



# Explaining Satisfaction in Time-Constrained Cruise Port Environments: A Quantitative Text Analysis Using Linguistic Inquiry and Word Count (LIWC)

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## ABSTRACT

Cruise port of calls serve as entry points into destinations. Although the duration is brief, satisfaction with the port experience plays a critical role in shaping the overall cruise experience. This study examines the determinants of tourist satisfaction in cruise port using LIWC software to quantify text and undertake a linguistic analysis of 8,845 Google Maps reviews from random Caribbean cruise ports. The study employs multiple regression to investigate the effects of ten factors on satisfaction. The findings reveal that positive emotion is the strongest predictor of satisfaction, highlighting the importance of cruiser emotions, even in short-duration experiences. Leisure activity and exploration also contribute positively, indicating that low-effort enjoyment and novelty enhance the experience. In contrast, cultural content, gastronomy, and mobility exhibit inverse effects, suggesting that cognitively demanding, effort-intensive, or friction-laden experiences diminish satisfaction. The findings contribute to the cruise tourism literature by demonstrating that the influence of experiential dimensions on visitor satisfaction is context dependent and shaped by the temporal and operational characteristics of port-of-call environments.

## 1. Introduction

As cruise tourism continues to expand globally (Cruise Lines International Association, 2024), cruise ports have become critical destination gateways that shape overall cruise experience satisfaction (Chang et al., 2016). A cruise port of call refers to an intermediate destination stop within a cruise itinerary where passengers temporarily disembark to engage with local attractions, leisure activities, shopping, dining, cultural experiences, and shore excursions before returning to the vessel (Kanrak et al., 2023). Unlike traditional stay-over tourism, cruise port-of-call settings are characterized by temporal constraints, with visitors typically having only a few hours to enjoy destination experiences (Casado-Díaz et al., 2020).

Extant tourism literature has traditionally emphasized service quality, experiential richness, and cultural immersion as primary drivers of satisfaction and subsequent behavioral outcomes in long-duration, destination-based contexts, where visitors have sufficient time to engage deeply with cultural, social, and environmental attributes. Within this dominant perspective, satisfaction is typically concep-

tualized as an outcome of experiential richness, where greater engagement, immersion, and diversity of activities are assumed to enhance tourist evaluations (Contu et al., 2024; Di Vaio et al., 2022; Nicolau et al., 2024; Satta et al., 2015). However, this assumption remains insufficiently examined in time-constrained tourism environments, such as cruise ports, where tourists have limited time to navigate unfamiliar spaces.

In such settings, satisfaction may be shaped less by the depth or diversity of experiences and more by the immediacy the ease with which experiences can be accessed. Moreover, certain experiential dimensions may introduce friction, particularly when they require cognitive effort, navigation, or coordination, thereby potentially diminishing satisfaction rather than enhancing it. Accordingly, this study employs user-generated content (UGC) in the form of Google Maps reviews in an aim to identify which experiential dimensions enhance satisfaction and which introduce friction, thereby providing insights into tourist evaluation processes within temporally constrained environments. This approach is grounded in prior research that utilizes online reviews to

identify drivers of satisfaction and behavioral intentions (Chamberlain & Kim, 2024; Chamberlain et al., 2025; Riswanto et al., 2025).

To operationalize the determinants of satisfaction, the study applies the Linguistic Inquiry and Word Count (LIWC) software (Boyd et al., 2022), a widely validated tool for quantifying experiential dimensions from textual data by categorizing everyday language into contextually meaningful dimensions. This approach is particularly appropriate in cruise tourism, where visitors frequently document important aspects of their experiences of port visits, capturing affective and experiential responses that may not be adequately reflected in traditional survey-based methods. This research contributes to the tourism literature by reframing satisfaction in cruise port-of-call settings characterized by temporal constraints.

