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1 Multi-Method Investigations of the Impact of Lockdown Relaxation on Tourists' and

- 2 **Residents' Movements**
- 3

4 Abstract

- 5 This research examines the impact of lockdown relaxation on tourists' and residents'
- 6 movements in the context of restaurant patronage on Jeju Island, South Korea. Drawing on
- 7 spatial interaction and multi-attribute attitude theories, we hypothesized the difference
- 8 between tourists and residents in terms of restaurant visit patterns and choices during
- 9 lockdown relaxation. A multi-method approach was adopted: spatial, data-driven analysis,
- and experiments. Lockdown relaxation is found to affect how tourists and residents choose
- 11 and visit restaurants in different ways. This research provides explanations about tourists' and
- 12 residents' mobility and guidelines that practitioners can use to prepare for 'living with
- 13 COVID-19.'

- 15 Keywords: Lockdown relaxation; tourists' movement; residents' movement; restaurant visit;
- spatial interaction theory; multi-attribute attitude theory; multi-method investigation;
- 17 exploratory spatial data analysis; data-driven analysis; experimental study

- 18 **1. Introduction**
- 19

20 To fight the spread of COVID-19, many countries have adopted a list of lockdown measures,

21 including social distancing, bans on domestic travel, or border closures (Matera et al., 2021).

22 Lockdown measures have been established as effective in controlling virus transmission (Koh

et al., 2020). However, indefinite lockdown measures appear not to be sustainable

economically or socially (Robinson, 2021). Therefore, many cities and countries have relaxed

their lockdowns to compensate for the economic and social costs of the measures, mainly by

lifting bans on domestic travel (Pratt & Cyrus, 2022). In most countries, however, lockdown

27 relaxation has brought another wave of infection due to the seeding of cases from domestic

travel and, subsequently, has led the countries to re-impose stricter lockdowns (BBC, 2021;
Poutors 2021)

29 Reuters, 2021).

In contemporary discussions, epidemiologists are advocating for a shift towards
 strategizing the harmonious operation of a destination's economy and society alongside

effective virus containment measures (Servick, 2022). Given the common practice of

reinstating domestic travel during the relaxation of lockdowns (OECD, 2020), a paramount

remistating domestic traver during the relaxation of fockdowns (OLCD, 2020), a paramount

34 consideration emerges: the imperative to devise strategies that ensure the functioning of a

destination's economic and societal realms in tandem with vigilant virus control measures
(Singh et al., 2023). It is therefore essential to understand how tourists move in a destination

when lockdown is relaxed, as human mobility is correlated with virus transmission

(Nouvellet et al., 2021). Another major group of stakeholders in a destination also have to be

considered in terms of spatial behavior when addressing this issue; namely, residents (Qian &

Hanser, 2021). By indicating the difference between tourists' and residents' movements, much
previous research has argued that both groups need to be considered to explain human

previous research has argued that both groups need to be considered to explain human
mobility in a destination (Jang & Kim, 2022; Li et al., 2018; Zenker & Kock, 2020). Thus, it
is important to take into account both tourists' and residents' movements to examine the

44 impact of lockdown relaxation on human mobility in a destination (Qian & Hanser, 2021).

However, to our knowledge, the existing literature has not provided an answer to the 45 question due to several limitations. On one hand, the literature on tourists' and residents' 46 reactions to external changes (e.g., development of tourism policies) has rarely discussed 47 lockdown relaxation (Zenker & Kock, 2020). On the other hand, the literature on the impact 48 49 of COVID-19 on a destination has overlooked residents' perspectives because most of the research has focused only on those of tourists (Joo et al., 2021; Qiu et al., 2020; Ryu et al., 50 2022). In particular, residents have not been investigated in terms of their movements during 51 the pandemic (Jeon & Yang, 2021a, 2021b; Yang et al., 2021). These limitations have made 52 53 it difficult for researchers to understand how lockdown relaxation affects tourists' and residents' behavior and for practitioners to establish guidelines on relaxing lockdown 54 measures. Furthermore, since the existing hospitality and tourism research has focused on 55 describing the differences between tourists' and residents' movements (Oh et al., 2010; Seok 56 et al., 2019; Mimbs et al., 2020), both groups' spatial behavior in a destination has been 57 limitedly explained. 58

59 This research aims to examine the effect of lockdown relaxation on tourists' and 60 residents' movements in a destination. Specifically, this research examines how tourists' and 61 residents' movements with regard to restaurant visits change when lockdown is relaxed 62 because dining in restaurants is a common activity for both tourists and residents (Yilmaz &

- 63 Gültekin, 2016). We adopted a multi-method approach combining GIS-based exploratory
- spatial data analysis (ESDA), data-driven analysis, and experimental design. In study 1, we
- 65 tested whether there was a difference between tourists' and residents' restaurant visit patterns
- 66 during lockdown relaxation. Drawing on spatial interaction theory (Ullman, 1953), we
- hypothesized that the areas tourists frequently visit for restaurants are separated from those
 that residents do (Hypothesis 1). With GIS-based ESDA (Lee et al., 2019), we found a
- that residents do (Hypothesis 1). With GIS-based ESDA (Lee et al., 2019), we found a
 difference between tourists' and residents' restaurant visiting patterns. In study 2, we
- 70 attempted to explain the observed differences in study 1. Drawing on the multi-attribute
- 71 attitude theory (Fishbein, 1963), we hypothesized that lockdown relaxation leads tourists and
- residents to use different criteria for restaurant selection (Hypothesis 2) (Nieto-Garcia et al.,
- 73 2019). Using data-driven analysis, we found a difference between tourists' and residents'
- restaurant selection criteria during the lockdown relaxation period (Nieto-Garcia et al., 2019).
- Finally, in study 3, we conducted an experimental study to provide a stronger causal
- relationship and to enhance the external validity of the findings of study 2. This research
- empirically showed that lockdown relaxation can affect stakeholders, namely tourists and
- residents, differently, as their spatial interactions lead to diverse perspectives in the
- 79 destination based on their respective statuses.
- Theoretically, this research is one of the earliest hospitality studies that discuss the
 impact of post-crisis recovery on people's movement (Elkhwesky et al., 2022). Also,
- 82 considering that the existing tourism research primarily focused on showing and describing a
- difference in tourists' and residents' mobility (Li et al., 2018; Su et al., 2020), this research
- 84 could address the knowledge gap by explaining why such a difference happens. Practically,
- the findings of this research could be useful for hospitality businesses and destinations to
- 86 understand both tourists' and residents' movement patterns and to deal with the 'living with
- 87 COVID-19' period. Given the significant influence of external changes on destinations, it
- 88 offers insights to tourism policymakers on considering not only crises or disasters but also
- 89 associated government policies.

