

RESIDENTS' PERCEPTION OF THEIR QUALITY OF
LIFE AND TOLERANCE OF TOURISM AS A
DIAGNOSTIC MODEL FOR ASSESSING THE SOCIAL
CARRYING CAPACITY IN SMALL ISLAND
DEVELOPING STATES: THE CASE OF OCHO RIOS,
JAMAICA

By

NORENE BROWN-ROOMES

Bachelor of Science in Hotel Management
University of the West Indies, Mona
Kingston, Jamaica
1992

Master of Science in Tourism and Hospitality Management
University of the West Indies, Mona
Kingston, Jamaica
2000

Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfilment of
the requirements for
the Degree of
DOCTOR OF PHILOSOPHY
December, 2018

RESIDENTS' PERCEPTION OF THEIR QUALITY OF LIFE AND TOLERANCE OF
TOURISM AS A DIAGNOSTIC MODEL FOR ASSESSING THE SOCIAL
CARRYING CAPACITY IN SMALL ISLAND DEVELOPING STATES: THE CASE
OF OCHO RIOS, JAMAICA

Dissertation Approved:

Dr. Catherine Curtis

Dissertation Adviser

Dr. Hailin Qu

Dr. Jerrold Leong

Dr. Rebecca Sheehan

ACKNOWLEDGEMENTS

I would first like to say thank you to Almighty God who is faithful! The Lord sustained me through this turbulent journey to success. I need to thank my family – to my husband, Stephen and my daughter, Justene for their encouragement, patience and love through the years. I also thank my adviser Dr. Catherine Curtis for pushing and pulling me to accomplish this major academic achievement. Dr. Curtis was truly the wind beneath my wings. I would also like to acknowledge Dr. Hailin Qu who has encouraged me from the beginning to the end of this journey. To Dr. Jerrold Leong who offered critical advice and Dr. Rebecca Sheehan that consented to fill the gap at very short notice. I am grateful to Dr. Lisa Slevetch for starting me out on this academic pursuit by asking the question, “So what?”.

To my many church and work family members and friends who prayed for me or said a kind word at the right time, Thank you. Finally, I dedicate this dissertation to my parents Kenneth and Lillian Brown who have inspired me through their words and life. Though they are no longer physically with me I feel them in my spirit cheering me on. Thank you I love you and miss you both.

Name: NORENE BROWN-ROOMES

Date of Degree: DECEMBER, 2018

Title of Study: RESIDENTS' PERCEPTION OF THEIR QUALITY OF LIFE AND TOLERANCE OF TOURISM AS A DIAGNOSTIC MODEL FOR ASSESSING THE SOCIAL CARRYING CAPACITY OF SMALL ISLAND DEVELOPING STATES: THE CASE OF OCHO RIOS, JAMAICA.

Major Field: HUMAN SCIENCES

Abstract: The purpose of the study was to test the residents' perception of their quality of life and tolerance of tourism as reliable predictors of the social carrying capacity (SCC) in small island developing states. SCC is traditionally measured by the number of tourists in a destination that causes residents and tourists to display a negative attitude towards the tourism. At this point the tourists no longer are attracted to the destination and residents are not welcoming of the guests. Hence, the tourism industry is no longer sustainable. The need to study the SCC in SIDS is especially critical as the small size of their land mass intimates their capacity is limited. It is worth noting for many SIDS tourism is their main export industry. As a result, there is the tendency for SIDS to practice mass tourism in an effort to maximize their export earnings, which means at times the visitors outnumber the residents.

Several researchers have used the number of tourists to measure the SCC but have themselves questioned its validity. It is suggested by other researchers to use indicators that give early warning signs of possible threats to the breach of SCC threshold. Selected socio-demographic variables were tested as moderator variables and the dependency on tourism as a mediator variable. Exploratory Factor Analysis (EFA) was used to group the variables that were highly correlated into scales. A number of statistical methods including regression analysis was employed to test the hypotheses.

A number of the findings were generalizable beyond the sample and revealed quality of life as a reliable predictor of the SCC in Ocho Rios, Jamaica. However, tolerance of tourism was not. Other findings showed residents fully dependent on tourism for their livelihood were satisfied with their quality of life, but were less tolerant of tourism. A recommendation of the study was in order for the tourism industry in Ocho Rios, Jamaica, a SIDS to remain sustainable, destination managers needed to change their strategy from being number of tourists driven to a more qualitative approach in a way that would positively impact the residents.

TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION.....	1
Purpose of the Study	3
Background of the Problem	4
Social Carrying Capacity	5
Residents' Quality of Life.....	6
Residents' Tolerance of Tourism.....	7
Demographic Variables	8
Ocho Rios, Jamaica.....	8
Need for the Study	10
Theoretical Framework.....	12
Doxey's Irridex Model.....	13
Butler's Tourism Area Life Cycle (TALC)	13
Social Exchange Theory	14
Objectives of the Study	15
Research Questions.....	15
Significance of the Study	16
Theoretical Contributions	16
Practical Contributions.....	16
Conceptual Model.....	17
Scope of the Study	19
Definition of Terms.....	19
Organization of the Dissertation	20
II. REVIEW OF LITERATURE.....	21
Sustainable Tourism.....	22
Definition of Sustainable Tourism.....	23
Small Island Developing States (SIDS): Historical Development	25
Challenges and Benefits of Tourism in Small Island Developing States	27
Social Carrying Capacity	33
Measuring Social Carrying Capacity	37
Limitations of Social Carrying Capacity.	40

Chapter	Page
Social Indicators.....	42
Description and Purpose	42
Selection of Indicators	43
Sustainability and Residents' Perceptions	44
Residents' Perception of Tourism.....	46
Residents' Perception of Quality of Life	48
Residents' Tolerance of Tourism.....	53
Socio-demographic Variables	54
Age.....	56
Gender.....	58
Education Level and Income	59
Proximity to Tourism Center	61
Length of Residency	63
Dependency on Tourism.....	64
Measurement of Quality of Life	66
Measurement of Tolerance of Tourism.....	73
Theories Relevant to the Study.....	77
Tourism Area Life Cycle	77
Doxey's Irridex	85
Social Exchange Theory	89
The model.....	91
Critique of SET.	95
Social Exchange Theory and the Social Carrying Capacity.	96
Summary	96
III. METHODOLOGY	98
Purpose of the Study	98
Presentation of Hypotheses.....	99
Research Design.....	101
Study Area	103
Data Collection Instrument	104
Description of the Instrument	104
Refining the Instrument	106
Pilot Study.....	106
Demographic Profile of the Pilot Sample	107
Analysis of the Pilot Study	108
Perceived community benefits and costs.....	108
Perceived personal benefits and costs.	109

Chapter	Page
Tolerance of tourism.....	110
Final Instrument.....	110
Population.....	111
Sample and Sample Size.....	111
Data Collection.....	112
Ethical Considerations.....	114
Data Screening.....	115
Data Analysis.....	115
Step 1.....	117
Step 2.....	118
Step 3.....	119
Summary.....	122
 IV. FINDINGS.....	 124
Demographic Profile of Participants.....	124
Geographic Profile of Participants.....	126
Length of Residency and Proximity to Town Center.....	126
Economic Profile of Participants.....	127
Other Profile of Participants.....	129
Data Analysis.....	130
Development of Scales.....	130
Description of Scales.....	136
Social Carrying Capacity Scale.....	138
Dependency on Tourism Scale.....	138
Hypotheses Testing.....	139
Research Question One.....	139
Research Question Two.....	149
Research Question Three.....	156
Research Question Four.....	160
Tourism Area Life Cycle Context.....	162
Regression Models.....	162
Social Carrying Capacity Model.....	162
Quality of Life Model.....	165
Tolerance of Tourism Model.....	168
Conclusion.....	172
 V. CONCLUSION.....	 173
Summary of Findings.....	173
Contextualising the Destination.....	182

