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Xing (Nova) Yao
Indiana University - Bloomington

Evan J. Jordan
Indiana University - Bloomington

Daniel M. Spencer
University of Hawaii, Manoa

Laura Lesar
Flinders University

José Cabral Vieira
University of the Azores

See next page for additional authors

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Author Information

Xing (Nova) Yao, Evan J. Jordan, Daniel M. Spencer, Laura Lesar, José Cabral Vieira, Christine A. Vogt, Carlos M. Santos, and Casey Moran

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Introduction

As island tourist destinations grow in visitation, a variety of unique issues arise that other destinations may not experience, including increases in the negative impacts of tourism on host community residents' quality of life (Lim & Cooper, 2009). Stress theory has emerged as a valuable framework with which to examine such impacts (Jordan et al., 2015). Stress can lead to various negative cognitive and health outcomes, from difficulty sleeping to reduced immune system function (Hanson & Chen, 2010; Segerstrom & Miller, 2004). Research has shown that stressors experienced by residents of destinations range from the anticipation of tourism development, to unfulfilled expectations for tourism development, to more traditional negative impacts like traffic and crowding (Jordan, 2015; Jordan & Vogt, 2017).

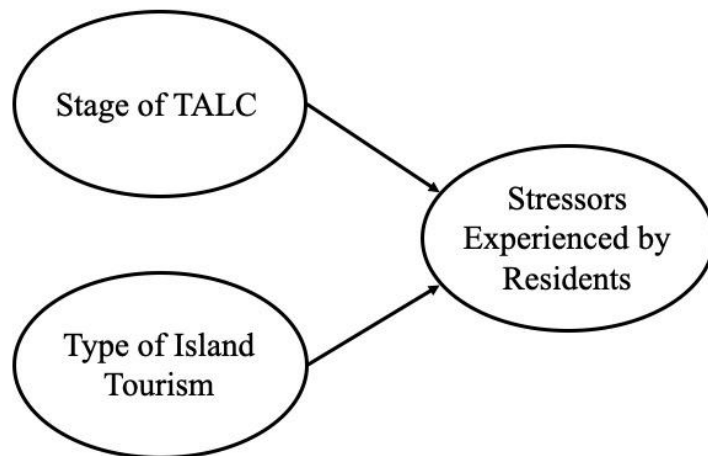
Previous studies examining stress in the tourism context have not explored how or why tourism-related stress in one community differs from tourism-related stress in another. We aim to help fill this gap in the literature and posit that stress varies in tourism communities by the stage of development in Butler's (1980) Tourism Area Life Cycle (TALC) model and the type of tourism in the destination (Figure 1). The TALC has long been utilized to explain how destinations develop over time. It posits that destinations tend to experience distinct stages of evolution as they become integrated with the global tourism industry: exploration, involvement, development, consolidation, stagnation, and then continued stagnation, rejuvenation, or decline. At these various stages, destinations have different internal characteristics and experience different external impacts from tourism. Furthermore, recent research has shown that the types of tourism present in tourism destinations elicit perceptions of distinctly different types of impacts (Jordan et al., 2020). Based on Jordan et al.'s (2020) findings, we focus on the differentiation between cruise tourism and other forms of tourism in residents' perceptions of tourism-related stress.

In this paper, we present findings from island destinations in three different stages of the TALC. First, the island community of Falmouth, Jamaica, a destination that saw little tourism until the development of a new cruise port designed to service the largest cruise ships in the world. This destination catapulted from the exploration stage, characterized by low visitor numbers and nonexistent tourist facilities, to the development stage, characterized by rapid tourism growth and dramatic changes in all aspects of the tourism industry, almost overnight. Second, the island of Sao Miguel in the Azores archipelago of Portugal. Sao Miguel has been steadily growing as a destination and has a mix of cruise tourism and outdoor tourism. It is at the cusp of becoming a popular destination and is likely reaching the consolidation stage of the TALC, characterized by declining growth in tourist arrivals. Third, the island of O'ahu, Hawai'i, a mature destination constantly grappling with stagnation as its carrying capacity is continually pushed to its limits. Over the last six years, resident surveys with open-ended questions about stress were conducted in each of these destinations to produce the insights reported below.

Understanding the differences in stressors experienced by residents of island destinations across TALC stages expands theoretical understanding of tourism-related stress and provides

practical knowledge about these and similar destinations worldwide. Theoretically, the findings presented below expand our understanding of tourism-related stressors to include their relationship with unique characteristics of island destinations and the TALC. Practically, exploring similarities and differences across these island destinations can inform destination managers of the potential issues that may arise if they choose to pursue accelerated tourism development or continue to progress along the TALC as their destinations evolve.