90 2. Theoretical Background

91 *2.1. Spatial Interaction Theory*

92 The spatial interaction theory explains the flows of different entities between places,

93 including the flow of people, freight, energy, or information (Ullman, 1953). Specifically, the

94 theory explains when and how a specific entity moves between places based on three

95 concepts: complementarity (a deficit in a certain resource in a place and a surplus of the same

96 resource in another place); intervening opportunities (i.e., the presence of opportunities in

97 two places); and transferability (the possibility of interactions occurring in two places by

overcoming distance or time) (Ullman, 1953). In the context of human mobility, the theory

argues that individuals' movements occur based on the resources available in certain places
(Fotheringham & O'Kelly, 1989). According to the theory, the main activity of an individual

determines their interaction with an area because an individual demands different resources
 depending on the nature of the activities the individual is involved in (e.g., groceries for

103 everyday living, office supplies for work, or attractions for entertainment) (Fotheringham &

O'Kelly, 1989). The movement of humans to meet the demands of daily activities is essential,and thus, spatial heterogeneity can be seen as a representative example of spatial interactions.

Within the tourism literature, the spatial interaction theory has been used to explain 106 107 human mobility in a destination (Lee et al., 2013). Drawing on the argument of the theory (i.e., the main activity of an individual determines their interaction with a place), some 108 researchers showed how tourists and residents move in a destination in different ways. Li et 109 al. (2018) found that the difference between tourists' and residents' movements in US cities 110 is due to the main activities each group is involved in. They found that tourists were 111 particularly attracted to facilities related to tourism activities such as landmarks, museums, 112 and historic buildings; in contrast, residents visited living infrastructures like commercial 113 areas, parks, and libraries. Su et al. (2020) compared the spatial behavior of mainland 114 Chinese tourists and residents in Hong Kong. They found that tourists concentrated on 115 destination attractions rather than the locals' residential spaces. As another rationale for 116 spatial heterogeneity, scholars have employed the concept of familiarity (e.g., first-time vs. 117 repeat visitor) (Debbage, 1991). Specifically, behavioral responses within a particular space 118 can vary based on pre-existing knowledge or familiarity, and a notable distinction in this 119 regard is made between residents and tourists (Kang et al., 2018). Differences in behavioral 120

patterns between residents and tourists have been studied in various ways in the tourism 121 literature. Xu et al. (2021) demonstrated that non-resident tourists have longer lengths of stay 122 and visit more cities than resident tourists, providing empirical evidence of differences in 123 spatiotemporal patterns. Interestingly, Jang and Kim (2022) verified the spatial heterogeneous 124 relationships between tourists and residents' gamified experiences and behavior engagement 125 on Jeju island; specifically, the authors found that highly place-curious tourists exhibited 126 increased exercise time across the entire island, while place-curious residents increased 127 128 exercise times in the central and southern regions.

Although the existing tourism literature has shown the differences between tourists' and residents' movements based on the spatial interaction theory, it has rarely discussed whether and how the differences are affected by a significant external change, such as the outbreak or relaxation of COVID-19. As the lockdown during the pandemic changed people's mobility (Zenker & Kock, 2020), the lockdown relaxation after the pandemic is

- 134 likely to have an impact on how we move, and specifically in the tourism context, the impact
- might vary between tourists and residents because each group would be engaged in different
- activities, as argued in the spatial interaction theory (Fotheringham & O'Kelly, 1989). For
- example, once the lockdown is relaxed, tourists could be actively visiting touristic areas to
- 138 meet their pent-up travel desires, but residents could be still careful about visiting those areas
- due to the fear of contacting strangers (Burleigh, 2020; Ivanova et al., 2021). An external
- 140 change can improve our understanding of the differences between tourists' and residents'
- 141 movements (Mizzi et al., 2018), but the differences driven by the change have been limitedly
- 142 discussed in the tourism literature.

When tourists' and residents' movements for restaurant visits during lockdown
relaxation are considered, the theory leads us to expect differences in the visit patterns
between tourists and residents because they may visit a restaurant with different purposes
(Burleigh, 2020; Ivanova et al., 2021). We adapted the spatial interaction theory to
investigate how tourists' restaurant visit patterns differ from residents' during the lockdown
relaxation.

149

150 2.2. Multi-Attribute Attitude Theory

As one of the widely used theoretical models in consumer behavior literature, the multi-151 attribute attitude theory explains a consumer's overall attitude toward a product or service 152 (Park & Kim, 2020). According to the theory, consumers tend to select a store to visit by 153 evaluating the attributes they think are important about the store (Fishbein, 1963). Relevant 154 studies have taken the theory further, finding that the important attributes can be dependent 155 on the consumption situation (Shavitt & Fazio, 1991). Quester and Smart (1998) found that 156 three wine attributes (price, grape variety, and wine style) were perceived as more or less 157 important depending on the anticipated consumption situation (to drink at home with one's 158 family over dinner vs. to take a dinner party at a friend's house). In the context of customer 159 satisfaction with a ski resort, Matzler et al. (2008) showed that the effects of various 160 attributes (i.e., quality of slopes, variety of slopes, dining facilities, employees, ski lifts) on 161 satisfaction were moderated by a situational factor (whether it was a first visit or a repeat 162 visit). By focusing on the three main attributes of a movie (actors and directors, genre, and 163 plot), Jiang et al. (2021) found that the effect of each attribute on consumers' movie 164 evaluation varied with how much knowledge consumers had about a movie: Consumers' 165 evaluation of a movie is largely determined by actors and directors when consumers are well 166 aware of a movie in advance, but by the plot in the opposite situation. In addition to the 167 multi-attribute attitude theory, several other theories have also been used to explain 168 consumers' dynamic value proposition for product choice. Other than the classification of 169 product attributes in terms of their role in consumer satisfaction (e.g., must-be, performance, 170 attractive attributes, etc.), Kano's theory argues that what attributes make consumers satisfied 171 or dissatisfied could change by a list of factors (e.g., product life cycle) (Nilsson-Witell 172 173 Noriaki, 2001). With the assumption that individuals tend to define themselves using social categories and make a decision based on their social identities, the social identity theory also 174 argues that consumers select a product that is congruent with their social identities (Tajfel & 175 Turner, 2004): whether to support tourism development in a destination is decided by 176

whether an individual considers himself or herself as a local resident or not (Haobin et al.,2014).