## **2. Literature Review**

### *2.1. Conceptualizing Satisfaction in Cruise Tourism*

Research on cruise tourism satisfaction has evolved from a predominantly ship-centric perspective to a more holistic understanding that incorporates both on-board and port-of-call experiences. Early studies conceptualized cruise satisfaction in terms of core service attributes, including accommodation quality, dining, entertainment, and service delivery (Jugović, 2020). These elements were viewed as primary determinants of passenger evaluation, reflecting a traditional service quality paradigm.

Subsequent research, particularly using large-scale online review data, has reinforced the importance of on-board experiences while also highlighting their variability across destinations. For instance, Li et al. (2017) demonstrate that entertainment, recreation, and crew service significantly influence satisfaction, whereas Bhaduria et al. (2014) show that attribute importance differs geographically, with Caribbean tourists prioritizing service and Mediterranean tourists emphasizing cabin quality. Beyond service delivery, cruise experiences have also been framed as co-created phenomena, where interactions among passengers, staff, and the physical environment jointly shape satisfaction (Radic, 2018). However, since cruise tourism is not confined to the vessel, but encompasses a sequence of experiences, this study recognizes cruise ports as independent experiential spaces that contribute significantly to overall satisfaction.

### *2.1. Cruise Port Experience Satisfaction*

The port-of-call experience is a key determinant of cruise satisfaction and re-cruise behavior. Cruise lines actively monitor passenger feedback on ports, with dissatisfaction at specific destinations influencing itinerary decisions (Baker, 2015). This highlights the strategic importance of port experiences within the broader cruise value chain.

At the destination level, several factors have been identified as influential. Chang et al. (2016) categorize port experiences into dimensions such as culture/exploration, convenience, and attractions, with cultural exploration often explaining a substantial portion of satisfaction. Similarly, Sorrentino et al. (2021) emphasize the role of on-shore services, including transportation, shopping, and safety, while Vaio et al. (2022) link environmental quality and sustainability to enhanced satisfaction and increased on-shore spending. Excursion characteristics, including the number of attractions visited and the mode of participation, further shape tourist evaluations (Nicolau et al., 2024).

While previous studies have identified several determinants of port-of-call satisfaction, they have primarily relied on predefined survey measures. This study addresses this gap by extracting factors directly from online cruise reviews to uncover the key drivers of passenger satisfaction from unsolicited recollections of visitor experiences.

## **3. Methodology**

### *3.1. Data Collection*

On July 5, 2023, a total of 8,845 user-generated reviews were collected from Google maps of random cruise ports across the Caribbean region. The ports were analyzed collectively since cruise tourism operates within a largely standardized system characterized by similar passenger processing procedures, transportation networks, shore excursion models, retail environments, and cruise line operating practices (Rodrigue & Notteboom, 2013). Cruise ports primarily function as passenger transfer facilities that facilitate movement between ships and shore-based activities (Pallis, 2015; Port of Miami, 2023). Consequently, despite differences in attractions and cultural offerings, visitors encounter broadly similar operational environments across destinations. Thus, this study aims to identify common experiential factors influencing visitor satisfaction across cruise port-of-call experiences.

The complete research methodology is depicted in Figure 1.

### *3.2. Analytical Approach to Text Quantification*

Consistent with established user-generated content (UGC) and big data research, the present study adopted an inductive analytical approach in which patterns were allowed to emerge from the data rather than being constrained by a priori hypotheses. Unlike traditional theory-testing studies, large-scale text analytics research often begins with the collection and analysis of naturally occurring consumer narratives, allowing salient themes and determinants of satisfaction to be identified before being interpreted through relevant theoretical perspectives (Xiang et al., 2015). This approach is particularly appropriate in online review research because consumers do not write reviews according to predefined theoretical constructs but

instead discuss the aspects of the experience they consider most meaningful. To systematically extract experiential variables from the textual data, the study employed the Linguistic Inquiry and Word Count (LIWC) tool. LIWC is a widely validated text analysis software that categorizes

words into contextually meaningful dimensions based on predefined dictionaries (Boyd et al., 2022).

