1 **A Serious Leisure Perspective of Culinary Tourism Co-Creation: The Influence of**

2 **Prior Knowledge, Physical Environment, and Service Quality**

3 **Abstract**

4 **Purpose:** Recognising tourists' increasing desire for authentic destination-specific

5 experiences, the hospitality industry has responded by increasing provision of innovative

6 culinary activities. This study uses the concepts of serious leisure and terroir to examine how

7 knowledge, physical environment, and service quality influence co-creation within the

8 culinary tourism context.

9 **Design/methodology/approach:** Following cooking class participation, 575 domestic Iranian

10 tourists were surveyed. These educational classes provide opportunities to learn about local

11 foods alongside peers in an interactive setting. Consistent with the benefits of serious leisure,

12 this consumption context could prove conducive to stimulating co-creation.

13 **Findings:** Prior knowledge strongly influences tourists' reflective and recreational motives

14 for participation (i.e., the benefits of serious leisure). This shapes how tourists evaluate

15 physical environments and service quality therein; influencing value co-creation and

16 supporting serious leisure as the conceptual lens through which to understand experiential

17 culinary consumption.

18 **Research implications:** The proposed conceptual model was tested on domestic tourists

19 following class participation. However, in suggesting that visually-stimulating, tactile

20 premises with olfactory appeal can encourage co-created experiences, the findings are

21 relevant to service touch-point management more generally.

22   **Originality/value:** Recognizing the influential role played by the physical and social aspects

23   of experiential consumption, the serious leisure framework improves extant understanding of

24   value co-creation.

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1. Introduction

The importance of the social consumption of food and the experiential value of culinary activities are established across hospitality research. Studies suggest that consumer tastes have evolved, underpinned by increased awareness of new flavours and ingredients; alongside a yearning to experience destination-specific culinary heritage (Mak *et al.,* 2012). Thus, driven by a desire to experience 'real' representations of place (Taheri *et al.*, 2018) recent years have seen food tourism flourish (Robinson *et al.*, 2018). The hospitality sector has responded in-turn, developing innovative offerings in response to tourists' eagerness to consume authentic, novel, place-appropriate culinary heritage (Boesen *et al.*, 2017). Accordingly, varied food cultures and culinary traditions within host societies can shape tourists' lived experiences; influencing perceptions of place, decision-making processes, dining choices, and interactions with local hosts (Okumus *et al.*, 2018).

Some destinations are therefore inexorably linked to indigenous cuisine. For example, tourists' perceptions of destinations with established global culinary heritage (e.g., Italy, France) are influenced by their celebrated gastronomic offerings, with emphasis placed on the quality, maturity, and proficiency of actors and experiences therein (Choe and Kim, 2018). Conversely, in emerging tourist markets characterised by less ubiquitous cuisines, greater emphasis is placed on uniqueness and novelty (Peštek and Činjarević, 2014). Further, culinary tourism can also serve as an anchor for regional development (Hillel *et al.*, 2013; MacKenzie and Gannon, 2019). However, to emphasise the uniqueness of culinary experiences, we draw upon *terroir*. Terroir is predominantly discussed within the context of wine research, where it is described as the unique environment characteristics that influence wine quality and taste (Kruger and Viljoen, 2019). In this study, we argue that the physical and social aspects of terroir can be used to demonstrate the uniqueness and authenticity of local cuisine in emerging tourist markets. The gastronomic attractiveness of a place is not

66 only contingent on its ability to satisfy tourists' quest for authentic products and activities,

67 but also on convincingly communicating such experiences by linking food, place, and

68 community (Hillel *et al.*, 2013). Therefore, culinary tourism is not solely driven by the

69 quality and variety of food on offer, but also experiential aspects of consumption related to

70 the physical and social characteristics of the 'places' that facilitate leisure activities.

71 Tourists pursuing serious leisure experiences prioritize interesting and fulfilling

72 activities; particularly those likely to provide opportunities to acquire knowledge (Stebbins,

73 2007). Thus, culinary experiences can be characterised as serious leisure, given their efficacy

74 in encouraging knowledge and skill development, and exposure to 'experts' in a field, all

75 while developing "unique social worlds around the activity" (Curran *et al.*, 2018, p.1119).

76 The benefits of serious leisure emerge via culinary experiences thanks to both the physical

77 (Kruger and Viljoen, 2019) and social aspects of terroir (Sjölander-Lindqvist *et al.*, 2019).

78 However, this proposition remains untested in hospitality and tourism literature. Culinary

79 experiences involve communal consumption and interaction, where dining atmosphere,

80 service environment quality, and prior knowledge of destination food culture can contribute

81 to the experiential value derived from tourism (Robinson *et al.*, 2018). Accordingly, the

82 hospitality industry has evolved from viewing culinary experiences as passive activities (e.g.,

83 serving local cuisine in traditional restaurants) towards recognising their potential as vessels

84 for co-created experiential consumption (Ellis *et al.*, 2018). Consequently, food tours, agri-

85 tourism, cooking retreats, and food festivals have emerged to satiate tourists' desires for more

86 interactive and engaging culinary consumption (Robinson *et al.*, 2018).

87 Yet, the most popular example of a participative, co-created culinary experience

88 remains 'cooking classes'; where tourists typically learn the history of local dishes, how to

89 identify unusual ingredients, and indigenous cooking techniques, before cooking and

90 consuming regional food (Agyeiwaah *et al.*, 2019). The verve with which tourists have

embraced this opportunity to engage with culinary culture has led to more in-depth offerings, such as tourist-focused 'cooking schools' (Walter, 2017), with some destinations primarily recognised for their high-quality experiential cooking classes (Son and Xu, 2013). Yet, while food tourism remains underpinned by the perceived quality and/or novelty of culinary products (e.g., the food), the appeal of cooking classes also stems from their experiential nature (Walter, 2017). For example, cooking classes can showcase all three aspects of gastronomic attractiveness (food, place, and community); demonstrating the intimate link between all three to visitors (Hillel et al., 2013). Accordingly, given their inherently participative design, cooking classes represent natural vessels for co-creation, underpinned by involvement and engagement (Robinson *et al.*, 2018). They thus provide opportunities to engage in serious leisure, where skill and knowledge-development combine with experiential consumption value to encourage involvement (Curran *et al.*, 2018).