The multi-attribute attitude theory has been applied to understand how important 179 attributes for purchase decisions change with individuals' perceptions of the consumption 180 situation (Fishbein, 1963; Shavitt & Fazio, 1991). By assuming that individuals' perceptions 181 of the consumption situation depend on their characteristics (e.g., sex, cultural background, 182 previous experience), tourism researchers have used the theory to determine that the 183 attributes valued by a certain segment of consumers are different from those in other 184 segments in a range of contexts: the differences in hotel selection attributes between younger 185 and older tourists (Kim et al., 2022b), those in restaurant selection attributes between tourists 186 from different countries (Baek et al., 2006), and those in travel app selection attributes 187 between first-time and repeat tourists (Rivera et al., 2016). Beyond the within-tourist level, 188 another stream of the literature has shown that tourists and residents value different attributes 189 for evaluating a public beach area (Oh et al., 2010), historical heritage attraction (Seok et al., 190 2019), and water-based recreation site (Mimbs et al., 2020). 191

While previous research found that tourists and residents have a different value 192 proposition for choosing a place to visit, such a difference could be affected when both 193 groups went through the COVID-19 pandemic situation (Wang & Xia, 2021; Zenker & Kock, 194 2020). As the pandemic and lockdown are relaxed, while tourists could more value the 195 attributes of a place related to hedonic experience (e.g., recreation facilities of a hotel, social 196 gathering possibility of a restaurant) than during the pandemic to compensate for their pent-197 up travel desires (Ivanova et al., 2021), residents could still place importance on the safety 198 attributes to avoid another wave of infection in their living area (Burleigh, 2020). Examining 199 the impact of an external change on tourists' and residents' value proposition for the choice 200 of a place could provide a nuanced explanation of the value proposition of both groups. 201 However, the existing literature has rarely considered the potential change in the tourist-202 resident difference of value proposition driven by an external change. 203

When consumers' choice of a restaurant during lockdown relaxation is considered, the theory allows us to argue that the important attributes for the choice depend on how consumers perceive the relaxation. Considering that lockdown relaxation can be differently perceived by tourists and residents (Burleigh, 2020; Ivanova et al., 2021), we adapted the multi-attribute attitude theory to investigate how important attributes for tourists' restaurant selection during lockdown relaxation differ from those of residents'.

210

211 2.3. Summary of Literature Review: Research Gap

The existing tourism literature has demonstrated the differences in tourist-resident 212 movement (Su et al., 2020) and value proposition for the choice of a place (Mimbs et al., 213 2020) using the spatial interaction and multi-attribute attitude theories, respectively. 214 However, while it is assumed that both individuals' movement and value proposition are 215 influenced as the pandemic situation relaxes (Burleigh, 2020; Ivanova et al., 2021), the 216 literature has been limited in explaining how lockdown relaxation affects tourists' and 217 residents' movement and value proposition. Although the tourism literature has examined the 218 impact of an external change on destination stakeholders' reactions regarding the outbreak of 219 infectious disease, the relaxation of disease-related measures has received less attention 220

- 221 (Zenker & Kock, 2020). Therefore, this research aims to address these gaps by examining the
- effects of lockdown relaxation on tourists' and residents' movements in a destination and their
- value proposition for the choice of a restaurant to dine.

224 3. Research Model and Hypotheses Development

225 The first hypothesis concerns tourists' and residents' restaurant visit patterns during the lockdown relaxation period. According to the spatial interaction theory, how people move 226 in a geographical area is determined by the activities they are engaged in (Fotheringham & 227 O'Kelly, 1989). Drawing on the spatial interaction theory, we anticipate that tourists' 228 229 restaurant visit patterns will differ from those of residents during the lockdown relaxation period because these groups may have distinct purposes when visiting restaurants (Burleigh, 230 2020; Ivanova et al., 2021). During the lockdown relaxation period, tourists move within a 231 destination to fulfill their travel desires that were put on hold during the lockdown (Ivanova 232 et al., 2021). Such a purpose could influence how tourists make decisions about their 233 movement. For instance, when selecting a restaurant, tourists might prefer to choose one 234 located close to popular destinations in the area. Conversely, residents might be concerned 235 about the risk of infection from incoming visitors and prioritize their health during the 236 lockdown relaxation period (Ryu et al., 2022; Shin et al., 2023). This could lead residents to 237 238 avoid areas frequented by tourists when moving within the destination. When residents choose a restaurant to dine, they may opt not to visit eateries located in tourist-heavy regions. 239 In light of the anticipated changes in tourist and resident behavior due to COVID-19, Zenker 240 and Kock (2020) argued that the pandemic situation might lead to an in-group/out-group bias 241 among both tourists and residents, resulting in the separation of areas primarily frequented by 242 tourists from those primarily visited by residents (Kamata, 2022; Ying et al., 2021; Zenker & 243 Kock, 2020). Thus, we hypothesize as follows: 244

245

- 248 H1a: Tourists tend to visit touristic-areas (e.g., tourist districts where tourist attractions are
 249 concentrated) for dining experiences during lockdown relaxation.
- 250 *H1b: Residents tend to visit non touristic-areas (e.g., residential areas where tourist*
- 251 *attractions are scarce) for dining experiences during lockdown relaxation.*
- 252

The second hypothesis pertains to tourists' and residents' restaurant selection criteria 253 during the lockdown relaxation period. Drawing on the arguments of the multi-attribute 254 attitude theory, we anticipate that lockdown relaxation is perceived differently by tourists and 255 residents, leading each group to prioritize distinct attributes when selecting a restaurant. From 256 the perspective of tourists, lockdown relaxation presents an opportunity for compensatory 257 travel (Wang & Xia, 2021). Numerous surveys have indicated that people's travel intentions 258 have been increasing for over a year, despite awareness of potential health risks (European 259 Travel Commission, 2021; Smith Travel Research, 2020; Walia et al., 2020). Kim et al. 260 (2021a) found that heightened travel desires during the lockdown period prompted 261 individuals to engage in compensatory travel once the lockdown ended. As lockdown 262 relaxation allows tourists to fulfill psychological or social desires that were put on hold 263 during the lockdown (Ivanova et al., 2021), tourists are likely to value hedonic or social 264 attributes (such as ample space for social gatherings, scenic views, or appealing interior 265 design) when selecting a restaurant. 266

²⁴⁶ *H1: The areas where tourists visit for dining experiences and those visited by residents are*247 *clustered in different regions during lockdown relaxation.*

Conversely, from the perspective of residents, lockdown relaxation signifies an influx 268 of tourists amid an ongoing COVID-19 pandemic (Zenker & Kock, 2020). Residents are 269 concerned about their livelihoods due to fears of encountering infected tourists and facing the 270 potential for another wave of infections (Kamata, 2022). If infected tourists contribute to the 271 spread of the virus, lockdown measures could be reinstated, local businesses might close, and 272 the local community's well-being could be jeopardized again (Burleigh, 2020). For residents, 273 lockdown relaxation poses a precarious situation that could entail economic risks for their 274 place of residence. Qiu et al. (2020) provided empirical evidence by examining residents' 275 willingness to pay to mitigate the COVID-19 risk posed by inbound tourists. Kamata (2022) 276 supported this argument by finding that even residents of destinations heavily reliant on 277 tourism tend to perceive risks associated with welcoming inbound tourists. Given that 278 lockdown relaxation poses a potential risk to residents' livelihoods (Burleigh, 2020), residents 279 are likely to prioritize safety-related attributes (such as less crowded locations, stringent 280 screening or hygiene protocols) when choosing a restaurant to visit. Additionally, considering 281 that the pandemic and lockdown relaxation are global phenomena (Beery et al., 2021), the 282 disparity in attribute consideration between tourists and residents may not be specific to any 283 particular culture. 284 285 H2a: For tourists, the hedonic or social attributes of a restaurant (e.g., space, view, or 286 interior) are important determinants of their choice during lockdown relaxation. 287

H2b: For residents, the safety-related attributes of a restaurant (e.g., location, screening
policy, or hygiene procedures) are important determinants of their choice during
lockdown relaxation.