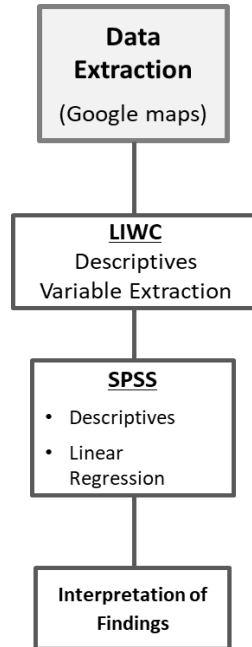


Figure 1. Research methodology.

### 3.3. Variable Operationalization

The study did not develop new dictionaries but instead employed previously validated linguistic dictionaries to ensure consistency and transparency in the quantification process. Satisfaction, the dependent variable, was operationalized using the dictionary developed by Burkhardt et al. (2021). However, all independent variables were extracted using the native LIWC dictionaries. The labels of the independent variables were refined to align with the research context following a thorough examination of the underlying dictionary terms (see Table 1). All variables were then quantified; the independent variables were grouped into four constructs: emotions, experiential content, engagement and environmental conditions.

Emotion was measured using positive emotion as the sole indicator. Experiential content was operationalized through leisure activity, social interaction, cultural content, and gastronomic experience, reflecting the range of activities and interactions encountered by cruisers. Engagement was represented by immersion and exploration, capturing the extent to which visitors were cognitively and behaviorally involved in the experience. Environmental conditions were measured through mobility, special layout, and visual appeal, reflecting how visitors articulated the physical setting and sensory characteristics of the environment.

### 3.4. Dictionary Terms

Table 2 presents the LIWC categories used in the analysis, their corresponding experiential dimensions, and representative dictionary terms. The selected categories were chosen based on their alignment with experiential domains frequently discussed in tourism and cruise port reviews. Rather than directly measuring complex tourism constructs in the same manner as multi-item survey scales, the LIWC categories serve as linguistic indicators of the extent to which visitors discussed particular aspects of their experiences within the reviews. For example, the Food category captures references to dining-related experiences through terms such as restaurant, lunch, dinner, and coffee, while the Culture category reflects engagement with heritage, traditions, local customs, and cultural attractions. Similarly, Motion and Space categories capture mobility and environmental characteristics associated with navigating the destination, whereas Attention and Curiosity reflect visitor engagement, awareness, and exploratory behavior. The use of these categories is consistent with LIWC's underlying premise that language provides insight into the experiential content of written communication (Boyd et al., 2022).

Notably, although LIWC was originally developed within psychological and linguistic research, its dictionaries are primarily composed of common everyday words used in natural communication rather than specialized psychological terminology. By examining aggregated linguistic patterns across thousands of reviews, the analysis identifies the

relative salience of experiential dimensions within cruiser reviews, providing a systematic and transparent approach to

understanding the factors associated with cruise port satisfaction.

**Table 1.** Operationalization of variables through text analysis

Construct Category	Dictionary*	Dimension / Theoretical Alignment	Source / Basis	Analytical Role
Dependent Variable	Behavioural Activation	Satisfaction	(Burkhardt et al., 2021)	Captures tourist contentment with the experience.
Emotion	Positive Emotion	Positive emotion	LIWC Native Dictionary (Boyd et al., 2022)	Reflects immediate affective responses that translate experiences into future-oriented behavior.
	Leisure	Leisure Activity		Captures enjoyment and hedonic engagement.
Experiential Content	Communion	Social interaction		Reflects interpersonal engagement and shared experiences.
	Culture	Cultural Content		Captures exposure to local culture and authenticity, contributing to perceived uniqueness and experiential depth
	Food	Gastronomic Experience		Represents consumption-based experiences that influence.
Engagement	Attention	Immersion		Reflects tourist focus and engagement in the experience
	Curiosity	Exploration		Represents intrinsic motivation and exploratory engagement, enhancing memorability.
Environmental Conditions	Motion	Mobility		Captures physical navigation and movement within the environment, influencing comfort.
	Space	Spatial Layout		Reflects environmental organization and physical structure.
	Visual	Visual Appeal		Captures aesthetic and sensory impressions, contributing to environmental attractiveness and initial perception

\* Indicates the original LIWC dictionary name.