Chapter	Page
Quality of Life.....	184
Tolerance of Tourism.....	188
Socio-demographic Variables.....	192
Levels of Irritation.....	196
Social Carrying Capacity Model.....	197
Quality of Life Model.....	197
Tolerance of Tourism Model.....	198
Implications of The Study.....	199
Theoretical Implications.....	199
Managerial Implications.....	202
Limitations of the Study.....	205
Future Research.....	206
Conclusion.....	209
 REFERENCES.....	 212
 APPENDICES.....	 243
APPENDIX A: Small Island Developing States Tourism Statistics 2013.....	243
APPENDIX B: Ocho Rios Resident Questionnaire.....	246
APPENDIX C: Participant Information Sheet.....	251
APPENDIX D: Mutual Confidential Disclosure Agreement.....	253
APPENDIX E: Recruitment Script.....	257
APPENDIX F: IRB Approval Letter.....	258
APPENDIX G: Citi Completion Report.....	259
APPENDIX H: Factor Analysis Maximum Likelihood with Varimax Rotation.....	260
APPENDIX I: Factor Analysis Maximum Likelihood with Promax Rotation.....	264
APPENDIX J: Items Removed after Varimax Rotation.....	269
APPENDIX K: Rotated Structure Matrix for Maximum Likelihood Analysis with Varimax Rotation of a Six Factor Solution.....	270
APPENDIX L: Post Hoc Tests for Quality of Life and Dependence on Tourism ...	273

LIST OF TABLES

Table	Page
1. Studies on Residents' Perceptions and Attitudes in Tourism	46
2. Butler's Tourism Area Life Cycle	79
3. Doxey's (1975) Irridex Model	90
4. Demographic Profile of the Pilot Sample	107
5. Reference Group for Categorical Variables	120
6. Demographic Profile of Participants	125
7. Geographic Profile of Participants	126
8. Economic Profile of Participants	128
9. Profile of Participants	129
10. KMO and Bartlett's Test	132
11. Goodness-of-fit Test	133
12. Total Variance Explained by the Six Factor Solution	134
13. Reliability Analysis Statistics for Scales	136
14. Descriptives for Scales	137
15. Linear Regression Model for Quality of Life	143
16. Model Summary	145
17. Regression Model for Quality of Life and Perception of Tourism Moderated by Education Level	145
18. Model Summary	148
19. Regression Model for Perception of Tourism and Quality of Life Moderated by Income Level	148
20. Kruskal-Wallis H test for Quality of Life (QOL) by Dependence on Tourism (DEPTOUR), N = 355	149
21. One-way ANOVA Tolerance of Tourism (TOUTOL) and proximity to town center	151
22. One-way ANOVA Tolerance of Tourism (TOLTOU) and Length of Residency	152
23. One-way ANOVA Tolerance of Tourism (TOLTOU) and Dependency on Tourism	152
24. Simple Linear Regression Model for Tolerance of Tourism (TOLTOU)	155
25. Linear Regression Model for Quality of Life (QOL), Tolerance of Tourism (TOLTOU) mediated by Dependence on Tourism (DEPTOUR)	156
26. One-way ANOVA for Tolerance of Tourism (TOLTOU) and Age	157

Table	Page
27. One-way ANOVA for Quality of Life (QOL) and Proximity to Town Center	160
28. One-way ANOVA for Quality of Life (QOL) and Length of Residency	160
29. Cross-tabulation and Chi-Square Analysis of Social Carrying Capacity by 4 levels of Irritation	161
30. Multiple Linear Regression Analysis for Social Carrying Capacity	165
31. Multiple Regression Model for Quality of Life (QOL)	168
32. Multiple Linear Regression Model for Tolerance of Tourism (TOLTOU)	171
33. Summary of Hypotheses Results	179
34. Small Island Developing States Tourism Statistics 2013	243
35. Factor Analysis Maximum Likelihood with Varimax Rotation	260
36. Factor Analysis Maximum Likelihood with Promax Rotation	264
37. Items Removed after Varimax Rotation	269
38. Rotated Structure Matrix for Maximum Likelihood Analysis with Varimax Rotation of a Six Factor Solution	270
39. Post Hoc Tests for Quality of Life and Dependence on Tourism	273