Cooking classes thus represent a medium where tourists' desire to undertake serious leisure (underpinned by learning, interaction, and prior knowledge) can combine with high-quality servicescape design to stimulate co-creation. As such, this study investigates how the interplay between serious leisure, prior culinary knowledge, perceived physical environment quality, and service quality can influence the degree of co-creation from the perspective of domestic tourists in an emerging tourism market: Iran. Domestic tourism contributes significantly to the national economy of Iran (Pezeshki *et al.,* 2019), often concentrated in urban areas and underpinned by a desire to visit friends and relatives, pilgrimage sites, the Caspian Sea, or Kish Island (Seyfi and Hall, 2018). However, given its rich culinary heritage and growing recognition of Persian cuisine, the cooking class setting may proffer further insights into the factors influencing co-creation within the context of domestic tourism.

The contributions of this study are therefore three-fold. First, we demonstrate that the serious leisure concept can be used to understand the drivers stimulating tourist participation

116 in cooking classes. This is underpinned by an investigation of how serious leisure influences

117 perceptions of the service environment, shaping co-creation in the process (**Fig. 1**). As such,

118 we respond to calls for further investigation into the importance of serious leisure within

119 hospitality discourse more generally (Curran *et al.*, 2018). Second, we extend *terroir* (Kruger

120 and Viljoen, 2019) to the cooking class context. In doing so, the study demonstrates that both

121 the physical and social aspects of terroir underpin the extent to which tourists perceive

122 experiences as being co-created. Accordingly, we demonstrate that perceptions of physical

123 servicescape and tourists' interactions with others are influenced by prior knowledge and

124 serious leisure, impacting upon co-creation. These concepts have yet to be concurrently

125 evaluated in a theoretical model. Finally, the study provides nascent insight into domestic

126 tourist behaviour in an under-researched context, recognising that culinary experience

127 discourse typically focuses on international tourists and destinations with globally recognised

128 food heritage (e.g., Italy, Thailand).

129   **FIG. 1**

130 **2. Theoretical background**

131 *2.1 Experiential tourism, terroir and cooking classes*

132 Experiential tourism holds multiple cognitive, affective, and sensory attributes (Lee *et al.,*

133 2019), with cooking classes serving as special-interest food-related activities underpinned by

134 tangible physiological (food) and intangible (knowledge-transfer) stimuli. Thus, cooking

135 class delivery can prove complex for service providers, as the importance placed on tangible

136 and intangible aspects differs depending on tourist type and culinary context (Roberts *et al.*,

137 2014). However, with growing numbers of tourists visiting cookery schools, the need to gain

138 greater understanding of their experiences predicates value creation. Moreover, cooking

139 classes serve as interactive vessels for promoting authentic culinary tourism, offering visitors

140 the opportunity to engage with local culture via food (Hillel et al., 2013). Tourists' derive

141 experiential value from the authentic, interactive nature of cooking classes, with this

142 underpinned by the physical and social aspects of terroir that combine to determine the

143 gastronomic attractiveness of a destination.

144 *Terroir* is commonly referred to as the '*taste of place*'. In wine consumption, it is

145 crucial in demonstrating authenticity (Bele *et al.*, 2017); contingent on the provenance of

146 *physical aspects* such as landscape, vegetation, soil quality, and local produce (Kruger and

147 Viljoen, 2019). However, these characteristics shape destination culinary offerings more

148 generally, and may thus be relevant within the cooking class context. Conversely, the

149 interactive value of culinary consumption is underpinned by the *social aspects of terroir*; the

150 practices locals use to add value to physical terroir (Sjölander-Lindqvist *et al.,* 2019). For

151 cooking classes, social terroir refers to joint practices undertaken by hosts and participants,

152 and can include visits to local markets, preparing food, learning traditional cooking

153 techniques, and social practices around eating. Interactions also take place between tourists

154 and local experts (e.g., chefs, retailers, farmers). As such, cooking classes are

155 characteristically interactive and experiential and may thus embody the physical and social

156 aspects of terroir. Further, experiential value may also emerge from interactions with like-

157 minded peers, and from acquiring new knowledge and skills; stimulating greater

158 understanding of host culture (Agyeiwaah *et al.*, 2019). These interactive social practices

159 around food production and cooking, alongside marketing practices that influence a

160 destination's image, shape the identity of a place and its people, and contribute to visitors'

161 perceptions of experiential value (Marlowe and Bauman, 2019).

162 Yet, little remains known about how terroir shapes culinary tourism experiences. Its

163 experiential value remains under-researched within the food-tourism interface more generally

164 (Marlowe and Bauman, 2019), with extant studies typically limiting its application to wine

165 tourism and production (Kruger and Viljoen, 2019). We argue that both *physical* and *social*

166 *terroir* are relevant for understanding the experiential value of cooking classes as they can

167 contribute to the perceived authenticity of culinary tourism activities (Bele *et al.*, 2017). With

168 extant studies prioritising its physical aspects (Kruger and Viljoen, 2019); this study contends

169 that social terroir may instead increase the experiential value that tourists' derive from

170 cooking classes through interaction opportunities with locals. For example, as knowledge is

171 typically shared by local chefs and educators pertaining to local food, environments, culture

172 and identities, opportunities for value creation are significant (Trubek, 2008). Therefore,

173 social interactions may help participants better understand the physical and social aspects of

174 terroir.

175 *2.2 Co-creating value in food-related experiences*

176 Co-created experiences are formed by interactions between collaborative actors, which create

177 mutual value (Luo *et al.,* 2019). Unlike firm-centric paradigms, a collaborative understanding

178 of consumer-firm interactions is prevalent in studies investigating co-created experiences;

179 literature contends that value is created through involvement and engagement, integrating

180 consumer knowledge into service design. Yet, while tourism studies often concentrate on

181 understanding customer value from the firm's perspective, value generated from tourists can

182 provide more holistic understanding of a firm's value proposition (Wong and Lai, 2019).

183 However, meeting the expectations of informed culinary tourists can prove

184 challenging. Accordingly, staff quality may predict perceived service quality in the cooking

185 class context, where "staff must be knowledgeable, responsive, friendly, and communicate

186 well" (Wijaya *et al.*, 2017, p.5). Barnes *et al.* (2019) note that consumer perceptions of

187 service quality are closely linked to staff behaviour (e.g., staff being helpful, flexible, and

188 providing personalized service). Nevertheless, few studies expand upon this nascent

189 understanding of value co-creation within culinary service settings.