### 3.5. Data Analysis

Following text quantification and variable extraction, the resulting LIWC scores were exported and analysed using SPSS Version 27. Descriptive statistics were first calculated to examine the characteristics of the review corpus and the distribution of the study variables. Subsequently, a linear regression analysis was employed to assess the influence of the variables on cruiser satisfaction. To assess model suitability, standard diagnostic statistics were examined. Multicollinearity was evaluated using tolerance and variance inflation factor (VIF) values, with all indicators falling within acceptable thresholds. This analytical procedure enabled the identification of the experiential dimen-

sions most strongly associated with satisfaction in cruise port environments.

## 4. Results

### 4.1. Corpus Descriptives

The descriptive statistics provide an overview of both the evaluative distribution and linguistic characteristics of the review corpus (see Table 3). Overall, the dataset reflects a strongly positive evaluation pattern combined with substantial variability in textual expression. The average star rating is high (M = 4.51, SD = 0.91), indicating that cruise port experiences are generally perceived favorably.

**Table 2.** LIWC categories and representative dictionary terms

Construct	LIWC Category	Example Representative Terms
Satisfaction	Behavioral Activation	active, engaged, motivated, energetic, interested
Positive Emotion	Positive Emotion	love, wonderful, beautiful, happy, amazing, enjoyable
Leisure Activity	Leisure	beach, fun, relax, entertainment, recreation, vacation
Social Interaction	Communion	together, friends, family, group, share, community
Cultural Content	Culture	museum, heritage, tradition, local, cultural, history
Gastronomic Experience	Food	restaurant, lunch, dinner, breakfast, coffee, eat, food
Immersion	Attention	notice, observe, focus, aware, attention, experience
Exploration	Curiosity	explore, discover, interested, curious, adventure, investigate
Mobility	Motion	walk, travel, move, drive, journey, transport, tour
Spatial Layout	Space	area, location, place, region, distance, surroundings, site
Visual Appeal	Visual	see, view, scenery, look, beautiful, colorful, landscape

This is further supported by the frequency distribution, where 70.4 percent of reviews are 5-star ratings, while only a small proportion fall within the lower end of the scale (1-star: 2.3 percent; 2-star: 2.8 percent). This skewed distribution suggests that the dataset is dominated by positive experiences.

In terms of textual characteristics, the word count shows considerable dispersion (M = 27.25, SD = 41.86), ranging from very brief comments to highly detailed narratives. This indicates heterogeneity in user engagement and expression, with some reviewers providing minimal feedback and others offering more elaborate descriptions of their experiences.

The linguistic indicators further reveal important patterns. The analytic score is relatively high (M = 66.17, SD = 33.72), suggesting that many reviews exhibit a structured and logical communication style. However, the large standard deviation indicates variability, reflecting a mix of analytical and narrative forms of expression. Similarly, clout (M = 47.61, SD = 36.22) demonstrates wide variation, indicating differences in confidence and authority in reviewer language.

The authentic score (M = 51.82, SD = 37.78) reflects moderate levels of personal and self-revealing expression, suggesting that reviews vary between personal storytelling and more detached descriptions. In contrast, the emotional tone is notably high (M = 87.91, SD = 24.66), indicating that the overall language used in the corpus is predominantly positive. This aligns with the rating distribution and reinforces the presence of positive affect within the dataset.

Measures of linguistic complexity indicate relatively simple sentence structures, with words per sentence averaging 10.31 (SD = 10.33), although variability suggests the presence of both concise and more elaborate writing styles. The proportion of big words (M = 25.63, SD = 21.58) indicates moderate lexical sophistication, reflecting a mix of simple and more advanced vocabulary across reviews.

Finally, the dictionary coverage is relatively high (M = 77.69, SD = 20.53), suggesting that a substantial portion of the text is captured within LIWC categories. This supports the reliability of the linguistic analysis and indicates that the dataset is well-suited for dictionary-based quantitative text analysis.