H2c: The difference in attribute consideration between tourists and residents during
lockdown relaxation is not culture-specific.

293

We have constructed the research model depicted in Figure 1. The anticipated variance in tourists' and residents' restaurant visit patterns during lockdown relaxation, as posited in (H1) and grounded in the spatial interaction theory, will undergo examination in study 1 using GIS-based ESDS. The envisaged contrast in tourists' and residents' restaurant selection criteria during lockdown relaxation, underpinned by the multi-attribute attitude theory, will be evaluated in study 2 through data-driven analysis, and subsequently in study 3 via an experimental approach.

301

302 [Figure 1]

303 4. Research Methodology

304 This study employed a mixed-methods approach, utilizing three distinct methods to assess the hypotheses. In study 1, we employed GIS-based ESDS to examine H1. Utilizing global and 305 local Moran's I statistics, we analyzed the contrast between tourists' and residents' restaurant 306 visit patterns by comparing the locations of restaurants predominantly frequented by tourists 307 308 during lockdown relaxation with those visited by residents. In study 2, we conducted data analytics to test H2a and H2b. Leveraging sales and online review data from the restaurants 309 investigated in Study 1, we employed ordinary least squares (OLS) models to determine 310 which restaurant attributes significantly influenced sales growth during lockdown relaxation. 311 In study 3, we conducted two experiments to establish a more robust causal relationship 312 between customer type and preference for distinct attributes (Study 3a), and to validate the 313 findings of previous studies in a different country to examine H2c, enhancing external 314 validity (study 3b). 315

For studies 1 and 2, we selected Jeju Island in South Korea as the research 316 317 destination. Situated in the Korea Strait, just south of the Korean Peninsula, Jeju Island is the largest island in South Korea. Designated as the sole world natural heritage site in the 318 country, Jeju Island is a favored destination among domestic tourists (Jeju Special Self-319 governing Province, 2022a). Amidst the COVID-19 pandemic, Jeju Island gained 320 321 prominence as the top choice for domestic tourists (BBC, 2022). Despite international tourist arrivals plummeting by 2,537% in 2021 compared to 2018 due to the pandemic, the decline 322 for domestic tourists was only 91% (Jeju Special Self-governing Province, 2022b). 323

As part of its pandemic-related lockdown measures, South Korea implemented a 324 'COVID-19 social distancing rule' encompassing multi-use facilities, including restaurants 325 (Im et al., 2021). This policy established restrictions on private gatherings' size and business 326 operating hours (Seong et al., 2021). In November 2021, during the initial phase of the 'With 327 Corona' strategy, operating hour limits were lifted for most businesses, including 328 restaurants/cafes, theaters, and indoor facilities (Kim, 2021a). Our research focused on the 329 lockdown relaxation period initiated on the first day of November 2021, marking the shift 330 from lockdown enforcement in October 2021 to relaxation in November 2021. 331

332

333 4.1. Study 1: Restaurant Visit Patterns of Tourists and Residents

Examining the disparity in restaurant visit patterns between tourists and residents during

lockdown relaxation, study 1 assessed H1. The entire array of restaurants on Jeju Island
 constituted the focus. Figure 2 delineates the geographical distribution of the 33,086

constituted the focus. Figure 2 delineates the geographical distribution of the 33,086
restaurants utilized in the analysis, along with the principal areas. Notably, Area A stands as

- the primary residential zone, housing approximately 30% of Jeju Island's population.
- Furthermore, Area A encompasses the international airport. Meanwhile, Area B and Area C
- emerge as the most frequented tourist destinations on Jeju Island, spotlighted as key tourism
- complexes on the official tourism map published by the Jeju Tourism Organization (Jeju
- 342 Tourism Organization, 2021).
- 343

344 [Figure 2]

- 346 4.1.1. Data collection, measures, and analysis
- 347 We gained access to sales data through our research collaboration with the Jeju Tourism
- 348 Organization, which was based on the point of interest (POI) data from credit card companies
- in South Korea. The POI sales data encompassed various details, including names, addresses,
- 350 latitude and longitude coordinates, types of cuisine, government-issued business numbers,
- and monthly sales figures for both tourists and residents (for October and November 2021).
- 352 The differentiation between tourists and residents was established using residence
- information extracted from the credit card data. When individuals apply for credit cards, they
- provide their residential details to the credit card companies. As a result, our dataset includes
- information that enables us to ascertain whether individuals are tourists visiting Jeju Island or residents residing on the island, based on the residential data maintained by the credit card
- 357 companies. In compliance with South Korea's data security policy, the status information that
- distinguishes between tourists and residents (i.e., whether an individual is a tourist or a
- resident) is presented to us as a binary factor. To ensure data security, all sales figures (i.e.,
- sales to tourists and residents in October and November 2021) were converted into
- 361 percentages relative to the highest sales value recorded in September 2021. The dataset was
- then divided into two distinct groups based on two criteria. The first group (Group 1)
- 363 comprised restaurants that experienced increased sales to tourists during lockdown relaxation364 while sales to residents remained unchanged. Conversely, the second group (Group 2)
- 365 consisted of restaurants that observed heightened sales to residents during the same period,
 366 while sales to tourists did not increase.
- In the realm of GIS-based ESDS, we harnessed ArcGIS to execute global and local 367 Moran I's statistics, a widely employed method for evaluating spatial clustering (Koo et al., 368 2023; Xu et al., 2023). Global Moran's I statistics yield a single value spanning from -1 to 1, 369 indicating the clustering of spatial patterns among different groups. A value of 1 (-1) signifies 370 371 perfect positive (negative) autocorrelation, where groups with akin values are clustered in adjacent cells (high-value groups are in proximity to low-value groups) (Park et al., 2020). 372 373 On the other hand, the local Moran's I statistics, also known as local indicators of spatial association (LISA), complement the global Moran's I by identifying specific locations where 374 group clustering occurs (Kim et al., 2018). 375
- 376
- 377 4.1.2. Results and discussions