190   This study therefore focuses on value developed during co-created culinary tourism

191 experiences. On an individual level, value is created during the "process of interactions and

192 transactions occurring between tourists and tourism service providers…during moments of

193 contact in which both are involved" (Buonincontri *et al.*, 2017, p.266). Customers engage in

194 co-creation with service providers and peers in various ways, depending on activity type

195 (Roberts *et al.*, 2014). An individual's desire to engage in co-creation can be attributed to

196 many factors, including their consumption motives, which can be influenced by their self- or

197 others-orientation and may have social, economic, hedonic, and/or altruistic antecedents

198 (Etgar, 2008).

199 *2.3 A Serious Leisure Perspective on Experiential Value*

200 From a serious leisure perspective, cooking classes can serve as consumption milestones;

201 participants undertake such experiences to learn and develop skills in an area of 'serious'

202 interest to them (Scott, 2012). Stebbins (2007) argues that serious leisure tourism stimulates

203 the development of tastes (e.g., food), the acquisition of specialised knowledge (e.g., culinary

204 knowledge), or the development of specific skills (e.g., how to cook). This is consistent with

205 Taheri *et al.* (2014), who argue that hospitality and tourism activities serve as vehicles for

206 serious leisure when emphasis is placed on engagement, interaction, learning, and

207 participation. Accordingly, cooking classes can be characterised as activities "that people find

208 so substantial, interesting, and fulfilling that…they launch themselves on…acquiring and

209 expressing a combination of special skills, knowledge, and experience" (Stebbins, 2007, p.5).

210   In contrast to casual leisure activities (e.g., shopping), Curran *et al.* (2018) argue that

211 two key dimensions underpin serious leisure: reflective and recreational. The reflective

212   dimension includes one's reflections on oneself, one's own knowledge, and one's identity.

213   The recreational dimension encompasses enjoyment of an activity. Subsequently,

214   participants' during- and post-experience expectations differentiate casual and serious leisure.

215   Through serious leisure activities, participants gain 'long-lasting and deeper' personal values

216   (e.g., self-enrichment and self-actualization) alongside the formation of group identity

217   (Cohen-Gewerc and Stebbins, 2013; Scott, 2012). Understanding why serious leisure seekers

218   engage in activities is therefore important, as antecedent stimulants vary and can lead to

219   different outcomes. For example, Lee and Hwang (2018) demonstrate that education,

220   personal enrichment, self-expression, and self-gratification drive participation in serious

221   leisure activities. This study thus proposes that participation in cooking classes can be

222   considered engagement in a serious leisure activity.

223   **3. Hypothesis Development**

224   *3.1 Effect of Serious Leisure on Perceived Physical Environment and Service Quality*

225   Within the experiential cooking class context, serious leisure can be categorized based on its

226   reflective and recreational significance (Curran *et al.*, 2018). The reflective dimension

227   includes developing one's knowledge base, sharing prior knowledge, self-actualization, and

228   identity-development. In contrast, 'recreation' centres on the experience itself, including the

229   enjoyment derived from participation in an activity (Taheri *et al.*, 2014). The physical

230   environment an activity occurs within appeals to the sensory dimensions of perceived

231   experiential value (Taheri *et al.,* 2019), which provides immediate, tangible cues from which

232   to appraise one's experiences (Smith *et al.*, 2010). Studies demonstrate that physical

233   environments are crucial within the domain of food tourism, generating value when novel,

234   clean, and appealing to all of the customers' senses (Adongo *et al.*, 2015).

235   Yet, while the physical environment's influence on food-related experiential value is

236   recognized (Ryu *et al.*, 2012), few studies discuss how antecedent desires shape tourists'

237   perceptions within this context. From a serious leisure perspective, cooking classes serve as

238   multi-sensory experiences, with this influencing assessment of the physical environment.

239   Thus, the need to satisfy tourists' desire to undertake serious leisure activities, alongside the

240   visual, tactile, and olfactory stimulus of the physical environment, may influence the

241   experiential value derived from culinary consumption. Therefore:

242   **H1:** There is a positive relationship between serious leisure and perceptions of the

243   physical environment.

244   Consumers' perceptions of service quality are characterized by their "judgment about

245   a product's overall excellence or superiority" (Zeithaml, 1988, p.3); critical in evaluating

246   culinary tourism experiences (Muskat *et al.*, 2019). Customers assess service quality relative

247   to their prior expectations and the subsequent performance of service providers. Serious

248   leisure remains a key determinant of expectations, influencing perceptions of service quality

249   (McCabe *et al.*, 2007). Yet, antecedents to service quality in food-related tourism activities

250   must be understood in a manner consistent with the activity and setting (Henderson, 2009).

251   Serious leisure within this context is complex. Per Woo (2017), consumers seeking serious

252   leisure tend to be more engaged and demonstrate different behaviours than casual leisure

253   seekers. Accordingly, cooking class participants may be more likely to seek both the

254   reflective and recreational dimensions of serious leisure (Taheri *et al.*, 2014), shaping their

255   expectations, behaviours, and perceptions of service quality (Henderson, 2009). Therefore:

256   **H2:** There is a positive relationship between serious leisure and perceptions of service

257   quality.

258   *3.2 Effect of Perceived Physical Environment on Service Quality*

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259 Service quality is also dependent on how consumers perceive the physical environment

260 (Hungenberg *et al.*, 2019). In hospitality, the physical environment provides important

261 consumption cues, which can stimulate positive consumer responses and increase experiential

262 value (Taheri *et al.,* 2019). From a serious leisure perspective, participants may expect to gain

263 knowledge from cooking class experiences (Taheri *et al.*, 2014). As such, learning theory can

264 be used to explain the effects of the physical environment on service quality perceptions, with

265 emphasis placed on how aesthetics shape learning (Kokkos, 2010). During transformative

266 adult learning experiences (e.g., cooking classes), reflective thinking and sense-making are

267 contingent upon the atmospherics of the environment (Mezirow and Taylor, 2009).

268 Thus, consistent with serious leisure, aesthetically appealing environments are critical

269 in stimulating the reflective, affective, and imaginative dimensions of learning (Kokkos,

270 2010). Participants may therefore use service quality as a surrogate for evaluating the

271 cognitive aspects of learning, while using pleasant service environments to evaluate the

272 affective and imaginative dimensions of learning (Kokkos, 2010). As such, pleasant service

273 environments can stimulate higher perceived service quality. Accordingly:

274 **H3:** A positive perception of the physical environment has a positive relationship with

275 service quality.

276 *3.3 Effect of Knowledge on Serious Leisure*

277 Prior knowledge influences consumer expectations, buying behaviour, and engagement in co-

278 creation processes (Im and Qu, 2017). Feeling 'knowledgeable' allows consumers to act more

279 efficiently; making better-informed decisions. Knowledgeable customers feel in control, and

280 hold higher self-efficacy, competency, and a greater ability to manage complicated tasks.

