotions (i.e., gratitude and anxiety), and work-related performance for hospitality employees. By focusing on the causes and outcomes of

474 emotions that employees develop in the workplace, this study reveals that organizational culture
475 can come to influence employees' job behaviors via underlying emotional mechanisms (Weiss &
476 Cropanzano, 1996). Two major findings emerged from this study. First, error management
477 culture was positively associated with employees' gratitude and negatively associated with
478 employees' anxiety. Second, gratitude and anxiety generated within an organization influenced
479 employees' service recovery performance. Ultimately, this study offers a comprehensive
480 framework for explaining how organizational culture in regard to error handling is related to
481 employees' job behaviors via emotional pathways.

482 *Theoretical Implications*

483 Weiss and Cropanzano (1996) indicated that “[t]hings happen to people in work settings
484 and people often react emotionally to these events” (p. 11). The first theoretical contribution of
485 this study is to AET and the multi-level model of emotion in organizations (Ashkanasy, 2003).
486 Adopting AET, this study empirically examined two emotional pathways through which
487 organizational culture may influence employees' job behaviors. Previous research using AET has
488 focused on the relationship between episodic affective events and individual emotions. The
489 current study extended the applied range of AET by linking organizational culture with
490 individuals' emotional experiences. Employees generate and accumulate emotional experiences
491 in the workplace as a response to different work characteristics. This is consistent with previous
492 literature stating that the terms “organizational culture,” “organizational climate,” and
493 “organizational policies” imply emotional components that can be sensed by employees (e.g.,
494 Weiss & Cropanzano, 1996). Specifically, because of its stability, durability, and clarity,
495 organizational culture provides ongoing cues regarding the interpretation of organizational
496 events, which in turn shape the stable pairing of stimuli and emotions (e.g., Elsbach & Stigliani,

497 2018). Although previous applications of AET have highlighted the role affective events may
498 play in fostering episodic emotions, the current study supplemented AET with network theories
499 of emotion to propose that organizational culture may turn individual episodic emotions into
500 persistent and stable emotional experiences (e.g., Weiss & Cropanzano, 1996). The findings also
501 confirm the emotional aspects of organizational culture that can be passed on to individual
502 organizational members to shape their emotions toward their organizations and job behaviors,
503 thus contributing to the literature on organizational culture. AET has also been widely used by
504 researchers to explain and predict emotions at the individual level (e.g., level one in the multi-
505 level model of emotion in organizations; Ashkanasy & Humphrey, 2011). The results of this
506 study suggest that AET can not only help explain emotions at the individual level, but also serve
507 as a theoretical framework for understanding emotion dynamics at different organizational
508 levels. For example, organizational culture can determine the organizational emotional context
509 that drives emotional processes at lower levels (individual levels). The second theoretical
510 contribution of this study is that it provides evidence indicating that employees' emotions matter
511 in the workplace because employees personate their organizations and develop emotions based
512 on organizational treatment. Managerial research has long considered employees to be "rational"
513 beings whose emotions are detrimental to organizational performance. The current study
514 provides empirical evidence that organizations provide environmental stimuli that influence
515 employees' emotions and behaviors. There are theories that can supplement AET in explaining
516 how discrete emotions impact work behaviors. The broad-and-build theory of positive emotions
517 suggests that the experience of positive emotions can "beautify" employees' perceptions of
518 situations and indirectly decrease the intensity of negative cognition (Fredrickson, 2004). The
519 findings of the current study indicate that experiencing positive emotions (gratitude) can lead

520 employees to focus on the positive aspects of a situation (error occurrence), which in turn
521 positively influences work performance related to the handling of errors or failures. In addition,
522 the relationship between emotions and behavior is contingent on the positive or negative valence
523 of emotions. Compared to positive emotions, negative emotions have a stronger relationship with
524 behavioral outcomes, which confirms that negative emotions lead to more specific and intense
525 outcomes than positive emotions (e.g., Zerbe, Hartel, & Ashkanasy, 2010).

526 The study's third theoretical contribution resides in error management literature. A few
527 previous studies have empirically emphasized the importance of holding more positive attitudes
528 toward error occurrence and considering error as a normal part of organizational life, as in the
529 error management approach (e.g., Guchait, Kim, & Namasivayam, 2012; Wang et al., 2018).