**Table 3.** Corpus descriptives

	Min.	Max.	Mean	SD		
Star Rating	1	5	4.51	0.91		
Word Count	0	795	27.25	41.86		
Analytic	1	99	66.17	33.72		
Clout	1	99	47.61	36.22		
Authentic	1	99	51.82	37.78		
Overall Tone	1	99	87.91	24.66		
Words per sentence	1	176	10.31	10.33		
Big Words	0	100	25.63	21.58		
Dictionary Coverage	0	100	77.69	20.53		
Total Word Count	241,040					
	Star Rating					
	1	2	3	4	5	Total
Frequency	200	244	651	1514	6236	8845
Percentage (%)	2.3	2.8	7.4	17.1	70.4	100

#### 4.2. Linear Regression

The results of the multiple regression analysis indicate that the proposed model provides strong explanatory power in predicting cruise port satisfaction (see Table 4). The model explains 63.0% of the variance in satisfaction ( $R^2 = 0.630$ ; Adjusted  $R^2 = 0.630$ ), and the overall model is statistically significant ( $F = 1505.531, p < .001$ ). These findings suggest that the selected affective and experiential variables collectively capture a substantial proportion of the factors influencing tourist satisfaction in cruise port environments. Examination of collinearity statistics indicates no issues of multicollinearity, as all tolerance values are within acceptable ranges and variance inflation factors (VIF) remain low.

Among the predictors, positive emotion was the most influential factor, exhibiting a strong and statistically significant positive effect on satisfaction ( $\beta = 0.778, t = 117.148, p < .001$ ). This indicates that positive emotions play a dominant role in shaping cruise port satisfaction. Leisure activity also demonstrated a positive and significant relationship with satisfaction ( $\beta = 0.047, t = 6.751, p < .001$ ), suggesting that engagement in enjoyable and recreational activities contributes to more favorable evaluations. Similarly, exploration also showed a significant positive effect ( $\beta = 0.016, t = 2.504, p < .05$ ), indicating that elements related to novelty or engagement with new experiences have an influence on cruise port satisfaction.

In contrast, several variables exhibited significant inverse relationships with satisfaction. Culture was negatively associated with satisfaction ( $\beta = -0.047, t = -6.884, p < .001$ ), indicating that culturally expressive elements present on the port can attenuate satisfaction. Gastronomy also shows a negative effect ( $\beta = -0.019, t = -2.938, p < .01$ ), suggesting that food-related experiences are also associated with reduced satisfaction. In addition, mobility demonstrates an inverse significant effect ( $\beta = -0.019, t = -2.857, p < .01$ ), indicating that elements such as finding the way around the port on foot (navigation) or transportation, are linked to lower satisfaction.

Several variables do not exhibit statistically significant effects. Social interaction ( $\beta = -0.012, t = -1.803, p > .05$ ), immersion ( $\beta = 0.003, t = 0.388, n.s.$ ), spatial layout ( $\beta = 0.011, t = 1.541, n.s.$ ), and visual appeal ( $\beta = -0.006, t = 0.91, n.s.$ ) are not significant predictors within the model. Overall, the findings indicate that while positive emotions, leisure activity and exploration contribute positively to satisfaction, other factors are either negatively associated or do not play a significant role in shaping tourist evaluations in cruise port contexts.

**Table 4.** Multiple regression results predicting cruise port satisfaction

Variables	B	Std. Error	Beta	t	Tolerance	VIF
(Constant)	1.309	0.162	-	8.055***	-	-
Pos. Emotion	0.754	0.006	0.778	117.148***	0.948	1.054
Leisure Activity	0.081	0.012	0.047	6.751***	0.878	1.139
Social Interaction	-0.101	0.056	-0.012	-1.803	0.994	1.006
Culture	-0.184	0.027	-0.047	-6.884***	0.91	1.099
Gastronomy	-0.086	0.029	-0.019	-2.938**	0.983	1.017
Immersion	0.014	0.037	0.003	0.388	0.956	1.046
Exploration	0.133	0.053	0.016	2.504*	0.982	1.018
Mobility	-0.059	0.021	-0.019	-2.857**	0.935	1.07
Spatial Layout	0.014	0.009	0.011	1.541	0.884	1.131
Visual Appeal	-0.033	0.036	-0.006	-0.91	0.965	1.036