281 Meuter *et al.* (2005) suggest knowledge positively influences engagement, with

282 knowledgeable consumers exhibiting greater role clarity and ability to participate in co-
283 created experiences.

284 For cooking class participants, sharing and acquiring knowledge is a key driver of
285 consumption; acquiring new knowledge, novelty-seeking and experiencing 'unusual' foods
286 and service environments can encourage tourists to seek out culinary experiences when
287 travelling (Peštek and Činjarević, 2014). Adongo *et al.* (2015, p.57) consider this the need to
288 seek "cultural, educational, novelty, hedonism–meaningfulness, and adverse experiences".
289 The cognitive aspect of novelty-seeking combines with the affective dimension of socializing
290 to drive culinary consumption (Smith *et al.*, 2010). The interactive cooking class environment
291 may also contribute to knowledge sharing, with participants acquiring new information while
292 also sharing their own expertise. This echoes Taheri *et al.* (2014), as sharing one's own
293 knowledge and expertise drives self-actualization, which stimulates positive feelings.
294 Therefore:

295 **H4**: Knowledge has a positive relationship with serious leisure.

296 *3.4 Effect of Serious Leisure on Co-creation*

297 Cooking classes are distinctive; they require greater participant engagement than traditional
298 dining experiences (Ellis *et al.*, 2018). The relationship between serious leisure and the
299 degree of co-creation within the cooking class context can be understood from a serious
300 leisure perspective. This consumption experience requires tourists to engage with co-
301 participants and providers, undertaking the functional task of cooking and sharing their own
302 knowledge while learning about the history and heritage of local foods (Ellis *et al.*, 2018).

303 Tourists participating in serious leisure activities seek to develop skills and
304 knowledge (Stebbins, 2007). Through such activities, participants develop an appreciation of

305 service setting aesthetics alongside social relationships with other participants (Curran *et al.,*

306 2018). Serious leisure seekers tend to take part in activities because they want to align with a

307 group in ways that those undertaking casual leisure activities do not (Cohen-Gewerc and

308 Stebbins, 2013). In contrast to other food-related tourist activities (e.g., restaurant visits),

309 cooking classes require tourists to immerse themselves, be more active, and interact during

310 consumption (Walter, 2017). Thus, tourists' level of desire to engage in serious leisure may

311 predict the extent to which they engage in co-creation (Grissemann and Stokburger-Sauer,

312 2012). Cooking classes rely upon the degree of co-creation between tourist and provider, with

313 the required level of co-creation higher when compared to conventional culinary experiences.

314 Accordingly, co-created experiences that facilitate provider-participant relationship building

315 offer a better sense of belonging, fun and enjoyment, and stimulate greater physical and

316 emotional engagement (Etgar, 2008; Mathis *et al.*, 2016). Subsequently:

317   **H5:** Serious leisure has an effect on co-creation.

318 *3.5 Effect of Knowledge on Co-creation*

319 Willingness to engage with service providers in the co-creation process is influenced by

320 various antecedents (Buonincontri *et al.*, 2017). For example, prior knowledge influences

321 consumer expectations, buying behaviours, and disposition to engage in co-creation (Meuter

322 *et al*., 2005). Im and Qu (2017) suggest that customers endowed with greater knowledge and

323 self-efficacy are more likely to participate in service co-creation. For cooking classes, serious

324 leisure is likely to be related to knowledge sharing and a willingness to co-create experiences.

325 Thus, to satisfy tourists' desire for serious leisure, cooking classes must offer opportunities to

326 share their own knowledge with others while providing avenues to learn from peers (Storey

327 and Larbig, 2018). Knowledge sharing stimulates participant thinking, fosters creativity and

328   personal growth, and provides opportunities to reflect on one's personal identity (Ballantyne

329   and Varey, 2006). Thus:

330   **H6:** Customer knowledge is positively related to co-creation.

331   The perceived physical environment is another antecedent of co-creation. Physical

332   environments can either encourage or hinder customer engagement and willingness to co-

333   create (Mathis *et al.*, 2016). For food-related activities, the physical environment can elicit

334   positive emotions and increase experiential value (Ryu *et al.*, 2012). Thus, for cooking

335   classes, an engaging physical environment encouraging interaction can provide the

336   environmental cues required to stimulate sensory feelings (Kivela and Crotts, 2006). By

337   designing appealing interiors and managing olfactory stimulus on-site, service providers can

338   inspire co-creation. Thus:

339   **H7:** Perceived physical environment has a positive effect on the degree of co-
340   creation.

341   Perceptions of service quality can impact upon tourists' willingness to engage in co-

342   creation activities with service providers and other participants. The perceived quality of

343   cooking class experiences can be enhanced through the interactive delivery of preparing,

344   cooking, eating, and sharing knowledge about food. Consumers may perceive higher levels of

345   service quality if employees are friendly, responsive, knowledgeable, and demonstrate

346   subject-specific knowledge (Wijaya *et al.*, 2017). These qualities may influence the

347   interactive nature of service delivery and consumers' willingness to co-create. Therefore:

348   **H8:** Service quality has a positive effect on the degree of co-creation.

349   **4. Methodology**

350   *4.1 Study context*

351   The proposed model (**Figure 1**) is assessed within the context of regional Iranian

352   cuisine. Only 61% of Iran's population are Persian, with sizable Azerbaijani, Turkmen,

353   Kurdish, and Jewish minority communities. Geographically, Iran reflects this; located

354   between Central Asia and the Middle East. As such geographical and ethnic diversity

355   influence cooking styles and dishes (Oktay and Sadikoglu, 2018). Yet, derived from a rich

356   heritage of agricultural food processing, wine cultivation, and maintenance of orchards and

357   gardens, Iranian cuisine has many rice-based dishes, uses dried fruits as key ingredients, and

358   is known for regional breads prepared by diverse ethnic groups (Karizaki, 2017). We focus

359   on domestic tourism for several reasons. *First*, given the current sanctions against Iran,

360   international tourist numbers have dwindled leaving the industry reliant on domestic

361   travellers (Taheri, Gannon and Kesgin, 2019). *Second*, studies into Iranian domestic tourism

362   often focus on urban areas, pilgrimage sites, and holidays to the Caspian Sea (Seyfi and Hall,

363   2018); overlooking regional offerings. *Third*, interactive cookery classes demonstrating the

364   nuances of Iranian cuisine have grown in recent years (ITTO, 2020). Major cities (e.g.,

365   Tehran, Isfahan, Tabriz) have prioritized developing interactive cooking classes in order to

366   promote local culinary heritage to domestic travellers (ITTO, 2020). Thus, this study

367   contends that domestic tourist participation in Iranian cookery classes serves as a context

368   worthy of greater attention.