LIST OF FIGURES

Figure	Page
1. A conceptual model for assessing the SCC of SIDS	18
2. Quality of life domains.	73
3. Butler’s Tourism Area Life Cycle. Hypothetical evolution of a tourist area.....	81
4. Education level as a moderator variable	141
5. Scatterplot of the standardised residuals and predicted values for QOL.....	142
6. Normal P-P Plot of regression residuals for QOL	142
7. Scatterplot for regression standardized residuals and predicted values of QOL .	144
8. Histogram of frequency and regression standardized residuals for QOL.....	144
9. Income level as a moderator variable	146
10. Histogram of regression standardized residuals for QOL.....	147
11. Normal P-P Plot for QOL	147
12. Mediation effect of Dependence on Tourism	153
13. Histogram for frequency and regression standardized residual for tolerance of tourism (TOLTOU)	154
14. Normal P-P Plot of regression standardized residual for tolerance of tourism (TOLTOU).....	154
15. Scatterplot for standardised residuals and predicted values for SCC	164
16. Normal P-Plot of regression standardized residual for SCC	164
17. Scatterplot for standardised residuals and predicted values for QOL.....	166
18. Normal P-Plot of regression standardized residual for QOL.....	167
19. Scatterplot for regression residuals and predicted values for TOLTOU	169
20. Normal P-Plot for regression and standardized residual for TOLTOU	170
21. Results of Hypotheses with coefficients	178

CHAPTER I

INTRODUCTION

This chapter introduces the background of the issues affecting the sustainability of tourism in small island developing states. The chapter further outlines the significance of assessing the social carrying capacity in small island developing states to safeguard the viability of the tourism industry. The chapter also discusses the residents' perception of their quality of life and their tolerance of tourism as diagnostic indicators of the social carrying capacity of a destination, specifically, the town Ocho Rios in Jamaica, a small island developing state. The final section of the chapter presents the research questions, purpose and significance of the study and the definition of terms.

Introduction

As the competition in tourism intensifies globally, the assessment of the social carrying capacity (SCC) of tourism destinations within small island developing states (SIDS) becomes critical to the sustainability of the industry. According to the UNWTO (2018) SIDS (see APPENDIX A) are a leading destination for millions of tourists each year (UNWTO, 2018). SCC is related to the level of tolerance of the residents and tourists for tourism in a destination (Maggi, Stupino, & Fredella, 2011). Tourism in SIDS accounted for US\$53 billion in earnings in 2013 compared to US\$26 billion in 2000 and the number of international tourists visiting SIDS increased from 28 million in 2000, to 41 million in 2013 (World Tourism Organization [UNWTO], 2014). In this same

publication it was stated that tourism is the main economic and development driver for many SIDS, it is also a source of fiscal strengthening. Therefore, it can be inferred in most SIDS, tourism is critical to their economic development. SIDS (see APPENDIX A) are a group of membership countries classified by the United Nations (UN), as a specific cluster of islands with similar characteristics that expose them to social, economic, environmental and political vulnerabilities (Sharpley & Ussi, 2014; UN Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States [UN-OHRLLS], 2011). One of the economic issues facing SIDS is their insufficient capacity to exploit economies of scale (Pratt, 2015). Hence, tourism is one of the sectors in which they can produce and export on a large scale (Sharpley, 2003). As a result, the practice of mass tourism in these islands is prevalent (Christou, 2012).

However, it is becoming increasingly evident the vast numbers of tourists visiting SIDS stress both the environment and the residents by depleting the islands' natural resources, adding waste, destroying coral reefs, and crowding the beaches and streets of the destination (Eugenio-Martin, 2011; Mason & Cheyne, 2000; Zelenka & Kaceti, 2014), thus posing a serious threat to the sustainability of tourism in the destination. When all of this happens, the destination is no longer attractive to the tourists and, further, the residents have limited to no tolerance for the tourist and tourism development in the area (Butler, 1999; Doxey, 1975; Marzetti & Mosetti, 2005). At this point, it is generally accepted that the social carrying capacity (SCC) threshold of the destination is breached (Huang, Wall, & Mitchell, 2007). The idea central to the breach of the SCC threshold of SIDS is that there is limited space in which the tourists and residents can coexist.

Consequently, for tourism in SIDS to remain sustainable it is essential for the destination managers to monitor the SCC. Further, due to the fact that the tourism industry is the main source of export earnings for many SIDS, it is critical for these island states to develop and implement policies and strategies that can minimize the threats to the tourism industry. The SCC is one such strategy (Cumberbatch & Moses, 2011). The SCC is traditionally measured by the number of tourists that cause a decline in tourists visiting a destination, the tourist level of satisfaction and the residents' quality of life. However, the traditional method used to measure SCC is seriously questioned in the literature (McCool & Lime, 2001). The uncertainty arises from its relevance as a preemptive indicator of possible negative trends in the tourism industry (Chadenas, Pouillaude, & Pottier, 2008).