\* Model summary:  $R = 0.794; R^2 = 0.630; Adjusted R^2 = 0.630; F = 1505.531***$ ; Dependent variable: Satisfaction. B = unstandardized coefficient; Beta = standardized coefficient. Significance levels: \*\*\*  $p < .001$ ; \*\*  $p < .01$ ; \*  $p < .05$ .

### 5. Discussion

For The findings of this study provide important insights into how satisfaction is formed within cruise port environments, demonstrating that satisfaction is selective rather than additive and is strongly driven by affective responses while being constrained by certain experiential elements. The model explains a substantial proportion of variance in satisfaction ( $R^2 = 0.630$ ), indicating that the included variables capture key determinants of cruise port evaluations.

Consistent with prior research, positive emotion emerges as the dominant predictor of satisfaction ( $\beta = 0.778, p < .001$ ), reinforcing its role in tourism evaluation processes. This finding aligns with studies highlighting that emotional responses are critical in shaping tourist satisfaction and overall experience evaluations (Hosany et al., 2021; Kim & Fesenmaier, 2015; Li, G. et al., 2024). In the context of cruise ports, which function as brief and transitory spaces, satisfaction is less the result of extended cognitive evaluation and more a product of immediate emotional responses. When the experience is pleasant, smooth, and free from sources of irritation or discomfort, visitors are more likely to form favorable overall evaluations. This pattern reflects

the affective primacy of short-duration encounters, where tourists rely on how they feel in the moment rather than on detailed assessments of service attributes. Positive emotions such as enjoyment, ease, and relaxation signal that the environment is functioning effectively, thereby translating directly into satisfaction. In this sense, the absence of friction combined with the presence of pleasant affect creates a seamless experience, allowing tourists to exit the port with a positive overall impression despite the limited duration of the visit.

Leisure activity shows a significant positive effect ( $\beta = 0.047, p < .001$ ) because it captures low-effort, enjoyment-oriented engagement, which is especially suited to the temporal constraints of cruise visits. Passengers often prefer activities such as relaxing on beaches, casual shopping, or light entertainment within or near the port, as these require minimal planning and deliver instant gratification. In a setting where time is scarce and schedules are often predetermined, such effortless experiences reduce cognitive load and allow tourists to quickly transition into a positive emotional state, thereby enhancing satisfaction. This supports prior findings that hedonic and recreational activities are

central to tourist experiences (Filep et al., 2024; Park & Ahn, 2022; Su et al., 2020).

Exploration, although significant ( $\beta = 0.016, p < .05$ ), has a weaker effect because it involves greater effort, uncertainty, and time investment. While some level of novelty and discovery is desirable, extensive exploration may be constrained by concerns such as time limits, transportation logistics, or the risk of missing cruise ship departure schedules. As a result, tourists may engage in exploration selectively, balancing curiosity with practicality. This explains why exploration contributes positively to satisfaction but to a lesser extent than leisure, as it requires more active decision-making and may introduce friction into an otherwise seamless experience. This may be especially true for passengers without prebooked excursions.

In contrast, several experiential dimensions exhibit inverse effects, offering important theoretical insights into the nature of cruise port experiences. Notably, cultural content inversely influences satisfaction, challenging the common assumption that cultural exposure universally enhances tourist outcomes (Zhu et al., 2025). While the present study does not directly measure the underlying mechanisms responsible for this relationship, several plausible interpretations may be considered. One possible explanation is that cruise passengers, who often visit multiple destinations within a single itinerary, experience repeated exposure to cultural attractions, performances, markets, and heritage sites. Under such conditions, the novelty associated with additional cultural encounters may diminish over time. Alternatively, cultural experiences may require greater attention, interpretation, and engagement than passengers are willing or able to invest during short port visits. Consequently, cultural content may not contribute to satisfaction in the same manner observed in stop-over destination contexts where guests may be exposed to a single culture during the duration of the vacation. Future research is needed to directly examine the processes underlying this relationship.