369   *4.2 Sample and data collection*

370   Data was collected from those attending three cooking classes, each offering similar

371   experiences, within a major Iranian city. All had travelled from elsewhere in Iran and are thus

372   domestic tourists. Participants attended these classes to learn about regional cuisine alongside

373   peers in an interactive setting; a core antecedent of a desire to co-create. At the participants'

374   request, identifiable information is anonymised. A self-administrated, face-to-face

375   questionnaire was employed. This questionnaire used back-translation to avoid language

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376 errors, and was checked by native academics fluent in Farsi *and* English. A pilot study was

377 used to check questionnaire statements prior to data collection. The questionnaire was

378 developed based on conversational interviews and an extensive literature review. Fifteen

379 customers per class were interviewed to identify factors influencing the degree of co-creation

380 experienced within the cooking classes, minimising common method bias (CMB).

381 As data was collected from a single-source, CMB required further verification;

382 participant anonymity was assured and dependent and independent variables were located in

383 different parts of the questionnaire. Further, Harman's one factor test was employed. The

384 findings of the unrotated exploratory factor analysis detected six factors with eigenvalues >1,

385 explaining 74.13% of total variance, with the first factor showing 41.87% (<50% suggested

386 value); thus CMB was not violated. The questionnaire was reviewed by three local academics

387 to ensure face validity. Based on their comments, changes were made to increase statement

388 clarity. G*Power was used to calculate minimum sample size based on power analysis (Faul

389 *et al.*, 2009). To achieve a power of 0.95 for the proposed framework, G*Power indicated a

390 minimum sample of 138. Overall, 575 usable questionnaires were collected over 3-months in

391 2018. Regarding participant age, 23% were 18-25, 53% were 26-40, and 24% were 41+.

392 Overall, 58% of respondents were female.

393 *4.3 Measures*

394 To ensure content validity, all items and measures were adapted from previous studies:

395 knowledge (3-items) and physical environment (3-items) (Im and Qu, 2017), service quality

396 (3-items) (Jung *et al.*, 2017), and degree of co-creation (4-items) (Grissemann and

397 Stokburger-Sauer, 2012). Serious leisure (higher-order) was underpinned by two dimensions:

398 reflective (4-items) and recreational (4-items). These were revised from Taheri *et al.* (2014)

399 and Curran *et al.* (2018). MacKenzie *et al.* (2005, p.715) argue that higher-order

400 measurements represent "the conceptual distinctions that the researcher believes are

401 important…the most powerful means of testing and evaluating the construct". Participants

402 were invited to indicate their agreement/disagreement with statements using a 5-point Likert-

403 type scale ("1=strongly disagree"; "5=strongly agree"). **Table 1** presents all items under each

404 measure.

405 <div align="center">**TABLE 1**</div>

406 *4.4 Statistical procedure*

407 Partial least squares structural equation modelling (PLS-SEM) was used to assess the

408 research model. It offers vigorous findings for data with both normal and non-normal

409 distributional properties (Hair *et al.*, 2014). Skewness and kurtosis were identified for all

410 questionnaire statements (acceptable from −3 to +3) (Mardia, 1970). Results showed the

411 assumption of normality was questioned; thus PLS-SEM is appropriate (**Table 1**). PLS-SEM

412 can be used for reflective, formative, and higher-order modes. Serious leisure was measured

413 in higher-order mode. SmartPLS 3.2.4 (5,000 resamples) facilitated measurement and

414 structural model testing (Ringle *et al.*, 2014).

415 **5. Results**

416 *5.1 Measurement model*

417 Following a two-stage approach, serious leisure was established as a second-order composite

418 construct. Six reflective exogenous and one composite endogenous constructs were assessed.

419 To evaluate the measurement model in PLS-SEM, several tests were used. To test indicator

420 reliability, construct reliability, and the convergent validity of the measurement model, outer

421 loadings of associated items for each reflective construct, weights of the second-order

422 construct, composite reliability (CR), Dijkstra-Henseler's rho (ρA), Cronbach's Alpha (α),

423 AVE[a]=average variance extracted, and AVE[b]= percentage of variance of indicator explained

424 by the latent variable (Hair *et al.*, 2010) were measured for each reflective first-order and

425 second-order construct. The loading and weights must be >0.7, CR>0.7, α>0.6, ρA>0.7, and

426 the AVE[a] or AVE[b]>0.5 to establish reliability and convergent validity (Hair *et al.*, 2010).

427 Loadings and weights >0.5 and <0.7 remain acceptable if CR and AVE values meet the

428 threshold (Hair *et al.*, 2010). **Table 1** shows indicator reliability, construct reliability, and

429 convergent validity for the data collected.

430   Discriminant validity was established via two tactics. First, per Fornell and Larcker

431 (1981), the square root of the AVE for each first-order and second-order construct surpassed

432 the value of their respective correlations (**Table 2**). Correlations among all first-order

433 constructs were <0.70; hence were suitably distinct. Second, Henseler *et al.'s* (2015)

434 discriminant validity approach based on the multitrait-multimethod matrix, to test

435 discriminant validity using heterotrait–monotrait (HTMT) ration of correlations, was used.

436 Using HTMT, discriminant validity was achieved; all $HTMT_{0.85}$ criterion values (ranging

437 0.44-0.63) were below the threshold (0.85). Thus, discriminant validity was established.

438   **TABLE 2**

439 *5.2 Structural model and key findings*

440 Variance inflation factor (VIF) values were identified to establish collinearity. Per **Table 1**,

441 all VIF values were below the threshold (5) (Hair *et al.*, 2010), suggesting that structural

442 model collinearity was not an issue. Prior to assessing hypotheses, effect sizes (f^2), predictive

443 relevance (Q^2) and Standardized Root Mean Square Residuals (SRMR) were calculated

444 (Henseler *et al.*, 2015). Cohen's f^2 indicates 0.01 (small), 0.06 (medium), and 0.14 (large)

445 effects using SEM. **Table 3** indicates f^2 for significant direct paths within the model. Most

446 direct paths demonstrate medium or large $f2$ for direct relationships. Following the

447 blindfolding procedure, Q^2 indicates how well data can be reconstructed empirically using the

448 model and PLS-SEM parameters. All Q^2 values are >0. Therefore, Q^2 values for endogenous

449 variables hold predictive relevance. The model SRMR value was 0.068; lower than Henseler

450 *et al.*'s (2015) recommended value (0.08).