Figure 1 – Conceptual Model of Destination Characteristics and Stressors



Methods

Surveying occurred across different areas of the islands of O‘ahu and Sao Miguel, but was limited to a single community in Falmouth, Jamaica. In Falmouth, data were collected in a cross-sectional study of residents from February to March 2013. An 11-page, 138-question printed survey was administered face-to-face to a systematic sample of 699 residents. A total of 362 surveys were completed, for a response rate of 51.2%.

On O‘ahu, data were collected in a cross-sectional survey of residents conducted from July 2015 to April 2016. A nine-page printed questionnaire comprised of approximately 150 questions was distributed to a systematic random sample of 1,205 residents. Questionnaires were distributed with a self-addressed, stamped envelope so respondents could complete the survey at their leisure and then return it by mail. A total of 300 surveys were returned, for a response rate of 24.8%.

On São Miguel, data were collected in a cross-sectional study of residents from July to September 2019. A 13-page questionnaire comprised of 150 questions about stress, tourism impacts, and other tourism-related variables was administered face-to-face to a systematic random sample of 1,875 residents. The questionnaire was originally written in English and translated into Portuguese by a bilingual native Azorean resident with tourism subject knowledge. The instrument was pilot tested on a small sample of Azorean residents to ensure understanding of the translated questions, and minor changes were made based on the feedback. A total of 995 individuals completed the survey fully, yielding an overall response rate of 53.1%.

Thematic analysis was conducted to allow themes to emerge from open ended data (Lincoln & Guba, 1985; Patton, 2002). Initially, a single researcher thematically coded responses to open-ended questions. Coding was then conducted independently by a second researcher to ensure accuracy and consistency. Disagreements in the thematic coding between researchers were re-coded through an iterative process developed by Hruschka et al. (2004) until agreement was reached. All stressors were first open coded. Then, stressor categories were matched to a well-known set of tourism and quality of life impacts categories in a process identical to that of previous research (Jordan et al., 2019). New stressor categories were established for those that did not fit established tourism impact categories.

Results

Samples from all three destinations generally reflected the destinations' demographics. In total 17% of São Miguel respondents, 42% of O'ahu respondents, and 78% of Falmouth respondents indicated that they had experienced stress from tourism in their community. The frequency of stressors mentioned by residents of each destination is shown in Table 1. O'ahu respondents mentioned 28 stressor themes, the six most mentioned of which were traffic, crowding and congestion, pollution, my personal life quality, respect for my way of life, and vacation rentals. São Miguel respondents mentioned 16 stressor themes, the six most mentioned of which were traffic, crowding and congestion, respect my way of life, increase in cost of living, my personal life quality, and pollution. Falmouth respondents mentioned 11 stressor themes, the six most mentioned of which were unmet expectations, traffic, increase in cost of living, pollution, displacement, and crowding and congestion.

Differences across destinations

Two main differences in the perceived stress of residents across the three destinations emerged. First, the breadth of stressors was different. O'ahu residents perceived the greatest breadth of stressors (28 in total). This shows that O'ahu residents felt stress in all aspects, from daily life and economy to cultures and dignity. Sao Miguel residents perceived the second most (16 in total). Although the number is less than that for O'ahu, it still spans several areas of life. Falmouth residents perceived the fewest number of stressors (11 in total). Stressors experienced Falmouth residents were relatively concentrated, as there were only two stressors (unmet expectations and traffic) experienced by more than 10% of respondents.

The second difference is the causes of stress. O'ahu and São Miguel respondents frequently mentioned similar stressors, mainly derived from their highly developed tourism industries. The main stressor mentioned by Falmouth residents was that tourism development failed to meet expectations, reflecting the recent large-scale development.

We propose two explanations for the significant differences in perceptions of tourism-related stress among the residents of the three study areas: (1) the three places are in different stages of tourism development, and (2) the types of tourism present in the destinations.