Figure 3 illustrates the visual representation of spatial distribution for both Group 1 and 378 Group 2. Triangles in Group 1 represent restaurants that experienced increased visits from 379 tourists but decreased visits from residents during the lockdown relaxation period (i.e., 380 restaurants with increased tourist sales but unchanged resident sales during this period). 381 Circles in Group 2 represent restaurants that witnessed heightened visits from residents but 382 reduced visits from tourists during lockdown relaxation (i.e., restaurants with increased 383 384 resident sales but unchanged tourist sales during this period). The findings indicate that the triangles (representing restaurants in Group 1) are uniformly scattered across Jeju Island, in 385 contrast to the circles (representing restaurants in Group 2). 386

387

388 [Figure 3]

The study investigated the disparity in restaurant visit patterns between tourists and 390 residents during the relaxation of lockdown measures using global Moran's I statistics. The 391 analysis was based on the fixed Euclidean distance between triangles and circles on the map. 392 The results revealed a statistically significant positive clustering of points with similar values 393 394 (Moran's Index = 0.01; z score = 3.80; p < 0.001). Specifically, there was clustering observed among restaurants in both Group 1 and Group 2. Furthermore, the outcomes of the local 395 Moran's I statistics (depicted in Figure 4) highlighted that the main hotspot for Group 1 396 restaurants was Area A, known for its abundant tourism resources as previously explained 397 398 (refer to Area A in Figure 2). In contrast, the hotspots for Group 2 restaurants were situated on the left and right sides of the island, distant from popular tourist areas like Area A, B, and 399 C. These findings corroborated the earlier conclusions, indicating that the dining locations 400 frequently visited by tourists became distinct from the areas preferred by residents after the 401 relaxation of lockdown measures. As a result, both hypotheses, H1a and H1b, were validated. 402

403

404 [Figure 4]

405

406 4.2. Study 2: Key Attributes of Tourists' and Residents' Restaurant Selection

In study 2, H2a and H2b were tested by conducting OLS regression with restaurant attributes as independent variables and sales growth during lockdown relaxation as the dependent variable, following the approach of Nieto-Garcia et al. (2019). While we aimed to include all the restaurants on Jeju Island, as in study 1, obtaining accurate information about restaurant attributes for every establishment proved challenging. Therefore, our focus shifted to all the restaurants in a specific city on Jeju Island (Aewol), which, at the time of data collection,

boasted the highest number of restaurants among all the cities on the Island (N = 411).

414

415 4.2.1. Data collection

In study 2, our aim was to investigate how lockdown relaxation prompts tourists and 416 residents to prioritize different criteria for selecting restaurants. Building on the literature and 417 the insights gained from the spatial analysis conducted in study 1, we hypothesized that 418 tourists and residents would have distinct restaurant selection criteria during lockdown 419 relaxation. To measure sales growth as the dependent variable, we utilized the same POI sales 420 421 data that were employed in study 1. Given the commencement of lockdown relaxation in South Korea on November 1, 2021, we considered online reviews uploaded until October 422 2021, which would likely influence tourists and residents during the relaxation period. For 423 the restaurant attributes used as variables in the analysis of restaurant selection criteria, we 424 gathered online reviews of restaurants from the popular South Korean search engine, Naver 425 (www.naver.com). Naver was chosen due to its widespread use in the country, accounting for 426 approximately 80% of all information searches and dominating around 60% of the search 427 market (InternetTrend, 2022). By developing an automated crawling program, we collected a 428 total of 61,632 online reviews uploaded until October 2021. These reviews were aggregated 429 for each restaurant, resulting in a refined dataset of 411 restaurants eligible for analysis. 430 431

432 4.2.2. Measures and analysis

This study examined two dependent variables and eight independent variables (Table 1). The dependent variables, referred to as tourists' and residents' sales growth during lockdown relaxation (hereafter referred to as tourists' and residents' sales growth), were computed by calculating the difference in sales to tourists (residents) between October and November 2021 for each restaurant.

The independent variables, denoted as restaurant attributes, were measured using both 438 the POI sales and online review data. From the POI sales data, we assessed the restaurant's 439 physical environment through the following variables: restaurant density (number of 440 441 restaurants within a 100-meter radius of the focal restaurant) and distance to the nearest mountain and beach (straight-line distance from the focal restaurant to the closest mountain 442 and beach). Drawing from the online review data, we quantified five restaurant attributes: 443 overall rating (a proxy for general quality); number of reviews (a proxy for online popularity); 444 functional, social, and ambiance attributes. These attributes were determined using a unique 445 446 feature on Naver, allowing reviewers to select the restaurant attribute they considered the best from a set of 15 predefined options (e.g., tasty food, kind staff, fresh ingredients, convenient 447 parking). For each restaurant, we calculated the percentage of times each attribute was selected 448 out of the total attribute counts. To streamline the attributes and reduce redundancy (e.g., 449 combining "clean store" and "clean bathroom"), an exploratory factor analysis (EFA) was 450 performed, yielding three factors encompassing eight attributes. The first factor (functional 451 attributes) comprised tasty food, kind staff, value for money, and great amounts of food. The 452 second factor (social attributes) encompassed attributes conducive to social gatherings and 453 454 spaciousness. The third factor (ambiance attributes) involved great views and a pleasing interior (refer to Appendix A). 455

456 Control variables with significant effects on changes in restaurants' sales driven by 457 external factors were incorporated: cuisine (Parsa et al., 2021) and sales before relaxation 458 (tourists' and residents' sales in October 2021) (Feldman, 1991). Cuisine was categorized as 459 follows: Korean (1), Western (2), Japanese (3), Chinese (4), Fast food (5), Café & Bakery (6), 460 and miscellaneous (7).

461 Using these variables, two Ordinary Least Squares (OLS) regression models were dev
462 eloped: model 1 utilized residents' sales growth as the dependent variable, while model 2 em
463 ployed tourists' sales growth.

464

465 [Table 1]

466

467 4.2.3. Results and discussions

Table 2 presents the descriptive statistics. The overall rating had an average of 4.504

469 (standard deviation (SD) = 0.230). The number of reviews ranged from 1 to 5,431, exhibiting

470 substantial variation across restaurants (Mean (M) = 149.956; SD = 395.332). In terms of

- restaurant attributes, functional, social, and ambience attributes spanned a distribution from
- 472 minimum values of -1.261, -1.794, and -3.191 to maximum values of 9.412, 12.210, and
- 473 8.260, respectively. Concerning the restaurant's physical environment, the average restaurant
- density stood at 5.092 (SD = 5.413). The average distance to the nearest mountain measured
- 1.546 km (SD = 0.992), while the average distance to the nearest beach was 6.757 km (SD =

476 4.202). Sales to tourists before relaxation averaged at 0.135 (SD = 0.260), and sales growth 477 averaged at 0.003 (SD = 0.058). Sales to residents before relaxation amounted to 0.512 (SD = 478 0.662), with sales growth averaging at -0.093 (SD = 0.258). Lastly, for cuisine, the majority 479 of restaurants were categorized as Korean (287, 69.8%).