451   The model explains 32% of serious leisure, 45% of perceived physical quality, 35%

452 of service quality, and 52% of co-creation. Per **Table 3**, serious leisure demonstrated a direct

453 relationship with perceived physical environment (β=0.55,t=21.06) and service quality

454 (β=0.43,t=12.41). Physical environment had a direct relationship with service quality

455 (H3:β=0.33,t=11.82); and knowledge was directly related to serious leisure

456 (H4:β=0.37,t=12.11). Finally, serious leisure (H5:β=0.29,t=8.29), knowledge

457 (H6:β=0.43,t=17.29), physical environment (H7:β=0.53,t=8.28) and service quality

458 (H8:β=0.66,t =34.28) had direct relationships with degree of co-creation.

459   **TABLE 3**

460 *5.3 Post-hoc analysis of indirect effects*

461 Mediation analysis was conducted via bootstrapping (Williams and MacKinnon, 2008). A

462 95% confidence interval (CI) of parameter estimates (5,000 resamples) was employed. The

463 results show serious leisure indirectly affects degree of co-creation through perceived

464 physical environment (indirect effect=0.21;t=8.33;p<0.001;CI=[0.17, 0.26]). As the direct

465 effect was significant, perceived physical environment partly mediates the impact of serious

466 leisure on degree of co-creation. The findings also indicate that serious leisure influences

467 degree of co-creation through service quality (indirect effect=0.28;t=10.22;p<0.001;CI=[0.24,

468 0.33]).

469 **6. Discussion and Conclusions**

6.1 Conclusions

This study evaluates a model of co-creation and its antecedents in the context of domestic Iranian culinary tourism, arguing that serious leisure and terroir (physical and social) can explain the relationships between prior knowledge, physical environment, service quality, and degree of co-creation in cooking class experiences. Recognizing the physical and social aspects of terroir, the findings illustrate how prior culinary knowledge and serious leisure shape cooking class participation and co-creation. We thus demonstrate the potential links between food, place, and local community that enhance the gastronomic attractiveness of destinations as suggested by Hillel *et al.* (2013).

Previous research into serious leisure (Curran *et al.*, 2018) argues that while participants engage in activities for enjoyment (recreational dimension), some also seek to develop new skills, express or reaffirm self-identity, and socialize with likeminded individuals (reflective dimension). Our model extends culinary tourism literature by showing that domestic cooking class tourists value both the recreational and reflective benefits of serious leisure, driven by pre-existing knowledge of food production and consumption. During cooking classes, perceptions of the physical and social aspects of the experience influence co-creation. The physical environment enables co-creation by providing tangible evidence of the physical aspects of terroir, whereas interactions with local chefs, educators, and peers contribute to service quality while increasing participant understanding of the social aspects of terroir. Accordingly, our model confirms the importance of serious leisure, service quality, and the physical environment in shaping co-creation.

6.2 Theoretical implications

The findings confirm that a desire to develop skills and the opportunity to display one's cooking knowledge impacts upon how tourists evaluate the tangible cooking class

494   environment. Supporting **H1**, a positive relationship was found between serious leisure and

495   the perceived physical environment. This suggests that opportunities for tourists to express

496   themselves through cooking, the social experience, and associated fun and enriching

497   activities therein influence the perceived attractiveness of premises. Seeking to express one's

498   self-identity while experiencing something enjoyable and fun, domestic tourists use the

499   perceived quality of the premises as a surrogate to assess the extent to which the experience is

500   co-created. Therefore, the evaluation of physical terroir within the cooking class environment

501   is shaped by considerations pertaining to serious leisure. This extends the concept of terroir

502   from wine tourism literature (Sjölander-Lindqvist *et al.*, 2019) to the cooking class context by

503   highlighting how serious leisure influences perceptions of the physical environment,

504   stimulating experiential value from participation.

505   The positive relationship between serious leisure and service quality (**H2**) attests to

506   the importance of interaction within cooking classes. As both recreational and reflective

507   dimensions influence perceptions of service quality, the ability to augment one's culinary

508   knowledge via an enriching experience may encourage tourists to interact with others. This

509   allows them to understand the social aspects of terroir while evaluating the experience

510   (Taheri *et al.,* 2018). Interaction with locals provides opportunities to share practices around

511   food preparation and consumption; contributing to the authenticity of cooking class

512   experiences (Hillel et al., 2013). When such interactions take place between tourists and local

513   experts (e.g., chefs, farmers, educators), there is an opportunity to showcase and reinforce the

514   social aspects of terroir, developing destination attractiveness. This is unsurprising given food

515   tourism is often driven by the pursuit of authenticity (Boesen *et al.*, 2017) and service quality

516   impacts perceived experiential value (Robinson *et al.,* 2018). This echoes studies that suggest

517   that physical environment and service quality shape experiential value (Kivela and Crotts,

2006), but we extend this by demonstrating that prior culinary knowledge and motives of participation are critical antecedents to co-creation.

Prior studies demonstrate the impact of positive evaluations of the physical environment on service quality perceptions (Hungenberg *et al.*, 2019). Per **H3**, a similar relationship emerges within cooking classes. The attractiveness, cleanliness, and atmosphere of the premises influence perceptions of service excellence, communicating the physical and social aspects of terroir. Likewise, knowledge of food culture influences the experiential value derived from food tourism (Robinson *et al.*, 2018). This study shows the positive influence of previous knowledge of food production, cooking, and delivery processes consistent with the serious leisure view of culinary tourism (**H4**). Participants actively seek to extend this knowledge, demonstrating their own expertise to others in the process. This desire to display one's identity and skills, alongside opportunities for self-development, complement the traditional motives of learning and socialization associated with experiential tourism (Gannon *et al.*, 2017).

Yet, serious leisure seekers are not solely driven by skill acquisition and socialization (Cohen-Gewerc and Stebbins, 2013). In co-created experiences, the presence of others fosters relationship building and group identity (Gannon, Taheri and Olya, 2019). Per **H5**, the reflective and recreational dimensions of serious leisure drive tourists to engage in cooking classes. This can positively impact their pursuit of co-created experiences. The findings suggest that tourists who participate in cooking classes are therefore willing to actively prepare for the class and make suggestions about how to improve the experience. Thus, acquiring and sharing knowledge becomes embedded in this form of experiential consumption, confirming cooking classes as important vessels for co-creation (Agyeiwaah *et al.*, 2019).