A similar pattern is observed for gastronomy. Although food experiences are frequently associated with tourist satisfaction, the negative relationship observed in this study suggests that their role may differ in cruise port environments. Cruise ships already provide abundant, high-quality, and diverse food options, often included in the travel package. As a result, passengers may not feel a strong need to seek out additional dining experiences onshore. The transition from an all-inclusive onboard environment to port-based dining, which may involve extra cost, time constraints, or uncertainty in quality, can reduce the attractiveness of gastronomic engagement. Furthermore, similar to cultural experiences, food-related activities onshore may require additional decision-making and effort, which contrasts with the ease and convenience of onboard consumption. After repeated exposure to diverse cuisines on the ship,

tourists may also experience a form of sensory saturation, making additional food experiences less appealing. While these interpretations are consistent with the observed findings, the present study does not directly assess tourists' motivations or decision processes. Accordingly, these explanations should be viewed as tentative and warrant further investigation.

Mobility also inversely affects satisfaction highlighting the role of movement-related friction, such as navigation difficulty, crowding, and onshore transportation inefficiencies. This is particularly salient in cruise port contexts, where some passengers do not pre-book shore excursions and must independently organize their activities upon arrival. In such situations, visitors are required to locate transportation, identify tour desks, and navigate unfamiliar environments within a limited timeframe. This process can become cognitively demanding, as tourists are often time-constrained and must make quick decisions while managing uncertainty. The lack of clear guidance or structured coordination may lead to confusion, delays, and inefficiencies, especially in high-density port environments where crowds and spatial complexity further complicate movement resulting in stress and frustration.

Consistent with prior research emphasizing the importance of convenience and accessibility in shaping destination satisfaction (Sorrentino et al., 2021) these findings suggest that even minor disruptions in mobility can disproportionately attenuate satisfaction in cruise ports. In short-duration visits, where time is both limited and highly valued, ease of movement is not merely a functional attribute but a critical determinant of the overall experience. However, because specific mobility-related frustrations were not directly measured, this interpretation remains inferential. Future studies could examine the precise aspects of mobility that most strongly influence satisfaction in cruise port settings.

Interestingly, several variables are not significant, including social interaction, immersion, spatial layout, and visual appeal. These findings stand in contrast to a substantial body of tourism literature that positions these dimensions as central drivers of tourist satisfaction. For instance, prior studies consistently emphasize the importance of aesthetic appeal in shaping destination evaluations and emotional responses (Kirillova et al., 2014; Lin, 2022). However, the non-significance of visual appeal in this study suggests that aesthetic qualities alone are insufficient to drive satisfaction in cruise port contexts, where time constraints limit deeper appreciation and reduce the evaluative weight of scenery. Similarly, immersion, often regarded as a key component of memorable and transformative tourism experiences (Hansen & Mossberg, 2013; Waysdorf & Reijnders, 2018) does not significantly influence satisfaction. This finding challenges the assumption that deeper experiential engagement is universally beneficial. In short-duration

cruise settings, tourists may prioritize efficiency and immediate enjoyment over sustained involvement, limiting the role of immersive experiences.

The lack of significance for social interaction also contrasts with prior research highlighting its importance in co-creating value and enhancing tourist experiences (Buhalis et al., 2019). One plausible explanation in this context is the presence of crowding, which may diminish the quality of social interactions and shift them from positive engagement to potential sources of stress or discomfort. In high-density cruise port environments, interactions may be brief, superficial, or even avoided, reducing their contribution to satisfaction.

Finally, the non-significance of spatial layout further challenges existing assumptions that well-designed physical environments enhance visitor experiences (Lukas, 2012). In cruise ports, however, spatial considerations may become secondary unless they directly facilitate efficient movement. This suggests that functional ease rather than design quality is more critical in shaping satisfaction under time-constrained conditions.