Although previous research used social indicators to measure SCC, few studies have examined it from the perspective of SIDS which deserve more attention (Ramseook-Munhurrun & Naidoo, 2011). There is a lack of critical empirical data in the literature related to SIDS, regarding the residents' quality of life (QOL) in resort areas, their tolerance of tourism and the SCC of the area. In Jamaica, which is classified as a SIDS, it has become increasingly apparent there exists a deficiency in such empirical information which is crucial to the sustainability of the tourism industry (Sinclair-Maragh, 2017).

Purpose of the Study

The main purpose of this study was to test a diagnostic model based on strategic predictor variables, that measures the SCC in SIDS within the social aspect of a sustainable framework. It will be accomplished by examining the relationship between the residents' perception of their QOL, their tolerance of tourism and the SCC.

Another objective of this study was to examine, firstly, the moderating effect of the selected demographic variables on the relationship between the residents' perception of their QOL and their tolerance of tourism. The dependency on tourism, an economic variable was tested for possible mediating effects on the relationship between residents' perception of their personal QOL and their tolerance of tourism. The analyses of these tests were guided by the Doxey's Irridex Theory, Butler's Tourism Area Life Cycle (TALC), and Ap's Social Exchange Theory. The theories may have implications for the SCC of the destination.

It was however not realistic to attempt to study all SIDS. As a result of this the study focused on Ocho Rios, a resort town in the small island of Jamaica as the case in point for SIDS. Therefore, in examining Ocho Rios, Jamaica, a tourist resort town as the case under study, there existed the potential to promote understanding and inform practice for similar resort areas in Jamaica and other SIDS (Leedy & Ormrod, 2005). The study is intended to provide destination managers and those conducting future research with a model for measuring SCC. Further, it is intended to provide practical implications and recommendations relating to the need for SIDS to monitor and manage the SCC of the destination in order to safeguard the sustainability of the tourism industry.

Background of the Problem

The concept of sustainable tourism and carrying capacity in tourism stemmed from the need to control its unplanned development and growth. The expansion of tourism in many destinations resulted from mass tourism (Hall & Page, 2014). Destinations' adaptation of mass tourism was effortless, mainly because the natural resources of sun, sand and sea were readily available. Tourism's initial introduction to a destination required minimal capital investment and infrastructural development to operate, both in developed and developing nations (Alipour,

Altinay, Hussain, & Sheikhani, 2006). Mass tourism is defined as a constant flow of a high volume of tourists to a destination (Ivanov & Ivanova, 2013), and the economic benefits SIDS derived from mass tourism were more immediate and vital to their economy than developed countries. However, there is a concern, that the negative impact of mass tourism affects SIDS significantly more than developed countries (Moyle, Croy, & Weiler, 2010). Furthermore, destination managers of SIDS take a longer time to respond to the negative effects due to a lack of adequate resources (Holloway & Humphreys, 2012). Therefore, for SIDS there is a more urgent need to find the most reliable, practical, robust and affordable means to assess, monitor and manage the stability and sustainability of their tourism industry.

Social Carrying Capacity

Previous researchers have indicated the significance of the assessment of SCC to destinations monitoring and managing the sustainability of their tourism industry (Paskova, 2008; Roussel, Crinquant, & Bourdat, 2007). The SCC evaluates the tolerance level of both the residents and the visitors towards tourists, tourist volume and development (Saveriades, 2000). Even though past studies have identified the SCC as pivotal to assessing the sustainability of a destination, one critical issue which remains is an efficient diagnostic method of measurement (Cumberbatch & Moses, 2011; Lopez-Bonilla & Lopez-Bonilla, 2008).