542   Further, prior culinary knowledge positively impacts on the extent to which tourists

543   seek co-creation opportunities (**H6**). Cognitive aspects of an experience (e.g., knowledge and

544   learning) can act as enablers, stimulating engagement (Cordina *et al.*, 2019; Storey and

545   Larbig, 2018). In the cooking class context, the greater a tourist's knowledge of food

546   production, cooking, and delivery processes, the greater their desire for co-created

547   experiences. This echoes studies suggesting higher levels of knowledge increase consumer

548   participation in co-created experiences (Im and Qu, 2017). As the physical environment can

549   also stimulate sensory experiences (Kivela and Crotts, 2006), it is unsurprising that a positive

550   relationship between perceived physical environment quality and degree of co-creation

551   emerged (**H7**). Attractive premises increase tourists' willingness to co-create, extending

552   findings from alternative contexts (Mathis *et al.*, 2016). Finally, this study demonstrates that

553   a tourist's desire to co-create experiences is positively influenced by their perceptions of

554   service quality (**H8**). Having quality concerns at the forefront of service delivery can enhance

555   the experience for tourists and stimulate their desire to engage in co-creation. Previous

556   studies have suggested this, albeit with little empirical evidence (Wijaya *et al.*, 2017).

557   *6.3 Practical implications*

558   The model developed and tested in this study has several practical implications with respect

559   to designing and managing cooking classes. It suggests that participants seek various

560   outcomes ranging from knowledge acquisition and sharing, developing positive perceptions

561   of self, and having an enjoyable time. This implies that industry managers should embrace

562   co-creation in order to better-fulfil participant desires. As participants' prior culinary

563   knowledge shapes their expectations, extending tourists' knowledge of regional cuisines can

564   be achieved in several ways. Our findings suggest that prioritizing the communication of the

565   physical and social aspects of terroir underpins this. This echoes Hillel *et al.'s* (2013)

566   suggestion that the attractiveness of gastronomic destinations is contingent upon

567   demonstrating the link between cuisine, place, and local community.

568   The findings emphasize the importance of the physical environment and service

569   quality as touchpoints when delivering interactive cooking experiences. Co-creation emerges

570   in environments that are carefully designed to be attractive. The findings thus encourage

571   industry managers to design premises that are visually stimulating, tactile, and hold olfactory

572   appeal in order to improve tourists' perceptions of the potential for co-creation therein. Given

573   the importance of interaction with others, those offering cooking classes should train staff on

574   the terroir related to local cuisine and ways to improve interaction quality; emphasising

575   narratives and storytelling in order to deliver experiences that demonstrate how co-created

576   cooking classes can embody the combined physical and social terroir of regional culinary

577   heritage.

578   The findings also have broader implications for hospitality education in Iran. By

579   opening the door for students and staff to engage with tourists though cooking classes, these

580   institutions could develop a distinct image and reputation underpinned by quality and

581   authenticity. Increasing domestic tourist interest in cooking classes offers opportunities for

582   hospitality schools to generate additional revenue in times of economic sanctions. These

583   schools can meaningfully contribute to a better understanding of regional cooking practices

584   by sharing traditional skills with visitors, contributing to cultural understanding in the

585   process. Hospitality schools can use this opportunity to revive traditional cooking techniques

586   and teach participants a combination of traditional and contemporary Iranian culinary

587   practices.

588   *6.4 Limitations and future research*

589 The study extends extant literature by highlighting how prior culinary knowledge and serious

590 leisure combine to influence tourists' perceptions of experience quality, alongside their

591 willingness to co-create culinary consumption. However, it is not without limitations. First,

592 the proposed model was tested on tourists participating in three cooking classes. These

593 cooking classes represent only one type of culinary experiences offered to tourists in Iran.

594 Future studies should test the proposed model on tourists undertaking other participative

595 culinary experiences. Second, while we used the concept of terroir (physical and social

596 aspects) as the theoretical lens for explaining some of our findings, this concept was not

597 explicitly measured. Future studies should measure how physical and social aspects of terroir

598 directly influence co-creation and other experiential aspects of the cooking class. Third, all

599 participants were domestic tourists, implying some familiarity with Iranian cooking practices.

600 Future studies should investigate international tourists visiting Iran, collecting data from

601 participants with different experience and knowledge levels, before testing the model across

602 alternate locales. Finally, perceived quality is assessed using two constructs: the quality of (i)

603 the physical environment and (ii) services offered therein. Future studies could also

604 incorporate assessments of *food* quality as third dimension of perceived quality.

605

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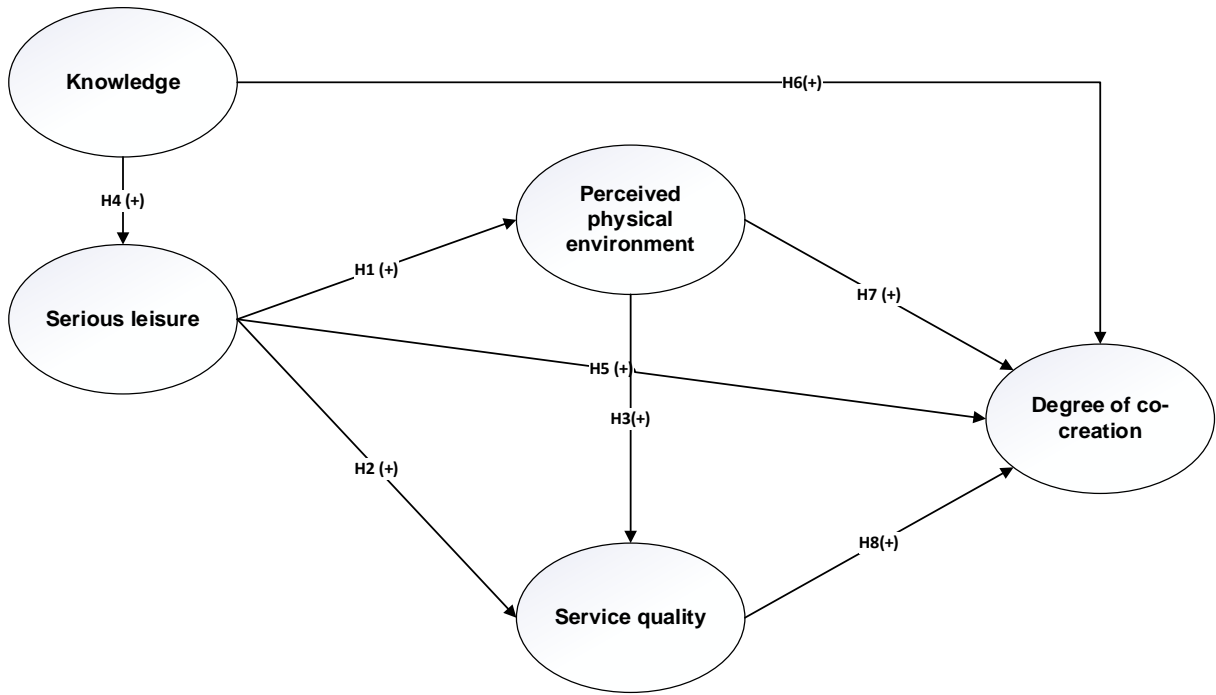672 pp.31-40.