Collectively, these findings suggest that visitor satisfaction in cruise port of calls is influenced not only by the presence of experiential elements but also by how well those elements align with the temporal and operational characteristics of cruise travel. Given the inductive nature of the study, the explanations proposed for the observed relationships should be viewed as plausible interpretations rather than definitive causal mechanisms. Nevertheless, the findings provide valuable insights by identifying patterns that emerge from naturally occurring visitor narratives and highlighting factors that may shape satisfaction in port-of-call settings. In doing so, the study opens the door for future research to examine the underlying mechanisms responsible for these relationships while also providing an initial evidence base to inform cruise destination management strategies aimed at designing experiences that better reflect the realities and constraints of cruise passenger behavior.

### *5.1. Practical Implications*

The findings offer several important implications for cruise port managers, destination planners, and service providers, particularly in recognizing that cruise ports function as time-constrained, high-pressure environments where efficiency, ease, and immediate enjoyment outweigh experiential offerings.

First, the strong influence of positive emotion and leisure activity suggests that port authorities should prioritize low-effort, high-reward experiences. This includes providing easily accessible beaches, simple recreational options, shaded relaxation areas, and clearly visible attractions within close proximity to the port.

Second, the inverse effects of cultural content and gastronomy indicate that traditional strategies emphasizing

cultural immersion and local food experiences may need to be reconsidered in cruise contexts. Destinations should design light-touch cultural encounters that are easy to consume, visually engaging, and require minimal cognitive effort. Similarly, food offerings should emphasize convenience, speed, and familiarity, recognizing that passengers already have access to abundant and diverse cuisine onboard.

Third, the inverse impact of mobility highlights the critical importance of seamless navigation and transportation systems. Ports should invest in clear signage, intuitive spatial layouts, multilingual information points, and well-organized transportation hubs. For passengers who do not pre-book excursions, it is essential to provide highly visible, easy-to-access service desks and transport options immediately upon arrival. Reducing uncertainty and decision-making burden can significantly enhance satisfaction in these time-sensitive environments.

Fourth, the non-significance of variables such as immersion, social interaction, and visual appeal suggests that investments in aesthetic enhancements or complex experiential design may yield limited returns unless they directly support ease and efficiency. Instead, resources should be allocated toward functional improvements, such as reducing congestion, improving flow, and ensuring quick access to key attractions.

Finally, cruise operators and destination managers should recognize the effects of experiential fatigue and cumulative exposure, particularly across multiple ports. Rather than offering repetitive cultural or activity-based experiences at each stop, there is value in creating differentiated, simple, and restorative environments that allow passengers to relax and recharge.

Overall, the findings suggest a shift from designing ports as miniature destinations to managing them as efficient, enjoyable gateways, where minimizing friction and maximizing immediate positive affect are the primary drivers of satisfaction.

### *5.2. Limitations and Future Studies*

This study has several limitations that should be acknowledged. First, the study examines satisfaction across multiple Caribbean cruise port-of-call settings and therefore emphasizes general patterns rather than destination-specific relationships. Future research may extend these findings by examining whether the relative importance of specific experiential dimensions varies across different destination types or cruise itineraries.

Additionally, the study relied on a single corpus of user-generated reviews to derive both experiential indicators and satisfaction measures. Nevertheless, the theoretically differentiated nature of the linguistic constructs and the presence of heterogeneous relationships across predictors provide evidence that the findings capture distinct experiential di-

mensions rather than a generalized sentiment effect. Future research could build upon these findings by triangulating results across multiple data sources and analytical approaches.

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**Institutional Review Board Statement:** Ethical review and approval were waived for this study due to the use of publicly available, anonymized online data.

**Data Availability Statement:** The data used in this study are publicly available from online platforms. Processed data supporting the findings of this study are available from the corresponding author upon reasonable request.

**Conflicts of Interest:** The author declares no conflict of interest.

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