Research on SCC has relied primarily on the number of tourists present in a destination as the foremost variable utilized for determining whether there is an infringement on the threshold (Chadenas, et. al., 2008; Marzetti & Mosetti, 2005). Notwithstanding, a number of researchers have implicitly or explicitly disputed the assumption regarding the number of tourists as a pragmatic measure of the SCC as a basis for the assessment of the SCC (Lopez-Bonilla &

Lopez-Bonilla, 2008; Manente & Pechlaner, 2006; McCool & Lime, 2001; Saveriades, 2000).

What now needs to be examined is an entirely new approach to the assessment of the SCC.

Residents' Quality of Life

It is indisputable that tourism is critical to the QOL of residents in SIDS especially those residing in resort areas (Croes & Semrad, 2015). Shifting the focus from the number of tourists to the residents' QOL is proposed to address weaknesses such as identifying issues that may lead to destabilization of the industry. In the pioneering work of Cohen (1972) and Smith (1990) it was stated that as tourism develops the tourists become more dependent on the residents to take care of their needs (Stankey & McCool, 1984). Therefore, residents' support of tourism is critical to the stability of the industry (Aref, 2011; Ribeiro, Oom do Valle, & Silva, 2013). In addition, residents have "local expert" knowledge about the tourism industry that can positively inform the decisions of destination managers (Lawton & Weaver, 2015).

For the purpose of this study the term tourism will incorporate tourists, tourism growth and development. It can be argued that QOL and tolerance levels of the residents may support a diagnostic model for the measurement of the SCC. As a result, the variables may be found to be more suitable predictors of SCC (Choi & Sirakaya, 2006). The evaluation of QOL highlights tourism impacts on the residents' satisfaction with their life personally and that of their family and community (Andereck & Nyaupane, 2011). It is a foregone conclusion that if persons who reside in tourist areas are not satisfied with their QOL, then they will overtly or covertly have a negative attitude towards the tourist and tourism development (Deery, Jago, & Fredline, 2012). Once this happens the residents' tolerance for the tourism industry and all associated activities is tenuous (Ramseook-Munhurrun & Naidoo, 2011).

Residents' Tolerance of Tourism

Tolerance of tourism is another proposed indicator for assessing residents' perception formulation towards tourism (Ryan & Aicken, 2010; Thyne, 2001). Tolerance of tourism is defined as the extent to which residents of a destination accept the various aspects of tourism of which they disapprove (Crick, 1973; Ryan & Aicken, 2010). Residents' tolerance of tourism may be linked to their SCC. Implicit in Doxey's (1975) theory is the determination of residents' tolerance level of tourism. The residents' tolerance of tourism is demonstrated in their "irritation level". Doxey (1975) proposed four levels of irritation of residents' attitudes towards tourism. These proposed levels are euphoria, apathy, annoyance and antagonism. There was never a conceptual effort to link Doxey's (1975) irritation levels to SCC in a simple linear fashion. In addition, the 4 irritation levels give a good indication of whether or not the SCC of the destination is overreached.

On the one hand residents' tolerance of tourism is positively influenced by their dependence on tourism (Akis, Peristianis & Warner, 1996). However, in another study dependency on tourism was not a distinguishing variable (Ryan & Aicken, 2010). It was concluded in both studies the residents' dependency on tourism does not assuage their awareness of the negative impact of tourism on the destination (Akis, et al., 1996; Ryan & Aicken, 2010). However, there is general agreement in the literature that residents who benefit from tourism whether directly or indirectly have a high tolerance of tourism (Mason & Cheyne, 2000; Ritchie & Inkari, 2006). Ap (1992) affirms this assumption where the personal rewards of tourism could manipulate the residents' perception of their QOL and their tolerance of tourism.

Demographic Variables

The differences in residents' perceptions and tolerance of tourism are generally influenced by the demographics of the population (Williams & Lawson, 2001). The demographics to be examined in this study include age, gender, years of residency, proximity to tourism center, education level and income. Dependence on tourism has been found in the literature to be the most likely variable to significantly affect residents' attitudes towards tourism (Andereck & Nyaupane, 2011; Harrill, 2004; Pizam, 1978). It is worth noting in prior studies dependence on tourism was classified as a socio-economic variable, while in other studies it is deemed a socio-demographic variable (Pizam, 1978; Wang, Pfister & Morais, 2006). Hence for the purposes of this study dependence on tourism will be treated as a socio-economic variable.