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Figure 1. Proposed conceptual model

808 **Table 1.** Measurement model and descriptive statistics.

Construct/Underlying Items	*t*-value	Standard loading	Mean	SD	Skewness	Kurtosis
Step 1:*Results of the assessment of measurement model for first-order constructs*						
Reflective dimension (CR=0.87;ρA=0.84;α=0.8;AVEª=0.56)						
Attending this cooking class helps me to express who I am	13.59	0.66	4.11	1.07	-1.24	-1.86
Attending this cooking class allows me to display my knowledge and expertise on certain cooking subjects	30.17	0.81	3.89	1.12	1.14	-1.79
Attending this cooking class has a positive effect on how I feel about myself	8.77	0.79	4.12	1.32	-0.10	-0.61
Attending this cooking class allows me to interact with others who are interested in the same things as me	9.78	0.69			-2.48	-1.03
Recreational dimension (CR=0.81;ρA=0.83;α=0.78;AVEª=0.55)						
Attending this cooking class is a lot of fun	12.76	0.71	4.20	1.39	-4.09	-2.80
I get a lot of satisfaction from attending this cooking class	16.89	0.66	3.69	1.54	3.14	-3.96
I find attending this cooking class a refreshing experience	30.23	0.89	4.05	1.45	-2.62	-3.40
Attending this cooking class is an enriching experience	18.78	0.72	3.83	1.12	-4.01	-1.95
Knowledge(CR=0.8;ρA=0.83;α=0.80;AVEª=0.61)						
I know a lot about food production, cooking, and delivery processeses	20.49	0.71	3.89	1.65	2.06	-0.30
I know a lot about how to judge the quality of food, cooking, and service delivery processes	18.57	0.68	3.27	1.09	2.13	-2.66
Compared with an average person, I think I know more about food production, cooking ,and service delivery processes	19.89	0.77	4.11	1.58	1.46	-0.30
Service quality(CR=0.83;ρA=0.85;α=0.81;AVEª=0.66)						
I believe that the general service quality of the cooking class is high.	16.57	0.85	3.27	1.65	3.69	-3.27
Overall, I consider the cooking class service to be excellent.	18.89	0.81	3.25	1.30	2.80	1.76
The quality of the cooking class service is generally excellent.	12.08	0.83	4.11	1.01	-1.24	-2.49
Perceived physical environment (CR=0.8;ρA=0.91;α=0.86;AVEª=0.71)						
This cooking class has a pleasant atmosphere.	15.13	0.73	3.78	1.23	-2.11	-2.55
The location of this cooking class was clean.	40.02	0.71	3.88	1.27	-1.30	-1.51
The location of this cooking class was attractive.	31.00	0.88	3.21	1.09	-2.28	-3.66
Degree of co-creation (CR=0.84;ρA=0.85;α=0.81;AVEª=0.73)						
I have been actively involved in preparing for this class.	17.05	0.76	3.73	1.60	-1.81	3.22
I have used my experience from previous training	19.07	0.73	4.11	1.48	-1.61	-2.31

to prepare for this class.						
The idea of how to arrange this class was suggested by me.	37.09	0.79	4.78	1.39	-3.73	4.11
I have spent a considerable amount of time preparing for this class.	31.07	0.84	4.17	1.22	-2.33	-2.81
Step 2: *Results of the assessment of measurement model after generating second-order construct (serious leisure)*						
(CR=0.8;ρA=0.81;α=0.8;AVE[b]=0.66;VIF=1.38)						
Reflective(CW=0.94)	27.02	0.72				
Recreational(CW=0.95)	30.29	0.77				

Note: Significant at *t*-value>1.96 at *p*-value<0.05;*t*-value>2.57 at *p*-value<0.01;*t*-value>3.29 at *p*-value<0.001. α=Cronbach's alpha;CR=composite reliability;ρA=Dijstra-Henseler's rho;AVE[a]=average variance extracted;AVE[b]= percentage of variance of indicator explained by the latent variable;CW=correlational weights of first-order construct on second-order construct;VIF= the variance inflation factor.

816 **Table 2.** Correlation matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1)Service quality	**0.81**						
(2)Degree of co-creation	0.41	**0.85**					
(3)Serious leisure	0.63	0.43	**n/a**				
(4)Knowledge	0.58	0.41	0.51	**0.78**			
(5)Perceived physical environment	0.51	0.56	0.55	0.51	**0.84**		
(6)Reflective	0.58	0.67	0.60	0.55	0.60	**0.74**	
(7)Recreational	0.54	0.34	0.60	0.57	0.46	0.48	**0.74**

817 **Note**: Square root of AVE (**diagonal**);Serious leisure is absent as this construct was operationalised as
818 a higher-order model, with AVEs only relevant to its dimensions.

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821 **Table 3.** Effect size (direct paths)

Direct Paths	Path coefficient	*P* value	f^2	Effect size	Supported?
Serious leisure→Perceived physical environment	0.55	*p*<0.001	0.24	Large	Supported
Serious leisure→Service quality	0.43	*p*<0.001	0.17	Large	Supported
Perceived physical environment→Service quality	0.33	*p*<0.001	0.11	Medium	Supported
Knowledge→Serious leisure	0.37	*p*<0.001	0.05	Small	Supported
Serious leisure→Degree of co-creation	0.29	*p*<0.001	0.09	Medium	Supported
Knowledge→Degree of co-creation	0.43	*p*<0.001	0.12	Medium	Supported
Perceived physical environment→Degree of co-creation	0.53	*p*<0.001	0.14	Medium	Supported
Service quality→Degree of co-creation	0.66	*p*<0.001	0.26	Large	Supported

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