530 Research on error management has rarely, if ever, examined the impact of different error
531 handling approaches on employees' emotional experiences, especially positive emotions. Errors
532 have been conventionally linked with individuals' negative emotional experiences, such as guilt,
533 shame, fear, and anger, neglecting the possibility that error management, as a novel management
534 tool that reflects a different view of errors, can transform conventional emotional reactions to
535 error situations from anxiety to gratitude. The current study indicates that within error
536 management culture, the ongoing support of employees in error situations can (1) lead to
537 persistent gratitude toward the organization and (2) mitigate the employees' level of anxiety.
538 Building on the theories of social support and organizational support (Kessler, Price, &
539 Wortman, 1985; Eisenberger, 1986), this study found that error management culture not only
540 reduced negative emotions but also promoted positive emotions. This indicates that error
541 management culture is one component of a "healthy emotional climate" in an organization
542 (Ashkanasy, 2003; Ashkanasy et al., 2002).

543

544 *Practical Implications*

545 Given that service failures inevitably occur from time to time, employees' competence in
546 handling such failures is critical for organizational success (Guchait, Kim, & Namasivayam,
547 2012). The findings of this study identified both organizational and individual antecedents of
548 employees' service recovery performance, including error management culture and the
549 employees' emotions. The results showed that hotel managers would benefit from creating an
550 organizational culture where employees are motivated to share information when errors occur,
551 analyze and learn from the errors, and help each other in error situations. In this type of culture,
552 employees tend to feel more grateful toward their organizations and less anxious when they are
553 at work, which in turn helps them to better address service failures through service recovery.

554 Practitioners have long subscribed to the error prevention approach, which involves
555 attempting to block the occurrence of errors in the first place. In pursuit of perfection, many
556 companies adopt negative, even hostile, attitudes toward errors by practicing zero tolerance of
557 them (Hofmann & Frese, 2011; Wang et al., 2018). Although this approach sounds logical and
558 appealing, it does not eliminate errors or negative outcomes. Based on the findings of this
559 research, hotel managers would do well to adopt the error management approach, which reflects
560 a more advanced understanding of errors. In particular, the error management approach suggests
561 that (1) total error avoidance is impractical and (2) errors should be differentiated from their
562 consequences (e.g., Frese & Feith, 2015).

563 More importantly, error management cannot work effectively unless every member
564 accepts, supports, and practices it, which highlights the importance of creating an organizational
565 error management culture (e.g., Hagen, 2013; van Dyck et al., 2005). The findings of the current
566 study support the creation of a culture-embedding mechanism through which an organizational

567 culture can be established and embedded in a company (e.g., Schein, 2010). First and foremost,
568 hospitality organizations need to eliminate strict hierarchies and replace them with more modern
569 working models. The U.S. Air Force had difficulty implementing error management because of
570 its regimented environment and strict hierarchy (Hagen, 2013). Given this, we propose that hotel
571 managers serve as deliberate role models, actively admitting to and discussing errors, providing
572 support to those in error situations, allocating resource for error management practices, setting up
573 meetings to openly discuss errors, and rewarding those who report their own errors or help others
574 solve errors. Collective learning and reinforcement are likewise necessary in establishing an
575 organizational culture (e.g., Ehrhart, Schneider, & Macey, 2013). Hotel managers should
576 organize various forms of learning and training activities to continually reinforce the importance
577 and content of error management. Over time, error management will become a collective
578 mindset.

579 It is important to note that developing an error management culture involves more effort
580 than developing other organizational cultures because it requires a rupture with the “normal” way
581 of thinking and behaving. To illustrate how to develop error management culture, we take
582 Duhigg’s (2012) model of habit formation through a loop of three stages: a cue that elicits the
583 brain to choose the habit with which to react; a routine that covers physical and psychological
584 responses determined by the habit; and the reward, or the outside assessment of the
585 psychological or physical reactions that helps determine the quality of the habit. A traditional
586 habit loop for those making errors is that errors trigger negative emotions such as
587 embarrassment, guilt, anger, and anxiety (Duhigg, 2012). As a result, organizational members
588 hold an aversive attitude towards errors, keep errors to themselves, and sometimes even cover up
589 errors for others. All of these actions are detrimental to both employees and their organizations in