480

481 [Table 2]

482

A correlation analysis was conducted (Table 3). Tabachnick et al. (2007) argued, "The statistical problems created by singularity and multicollinearity occur at much higher correlations (.90 and higher)" (p. 90). In accordance with this criterion, we found no critical issues in terms of correlations.

487

488 [Table 3]

489

Table 4 presents the results of two OLS regressions. Regarding the control variables, 490 cuisine 3 (Japanese) had a negative effect in model 1 ($\beta = -0.0975$, p < 0.05). Additionally, 491 sales before relaxation exhibited a negative effect in both models (model 1: β = -0.1125, p < 492 0.001; model 2: $\beta = -0.0253$, p < 0.001). For the independent variables in model 1, we 493 observed that distance to mountains ($\beta = -0.0324$, p < 0.01) exerted a negative effect: the 494 closer restaurants were to mountains, the higher sales to residents during lockdown 495 relaxation. Conversely, in model 2, the number of reviews ($\beta = 0.0241$, p < 0.001) and social 496 attributes ($\beta = 0.013$, p < 0.001) displayed positive effects: restaurants with more reviews or 497 more positively evaluated social attributes experienced higher growth in sales to tourists 498 during lockdown relaxation. 499

500

501 [Table 4]

502

The findings indicated that the important attributes for restaurant selection differed between 503 tourists and residents. Consistent with previous research (Ivanova et al., 2021), tourists 504 appeared to prioritize restaurants' social attributes (e.g., suitability for social gatherings, 505 spaciousness) when making choices, thus supporting H2a. Furthermore, our results 506 demonstrated that tourists considered a restaurant's online popularity as significant. This 507 observation resonates with the work of Hassan and Soliman (2021), who found that a 508 destination's reputation among domestic holidaymakers was a crucial factor in revisiting a 509 location during the pandemic. In contrast, the vital attributes influencing residents' restaurant 510 selection were distinct: residents tended to opt for restaurants situated near mountains, 511 indicating a preference for distancing themselves from urban areas. Compared to tourists, 512 residents seemed particularly concerned about avoiding crowded spaces, likely due to their 513 514 fear of contracting the virus amidst the relaxation of lockdown measures. This aligns with De Vos's (2020) assertion that individuals are more inclined to choose natural environments over 515 urban settings when apprehensive about COVID-19 transmission. Therefore, H2b was also 516 517 substantiated. In conclusion, this study reaffirmed that tourists and residents employ distinct 518 criteria when selecting restaurants to visit during lockdown relaxations.

- 519 To address potential endogeneity concerns, we employed the second-stage
- 520 instrumental variable method (Choo et al., 2021). For each significant independent variable in
- the respective model, we identified an instrumental variable from the set of control variables.This instrumental variable needed to be independent of the error term and exert an indirect
- 523 influence on the dependent variable through the focal independent variable. Specifically, we
- 524 used overall rating as an instrument for distance to mountain in model 1, sales in October as
- an instrument for the number of reviews, and restaurant density as an instrument for social
- 526 attributes in model 2. Employing these identified instrumental variables, we conducted three
- 527 rounds of second-stage regression to test whether the three significant independent variables
- 528 from the initial OLS regression models remained statistically significant. As a result of this
- analysis, all three independent variables were found to be insignificant: distance to mountain (amount of textual information) ($\beta = -0.0047$, p < 0.001), number of reviews ($\beta = 0.0011$, p <
- 531 0.05), and social attributes ($\beta = 0.0007$, p < 0.05).
- 532

533 4.3. Study 3: Experimentally Confirming the Difference between Tourists' and Residents' 534 Restaurant Preferences

- We conducted experiments to establish stronger causal relationships between two distinct 535 customer types (tourists vs. residents) and their preferences for various restaurant attributes 536 during the relaxation of lockdown measures. Building upon the findings of study 2, we 537 anticipated that the inclination towards restaurants with higher customer review counts, larger 538 physical space, and proximity to well-known tourist attractions would be more pronounced 539 among tourists as compared to residents. To verify this prediction and address H3c, we 540 carried out two experimental studies: one conducted in South Korea (study 3a) and the other 541 in the United States (study 3b). The primary aim of study 3b was to replicate the empirical 542 results observed in South Korea within a different country, thereby enhancing the external 543
- 544 validity of our conclusions.
- 545

546 4.3.1. Study 3a in South Korea

The participants in this study consisted of 270 adults recruited from Invight, an online survey 547 company in South Korea (mean age = 42.66 years, SD = 13.32 years). Participants were 548 randomly assigned to one of two experimental conditions with a between-subjects design 549 (type of customers: tourist vs. resident). All participants were instructed to imagine a scenario 550 where another wave of COVID-19 had emerged, leading to a four-week period of stringent 551 lockdown with restrictions on social gatherings. Subsequently, participants in the tourist 552 condition were asked to envision completing this lockdown period and then traveling to a 553 remote city for a restaurant visit as a tourist. On the other hand, participants in the resident 554 condition were asked to envision completing the lockdown and visiting a local restaurant as a 555 resident of their city. Following this, all participants were presented with two restaurant 556 options. While these choices varied in terms of the key attributes examined in the findings of 557 study 2, they maintained the same food quality, as indicated in Table 5. Finally, participants 558 were required to rate their preference on a 7-point scale (1 = I definitely prefer Restaurant A, 559 7 = I definitely prefer Restaurant B). It is important to note that this study was conducted 560 exclusively with Korean participants. 561

563 [Table 5]

As illustrated in Figure 5, the preference for 'Restaurant B' was notably higher among
participants in the tourist condition (Mean = 5.16 , SD = 1.70) when compared to those in the
resident condition (M = 4.62, SD = 1.86; F (1, 268) = 6.19, p = 0.013, η 2 = 0.023). Given that
'Restaurant B' exhibited a greater number of reviews, stronger social attributes, and closer
proximity to tourism sites in comparison to 'Restaurant A,' this outcome substantiates the
prediction derived from the findings of study 2: Tourists display a tendency to favor
restaurants with enhanced social attributes, while residents are inclined to avoid
establishments located within tourism sites.
[Figure 5]
4.3.2. Study 3b in the US
In this study, we replicated study 3a with participants from a different country,
namely the US. The participants in this study consisted of 253 US adults recruited from
Amazon MTurk (mean age = 41.17 years, SD = 13.26 years). Similar to study 3a, participants
were randomly assigned to one of two experimental conditions using a between-subjects
design (type of customers: tourist vs. resident). Participants were presented with the same
scenario as in study 3a and were asked to rate their relative preferences on a 7-point scale.
The results closely resembled those of study 3a. The preference for 'Restaurant B' was higher
in the tourist condition ($M = 4.98$, $SD = 2.04$) compared to the resident condition ($M = 3.62$,
SD = 2.32; F (1, 251) = 24.78, p < 0.001, η 2 = 0.090), as depicted in Figure 5. In summary,
both study 3a and 3b validated the prediction made based on the findings of study 2 in two
different countries, thereby supporting H3c and suggesting a relatively high external validity
for the obtained results.