Other studies have shown where gender and age impact the respondents' perceptions of the phenomenon under study (Pappas, 2008; Sinclair-Maragh, 2017). While in other studies gender and age were not discriminators of the perceived impacts of tourism (Bagri & Kalal, 2016; Haukeland, Veisten, Grue & Vistad, 2013). A number of studies suggested the variables, years of residency and proximity to tourism center are likely to affect residents' perspective of tourism (Jurowski & Gursoy, 2004; Sharma & Dyer, 2009). The resort town of Ocho Rios, Jamaica, is the area under study, where the relationship between the residents' perception of their QOL, their tolerance of tourism, and the SCC will be examined with the aim of proposing a diagnostic model for measuring the SCC in SIDS.

Ocho Rios, Jamaica

The tourism industry is integral to the economic growth and development of Jamaica. Income generated from tourism was JM\$245.8 billion in 2014 which was 52.9% of total exports, that is, a little over a half of the country's export earnings. Further, earnings from tourism

generated JMD363.0bn (USD2,814.7mn), 60.9% of total exports in 2017. The forecast is for visitor exports to grow by 4.7% in 2018, and grow by 4.5% per annum to JMD588.9bn (USD4,566.8mn) by 2028, 72.9% of total exports (World Travel Tourism Council [WTTC], 2018). In 2014, Jamaica, a member of SIDS, had a population of approximately 2,723,000 and welcomed 2,080,181 overnight visitors at a ratio of 76 visitors to every 100 residents. In the same year, Jamaica also had 1,423,797 cruise ship passengers visit its shores (Statistical Institute of Jamaica [STATIN], 2015; Jamaica Tourist Board [JTB], 2015). Ocho Rios the oldest and now the second most popular coastal resort town in Jamaica with a population of 16,671 based on the 2011 population census (Gilchrist, 2011, April 4). The resort town welcomed in 2016 505,191 stopover visitors and 491,506 cruise ship passengers (Jamaica Tourist Board [JTB] 2016) whose spend contributed significantly to the country's GDP (World Travel and Tourism Council [WTTC], 2015).

Ocho Rios was once a quiet fishing village but now it is a major tourist attraction. It is the oldest port of call for cruise ships as well as for cargo ships loading sugar, limestone, and in the past, bauxite (Wikipedia, 2018). With approximately half a century of rapid growth of tourism in Ocho Rios, the social fabric and the physical environment is under tremendous stress. Ocho Rios has become a densely populated town experiencing major traffic congestion (Morris, 1995). The congestion in the town can be attributed to minimal changes to the infrastructure of the town center despite the expansion of the pier to accommodate cruise ship passengers that disembark in Ocho Rios. The congestion often becomes unbearable both for the residents and the tourists. Over the last 5 years, 2011-2016, Ocho Rios has experienced marginal increases in tourist arrivals. In 2012 an increase of 1.8% over 2011, for 2013 a 1.1% increase over 2012, in 2014 a 3.6% increase over 2013 and for 2015 a 2.01% increase over 2014 and for 2016 a 2.8%

increase over 2015 (Jamaica Tourist Board [JTB], 2016). The congestion and other problems facing Ocho Rios caused by tourism is thought to be tolerable but can potentially impact its sustainability as a tourism destination (Coccosis & Mexa, 2004).

Need for the Study

Over time, destination managers and researchers alike recognized the damage caused by the “footprints” of mass tourism, not only affected the natural resources, but also the residents of the destination (Ivanov & Ivanova, 2013; Tovar & Lockwood, 2008). There is tremendous concern that the impact of mass tourism affects SIDS significantly more than other types of destinations (Moyle, Croy, & Weiler, 2010; World Tourism Organization [UNWTO], 2014). The situation in SIDS is further complicated in that managers of destinations take a longer time to respond to negative effects of tourism due to the lack of adequate resources (Holloway & Humphreys, 2012). Therefore, there is an urgent need to find the most reliable, practical, robust and affordable means to assess, monitor and manage the stability of their tourism industry.