590 that such behaviors impede timely error identification and collective efforts for effective error
591 handling. Therefore, we propose that developing an error management culture implies
592 abandoning the old habit loop regarding errors and instead developing a new habit loop. In this
593 new habit loop, employees appreciate the way they are treated after error occurrence and feel less
594 anxious about errors. This allows them to focus on gaining new skills to better handle errors in
595 the future (Hagen, 2013). To facilitate this transformation, we propose implementing rewards
596 that encourage individuals to practice error management and abandon the old habit loop.
597 Similarly, imposing a sanction on an employee who hides errors serves as a clear signal of
598 discouragement. Hotel managers should use both reward and sanction tools to reward those who
599 report and communicate errors and help others in error situations and to warn those who cover up
600 errors and demonstrate aversive attitudes toward individuals who make errors.

601 The current research also sheds light on emotional development in the workplace.
602 Leaders tend to consider their employees to be “rational” beings because organizations are
603 thought to be profit-driven and thus emotion-free. This study offers particular insight into both
604 the development and impacts of employees’ emotions at work. Employees consider their
605 organizations not only as places to make a living, but also as human-like entities toward which
606 they experience various emotions. Hotel managers would benefit from creating and maintaining
607 healthy organizational cultures that promote employees’ positive emotions (Ashkanasy & Hartel,
608 2014). In particular, the focus should be on how to stimulate positive emotions such as gratitude,
609 elevation, pride, and enthusiasm among employees while eliminating negative emotions such as
610 shame, fear, and anger. This study suggests that in an error management culture, employees tend
611 to grow their gratitude toward the organization and have less anxiety. As such, error situations
612 that are usually negatively perceived become unique opportunities to optimize employees’

613 emotional experiences. Last but not least, employees' emotions have impacts on their job
614 behaviors. In this study, employees who were more grateful toward their organizations
615 demonstrated their appreciation by engaging in service recovery performance, and those who
616 were anxious at work had fewer resources available for service recovery efforts. Supervisors
617 should explore other organizational practices that can shape employees' gratitude and reduce
618 their anxiety, such as the creation of a forgiving climate, employee mindfulness interventions,
619 and well-being promotion programs.

620 *Limitation and Future Studies*

621 The current study is not free of limitations. First, although the study collected data regarding the
622 antecedents, mediators, and outcome variables at three timepoints, causality could not be
623 established among them. Future studies might consider collecting all variables at three time
624 points and conducting a cross-lagged panel analysis of the longitudinal data (Selig & Preacher,
625 2009). Conducting an experimental study by manipulating different error handling strategies to
626 observe participants' emotional reactions is another appropriate way to determine a causal
627 relationship. Second, this research relied on non-probability convenience sampling for data
628 collection. Therefore, the data collected from frontline employees working in five-star hotels in
629 Turkey raise the concern of generalizability of research findings. Future studies might adopt
630 probability sampling methods in order to generalize from the research findings to different
631 contexts. Third, the literature on emotions suggests that macro-environmental factors, especially
632 national cultures, may have impacts on employees' emotional development and expression.
633 Therefore, cross-cultural research on emotions is rarely conducted and could be an interesting
634 direction for future research (e.g., Matsumoto et al., 2008). Fourth, although this study identified
635 gratitude and anxiety as discrete emotions influenced by error management culture, other

636 discrete emotions such as anger, hope, and guilt are likely to emerge as outcomes of error
637 management culture. Lastly, theories other than AET can help explain how emotions can
638 eventually influence individuals' behaviors. The affective infusion model (AIM), for example,
639 holds that emotions can color an individual's cognitive processing in that positive emotions
640 promote positive cognitive activity and negative emotions promote negative cognitive activity
641 (Forgas, 1995; Forgas & George, 2001). Therefore, it is possible that emotions influence
642 behaviors through their impacts on individuals' cognition (e.g., Dolan, 2002). Future studies
643 could explore the underlying cognitive mechanism linking discrete emotions with behavioral
644 outcomes to gain more insight into the relationship among emotions, cognition, and behaviors.

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