589 5. General Discussion

590 This research aimed to examine the impact of lockdown relaxation on the restaurant dining behavior of tourists and residents. Specifically, we investigated how lockdown relaxation 591 influences the restaurant selection process and movement patterns of tourists and residents. 592 We employed GIS-based ESDS, data-driven analysis, and experiments within the context of 593 594 restaurant visits by tourists and residents on Jeju Island, South Korea. In the first study, we employed geographic visualization techniques to compare the locations of restaurants 595 primarily frequented by tourists and those favored by residents across Jeju Island. The results 596 revealed distinct restaurant visit patterns for tourists and residents during lockdown 597 relaxation. In the second study, we analyzed sales data and online reviews for restaurants in a 598 599 specific city on Jeju Island. This analysis highlighted the differing criteria used by tourists and residents for restaurant selection. Tourists leaned towards restaurants that provided social 600 satisfaction, while residents prioritized establishments offering a safe dining environment. To 601 enhance the robustness of our findings, the third study conducted experiments in two distinct 602 countries, South Korea and the US. These experiments further validated the causal 603 relationship between customer types and their preference for specific restaurant attributes 604 during lockdown relaxation. Collectively, our findings underscore the importance of 605 considering both tourist and resident perspectives to comprehensively understand the impact 606 607 of COVID-19-related policies on a destination's restaurant industry.

608

609 5.1. Theoretical Contributions

610 First, this research extends spatial interaction and multi-attribute attitude theories to the current critical context of human mobility in a pandemic situation (Li et al., 2021; Liang et 611 al., 2021). Empirical support is provided for both theories, demonstrating: 1) the significance 612 of considering distinct segments' movements to comprehend human mobility within a 613 geographical area, as emphasized by the spatial interaction theory (Ullman, 1953); and 2) the 614 influence of consumers' perception of the consumption situation on attributes affecting 615 purchase decisions, as postulated by the multi-attribute attitude theory (Fishbein, 1963; 616 Shavitt & Fazio, 1991). Furthermore, this research highlights the adaptability of both theories 617 in explaining tourists' and residents' service provider choices impacted by COVID-19 and 618 619 related policies. The potential of these theories to predict and elucidate the divergent effects of the pandemic situation on tourists' and residents' decision-making suggests future studies 620 could yield new insights into human mobility during or post-pandemic periods. 621

622 Second, this research contributes to the existing literature concerning the influence of 623 external changes on destinations by addressing an unexplored yet significant aspect of crisis 624 management: lockdown relaxation. Given the substantial impact of external changes on a 625 destination's hospitality and tourism industry, previous research has explored various types of 626 changes, such as the opening of attractions (Snepenger et al., 2003), infrastructure

- development (Caballero Galeote & Garcia Mestanza, 2020; Malhado & Rothfuss, 2013), and
- the formulation of tourism policies (Concu & Atzeni, 2012; Krutwaysho & Bramwell, 2010;
- 629 Whitford & Ruhanen, 2010). While previous studies have focused primarily on the outbreak
- of infectious diseases (Bakar & Rosbi, 2020; Cahyanto et al., 2016; Marafa & Tung, 2004),
- the changes associated with government policies, such as lockdown imposition or relaxation,
- have received limited attention. This research enriches the tourism literature on infectious

disease crises by highlighting that destinations are influenced not only by disease outbreaks
but also by associated governmental measures (De Vos, 2020; Fang et al., 2022; Lim et al.,
2021).

Third, the studies conducted in this research unveil the contrast between tourists' and 636 residents' restaurant visit patterns during lockdown relaxation. Study 1 findings reveal the 637 prominence of in-group/out-group tendencies during lockdown relaxation (Chien & Ritchie, 638 2018). Our results underscore the importance of considering both major stakeholders of a 639 640 destination to comprehend the impact of COVID-19-related events, as each group's behavioral responses may differ (Zenker & Kock, 2020). By providing empirical evidence, 641 this research contributes to the literature exploring the disparity in perception or behavior 642 between tourists and residents regarding their choice of location (Mimbs et al., 2020; Su et 643 al., 2020). Beyond supporting existing arguments, this research advances the field by 644 elucidating how cognitive and behavioral distinctions between tourists and residents are 645 either reinforced or attenuated by external forces. Additionally, while numerous studies have 646 examined pandemic-induced effects on destinations (Ahmad et al., 2021; Falk et al., 2022; Lu 647 & Atadil, 2021), the majority have predominantly focused on tourists' perspectives. The 648 perspective of another major destination stakeholder, the residents, has been relatively 649 neglected in the literature (Joo et al., 2021; Qiu et al., 2020; Ryu et al., 2022). Furthermore, to 650 the best of our knowledge, no research on the impact of COVID-19 has concurrently 651 investigated the perspectives of both tourists and residents. This research uniquely contributes 652 to the literature by shedding light on how residents' behavior diverges from tourists' behavior 653 during lockdown relaxation. 654

Fourth, this study enhances our comprehension of the impact of COVID-19 on 655 travelers' behaviors and preferences. Previous studies, primarily conducted amid the COVID-656 19 pandemic, unveiled that a heightened level of COVID-19 threat could amplify safety 657 preferences, such as favoring options with reduced human contact (Kim et al., 2021c) or 658 displaying strong aversion to public dining establishments (Kim et al., 2022a). However, 659 researchers also identified conceptually opposing trends, including variety-seeking behaviors 660 (Kim et al., 2021b) or an inclination for crowded venues (Park et al., 2021). This study 661 662 addresses the conflicting findings by offering direct empirical evidence of how the relaxation of COVID-19 restrictions influences preferences for various attributes. 663

Lastly, from a methodological standpoint, this research enriches the COVID-19 664 literature by examining individuals' actual behaviors and elucidating potential rationales for 665 these behaviors through a multi-method approach (Wattanacharoensil et al., 2023). Given that 666 virus threats and associated events subtly shape behaviors, capturing shifts in behavior is vital 667 for comprehending the impact of threats or occurrences (Zenker & Kock, 2020). However, a 668 majority of existing studies on COVID-19 responses have centered around individuals' 669 cognitive or emotional perceptions (e.g., perceived risk of visiting a business or location) 670 rather than their tangible behavioral responses (i.e., actual visits to establishments or places) 671 (Dedeoğlu & Boğan, 2021; Hakim et al., 2021; Kim et al., 2021a; Wang & Xia, 2021; Zaman 672 et al., 2021). Furthermore, although a few endeavors have explored people's movement 673 patterns during the COVID-19 pandemic, many have merely described these patterns, as 674 geographical data have been analyzed in isolation (Gibbs et al., 2020; Jeon & Yang, 2021a; 675 676 Kasahara et al., 2021). By utilizing restaurant locations, sales data, and online reviews, this

research overcomes methodological constraints by investigating individuals' concrete visits toestablishments and furnishing empirical rationales for these movement patterns.