Table 1. Comparison of the frequency of stressors in three destinations

Stressor Theme	Percentage (Rank)		
	O'ahu, Hawai'i	Sao Miguel, Azores	Falmouth, Jamaica
Traffic (Vehicles)	76% (1)	74% (1)	19% (2)
Crowding and congestion (People)	39% (2)	42% (2)	4% (6)
Pollution (e.g., noise, litter, air, water)	29% (3)	14% (6)	6% (4)
My personal life quality	27% (4)	16% (5)	3% (8)
[Having tourists who] respect my way of life	22% (5)	20% (3)	1% (5)
Vacation rentals (e.g. Airbnb)	9% (6)	3% (9)	
Environmental pressure	9% (7)	5% (8)	
Quality recreation opportunities	9% (7)	2% (11)	
The preservation of my way of life	7% (8)	5% (7)	
The prevention of crime and vandalism	6% (9)		
Feeling safe	6% (9)	1% (13)	
Diffusion of visitor flows	5% (10)		
Increase in cost of living	3% (11)	19% (4)	6% (3)
A feeling of belonging in my community	2% (12)		
Quality of roads, bridges, and utility services	2% (12)		
Stores and restaurants owned by local residents	2% (12)		
Zoning/land use violations	2% (13)		
Preservation of cultural/historical sites	2% (13)	1% (12)	
An understanding of different cultures	2% (13)		
Strong and diverse economy	2% (13)	1% (13)	
Governance	2% (13)	3% (9)	2% (8)
General economic impacts	2% (13)		
The image of my community to others	1% (14)	1% (13)	
The beauty of my community	1% (14)		
Community pride	1% (14)		
City services like police and fire protection	1% (14)		
Enough good jobs for residents	1% (14)		
Good public transportation	1% (14)		
Professional stress		2% (10)	
Unmet expectations			55% (1)
Displacement			5% (5)
Police harassment			3% (6)
Overused utilities			2% (7)

Differences by Stage of Destination Development

Previous research has used the TALC to identify the stage of development of destinations (Lagiewski, 2019). By comparing the development status of the three study areas, we can draw conclusions about how stress varies by stage of development in the TALC (Figure 2).

Figure 2 – Destination Stages of Development

Stage	Characteristics (Butler, 1980)
Exploration	Small numbers of tourists.
Involvement	Numbers of visitors increase and assume some regularity.
Development	The number of tourists at peak periods will probably equal or exceed the permanent local population.
Consolidation	Total visitor numbers will still increase and exceed the number of permanent residents.
Stagnation	The peak numbers of visitors will have been reached.
Declination	Less attractive to tourists.
Rejuvenation	Success attracts tourists again.

Falmouth 2018	9,000 residents 744,671 tourists
Sao Miguel 2018	140,000 residents 640,072 tourists
O‘ahu 2018	950,000 residents 5,935,007 tourists

Falmouth has a population of almost 9,000 people, but received 744,671 cruise tourists in 2018, increasing from only a handful of tourists visiting before construction of a cruise port in 2012. Little other formal tourism development has occurred in the town. The nascent character of, and rapid growth in, tourism in Falmouth suggests that it is in the development stage of the TALC.

São Miguel is a small but quickly growing destination. In 2018, it had more than 640,000 visitors compared to a population of 140,000. Since total visitor numbers exceed the number of permanent residents, it is likely in the consolidation stage of the TALC. The large numbers of visitors and the facilities provided for them can be expected to arouse some opposition and discontent among permanent residents (Butler, 1980).

O‘ahu is a mature destination with a long history of tourism development. In 2018, more than 5.9 million tourists visited the island (Hawai‘i Tourism Authority, 2019), almost six times the number of residents. The tourism product on O‘ahu has remained largely unchanged for many years, and the number of visitors continues to creep higher at relatively slow pace. Comprehensively, this suggests O‘ahu has reached the stagnation stage of the TALC.

These differences appear to have affected the way stressors were described by residents in each destination. Falmouth residents wanted more interaction with tourists (unmet expectations),

whereas Sao Miguel and O‘ahu residents felt there were too many tourists present already. For example, Falmouth residents said:

We need more infrastructure, development, craft market, plaza, etc. so the guests will have more places to stop and spend their money (Unmet expectations stressor theme).

The town needs more attractions to get tourists to come here (Unmet expectations stressor theme).

But São Miguel residents said:

Many tourists in tourist places and even in residential areas (Crowding/congestion stressor theme).

And O‘ahu residents said:

We now avoid some local destinations (restaurants, beaches, hikes) that were becoming too popular with tourists. Examples, Kailua Beach, breakfast places, Hanauma Bay, Diamond Head hike, KCC [Kapiolani Community College] farmers market (Crowding/congestion stressor theme).

In sum, stress varies in tourism communities by the stage of development in the TALC model. Falmouth tourism development was rapid and concentrated on a single cruise port, and residents were looking forward to more interaction with tourists and greater economic benefits from tourism. Correspondingly, residents’ stress concentrated in the “unmet expectations” and traffic problem brought by new tourism-related construction. Sao Miguel residents, in the consolidation stage, felt the stress mainly brought by tourists beginning to intrude on their daily lives. O‘ahu residents, in the mature stage, mentioned more types of stress and showed that the highly developed tourism industry on their island had brought a great breadth and depth of stressors.