679

680 5.2. Practical Contributions

The findings of this research furnish valuable insights for restaurants and destinations as they 681 prepare for the relaxation of lockdown measures (Park et al., 2022), particularly in the 682 context of resuming domestic travel. Firstly, in accordance with our findings, tourists exhibit 683 a preference for dining at establishments where they can fulfill their pent-up social desires 684 when lockdown restrictions are eased. While tourists value restaurants that uphold safety and 685 686 hygiene standards (Hakim et al., 2021; Wang et al., 2021), the opportunity for social interaction becomes an equally significant criterion when restrictions are lifted (Dedeoğlu & 687 688 Boğan, 2021). To offer compelling options during lockdown relaxation, restaurants primarily catering to tourists or situated in tourist hotspots are advised to enhance their social attributes. 689 For instance, restaurants could reconfigure their seating arrangements to facilitate group 690 gatherings or curate special menus tailored for larger groups of patrons. 691

Secondly, our findings underscore that residents seek out dining establishments where 692 693 they can enjoy a meal without major concerns about COVID-19 infection. For residents, even in the post-lockdown phase, the assurance of safety from potential infection remains a 694 695 paramount consideration in their restaurant choices (Burleigh, 2020). Consequently, restaurants primarily targeting local residents or situated in less tourist-oriented locales are 696 697 encouraged to implement stringent safety and hygiene measures upon lockdown relaxation. Synthesizing the aforementioned managerial insights, this research delineates the attributes 698 that restaurants should prioritize when allocating resources to adapt to changing guest 699 expectations during lockdown relaxation, contingent on their target clientele and 700 701 geographical location.

Thirdly, this study highlights the divergent impact of lockdown relaxation on the 702 mobility patterns of tourists and residents: regions frequently frequented by tourists for dining 703 diverge distinctly from areas preferred by local residents. Drawing upon these findings, 704 destination managers and policymakers can anticipate the likely destinations of tourists and 705 706 residents during lockdown relaxation. Accordingly, they can enact location-specific management strategies to establish resilient crisis response frameworks (Jang et al., 2021). In 707 particular, in regions expected to draw higher tourist footfalls, destination managers and 708 policymakers can institute more rigorous and frequent monitoring of hospitality businesses' 709 adherence to safety protocols and operational standards. Additionally, prioritizing the 710 establishment of tourist tracing systems in these areas can contribute to effective crisis 711 management (Alt, 2021; Ryu et al., 2022). Furthermore, where feasible, delineating 712 boundaries between tourist and resident zones could be considered. While such delineations 713 may somewhat restrict tourists' spatial freedom, setting boundaries based on tourist 714 movement patterns could mitigate negative impacts on the tourist experience and help 715 alleviate residents' perceived risks (Jang et al., 2021). 716

Lastly, this research underscores the significance of addressing residents' perceived
risks when easing lockdown measures. As residents' perceived risks could stem from
information gaps (e.g., uncertainty about potential infections among groups of tourists)
(Quintal et al., 2010), destination managers and policymakers should proactively

- communicate timely updates about the tourism situation. Dispensing information about
- tourist activity areas or locations visited by infected tourists (Joo et al., 2021) can alleviate
- vuncertainties surrounding lockdown relaxation and diminish negative attitudes towards
- tourists. Recognizing that residents' unfavorable sentiments toward incoming tourists could
- impact the quality of the tourists' experience (Lai et al., 2021), such proactive measures can
- contribute to a more favorable environment for both residents and tourists, enhancing overall
- 727 travel experiences.
- 728

729 5.3. Limitations and Future Research

730 Despite its theoretical and practical implications, this research does possess certain limitations that warrant consideration in future studies. Firstly, the findings drawn from the 731 secondary data in this research are confined to a specific geographical region (Jeju Island, 732 South Korea) and a particular lockdown relaxation policy (South Korea's 'With Corona' 733 approach). Given the distinct variations in lockdown relaxation policies adopted by different 734 cities or countries, the generalizability of our findings may be constrained. While the 735 enhanced external validity achieved through experimental study 3b is noteworthy, future 736 investigations could overcome this limitation by encompassing diverse geographical locales 737 or relaxation strategies. Secondly, this research exclusively delved into tourists' and residents' 738 739 dining behavior at restaurants. While dining is a prevalent activity for both groups, there exist other shared activities (e.g., leisure pursuits) wherein the behavioral patterns of each group 740 might diverge from the current findings. To provide a more comprehensive understanding, 741 future studies could gather corresponding data regarding various common activities (e.g., 742 sales, locations, and online reviews of leisure attractions) to elucidate the broader impact of 743 lockdown relaxation across a spectrum of endeavors. Thirdly, a longitudinal perspective was 744 not factored into this research. The perceptions and subsequent behaviors of both tourists and 745 residents in response to lockdown relaxation are liable to evolve continuously due to the 746 ongoing dynamics of the COVID-19 pandemic. By undertaking a longitudinal examination of 747 the effects of lockdown relaxation on a destination over time, future research could shed light 748 on the unfolding impact in a more temporally nuanced manner. Fourthly, the consideration of 749 750 other potential restaurant attributes influencing tourists' and residents' decision-making during lockdown relaxation (e.g., pricing range, media coverage, search engine rankings) was 751 omitted in this research. Incorporating these unexplored attributes in future investigations 752 would yield a more robust explanation of the factors influencing tourists' and residents' 753 restaurant selections. Lastly, it should be noted that this research, particularly study 1, did not 754 account for other potential factors that might impact tourists' and residents' mobility patterns. 755 While no major events or policy shifts besides lockdown relaxation occurred between 756 October and November 2021, the generalized shifts in behavior across Jeju Island may not be 757 entirely attributed to external forces. Although the findings aim to isolate the impact of 758 lockdown relaxation, future research could adopt additional measures to enhance the validity 759 of the results, such as examining tourists' and residents' movements during the same months 760 of different years. 761

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