Differences by Tourism Type

Island tourism destinations encourage a variety of forms of tourism. While O‘ahu, São Miguel, and Falmouth are all island destinations, they differ greatly in the proportion of cruise tourism in their product mix. The percentage of cruise passengers to total passengers in each destination in 2018 is shown in Table 2. Jamaica had more than 4 million tourists, consisting of 1.8 million (42.7%) cruise passengers and 2.5 million (57.3%) of stopover arrivals. The port of Falmouth is the busiest cruise port by volume in Jamaica, contributing 40.3% of total passengers (Jamaica Tourist Board, Annual Travel Statistics 2018). Sao Miguel has 123,000 cruise passengers and 517,721 arrivals by air. O‘ahu receives only approximately 1.2% of its tourist arrivals via cruise ship. These differences in the type of tourism present in the community may be one reason perceived stressors differ across destinations. Three main reasons for these differences in tourism arrivals might play a role in these perceptions: the length of stay of

tourists, whether tourists are organized and managed, and the density and scale of tourists when they arrive. Each will be discussed in turn below.

Table 2. Percentage of cruise passengers in the three study areas, 2018.

	Total passenger arrivals	Passenger arrivals by cruise ships	Percentage of cruise passengers
O‘ahu	5,935,007	72,694	1.2%
Sao Miguel	640,721	123,000	19.2%
Falmouth*	N/A	744,000	Nearly 100%

*Total tourist arrivals in Falmouth, Jamaica are not formally published, it receives approximately 744,000 cruise passengers per year, accounting for nearly all tourism arrivals in the community

First, the length of stay of tourists. Cruise passengers are generally in port for short periods of time, and often a large portion of their time is spent on the cruise ship, in port, or on excursions, rather than in the destination itself. It is difficult for residents to earn money from tourists when they are not physically present in the community. Second, the unified management of cruise ships and ports means that tourists are often whisked away from port communities before they have a chance to enter them in the first place. Falmouth respondents stated that:

Most tourists get booked [on excursions] before leaving the port and provide nothing for the people of Falmouth (Unmet expectations stressor theme).

Third, cruise ships deliver a large number of passengers all at once, rather than evenly distributed like air travel. The words “ship day” or “cruise days” often appeared in the stressors discussed by Falmouth respondents. For example:

The town is congested and overcrowded on cruise days (Crowding/congestion stressor theme).

We can smell the sewage from the ships every time they come in (Pollution stressor theme).

Falmouth respondents clearly felt the stress brought about by the rapid increase in tourists. Unlike Falmouth, tourists visiting O‘ahu and Sao Miguel mainly arrive by air. Air passengers generally stay in the destination longer than cruise passengers and are likely to stay in formal or informal accommodations, go sightseeing, and spend their time and money in the local community.

In contrast to the Falmouth respondents who frequently mentioned the “cruise day,” O‘ahu and Sao Miguel respondents mentioned the word “daily” more, indicating stressors are more spread throughout their daily lives. One O‘ahu resident said:

Congestion and traffic on a daily basis make it hard to utilize shops and grocery stores (Traffic stressor theme).

A Sao Miguel respondent said:

I deal with tourists daily (Crowding/congestion stressor theme).

This is because most tourists arrive on flights carrying a relatively small number of passengers on a given plane but a steady stream continuously. Tourists “enter” the daily lives of locals rather than concentrating in the port and on ships on specific days. After long experience coexisting with tourists, O‘ahu residents may have begun to ponder whether tourists have assumed any of the daily obligations to local society that they have, such as paying taxes, keeping the community safe, and practicing self-discipline. If the answer is no, residents might feel stress. As one O‘ahu resident remarked:

Our next-door neighbor has new tourists... It is illegal and the neighbors are not paying taxes, they ask for cash so it's not benefiting our community except for the money the tourists spend in town (Vacation rentals stressor theme).

Conclusions

Based on the above quotes and other evidence, the differences in stressors experienced by these three island destinations appear to be intimately linked with their level of development and the type of tourism they receive. Theoretically, this study advances the understanding of the nuanced psychological impacts residents of island tourism communities deal with on a daily basis. Practically, this study helps identify stressors that most need to be addressed across communities with different levels of development and tourism visitation. While space in this short abstract is limited, in our presentation and full paper we will discuss these implications to a greater extent.

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