Early studies suggested one key solution to controlling the sustainability of the tourism destination was to establish a carrying capacity (CC) threshold. The threshold represented a limit which if exceeded would cause irreparable damage, mainly to the physical environment. Yet other researchers contended that the “damage” caused by tourism extended to the tourists and residents resulting in the waning of the tourism industry (Pizam, 1978). Subsequently, the SCC was introduced as a means of controlling the negative impact of tourism on the residents and the tourists (Paskova, 2008). In a circuitous way SCC evaluates the tolerance for tourism of both the residents and the visitors (Saveriades, 2000). The assessment of the SCC is widely accepted by researchers as pivotal to destinations monitoring and managing the sustainability of the tourism industry (Coccosis, Mexa, Collovini, Parpairis & Konstandoglou, 2001; Roussel, et

al., 2007). Even though the SCC is recognized as a practical means for assessing the sustainability of a destination, one critical issue remains, a diagnostic method of measurement (Cumberbatch & Moses, 2011; Lopez-Bonilla & Lopez-Bonilla, 2008).

The approach needed is one which ought to facilitate an ongoing evaluation of the SCC within the destination. The continuous examination of the SCC would draw attention to specific negative impacts/problem areas that may lead to the instability of the tourism industry. For the suggested approach to be effective it ought to provide early warning signs of issues that could potentially be detrimental to the viability of tourism in SIDS (Ceron & Dubois, 2003; Miller, 2001). For these reasons, the study is expected to, first, fill a gap in sustainable tourism research by postulating a diagnostic model to measure the SCC of SIDS. The model was tested by examining the relationship between selected sustainable tourism social indicators and the SCC. Hence equipping destination managers with useful data to assess the state or condition of the tourism industry and introduce changes, policies and practices where necessary to secure its sustainability.

The resort town of Ocho Rios has seen tremendous growth in its tourism industry, with little consideration by tourism stakeholders of its SCC. To date scant attention has been given to the assessment of the SCC. If this assessment of the SCC is continuously ignored and not included in the planning and management of tourism in Ocho Rios, then its survival as a resort area for future generations is tenuous. The current problems facing Ocho Rios is impacting its sustainability as a tourism destination. The issues include a decline in the quality of the tourism product, increased degradation of beaches and the environment in general, high cost of living and altered way of life of the residents and, residents' harassment of tourists due to the unequal distribution of tourism receipts (Pappas, 2008).

As a consequence, the assessment of the SCC of Ocho Rios, Jamaica, is imperative. Because of this, the study will examine two variables as predictors of the SCC, namely, residents' perception of their QOL and their tolerance of tourism. A review of the literature highlighted few studies that have tested social indicators in a destination setting (Park & Yoon, 2011). In addition, Sinclair-Maragh (2017) highlighted the fact that studies relating to the attitude of residents, more so towards tourism development in Jamaica are dated and deficient. Consequently, there is limited understanding of residents' perceptions of tourism on their QOL and tolerance of tourism in Jamaica. This study will fill an existing gap in the literature as a current empirical research on the residents' QOL, tolerance of tourism and SCC in Jamaica and the Caribbean.

The concept and application of the CC generally, and the SCC specifically, has been puzzling researchers over the years. Each research intensifies the progress towards solving the puzzle. This study was intended to extend the literature that will further elucidate the measurement of the SCC.

Theoretical Framework

Theory is an explanation of why variables work together, how they are related to each other and how they influence each other (Creswell, 2014). There are three theories that will be relevant to guiding this research, namely, Doxey's (1975) Irridex Model, Butler's (1999) Tourism Area Life Cycle (TALC) Theory, and Ap's (1992) Social Exchange Theory. These theories explore and explain the link between tourism's impact on residents' perception of their QOL and tolerance of tourism and the SCC of the area under study (Damonte, Collins, & Megehee, 2012). Each theory will guide the analysis, interpretation of findings, conclusion, implications and recommendations of the study.

Doxey's Irridex Model

Doxey's (1975) Irridex Model is widely used to explain the impact of tourist volume, growth and development on the residents by examining their sentiments, mindset, or outlook towards or about the industry (Iranlu, 2004; Pappas, 2008). Doxey's (1975) Irridex Model theorizes that tourism growth and development influence the residents' outlook on the tourism industry and their quality of life, thus influencing the residents' support for tourism. Hence, as tourism develops in a destination the residents' outlook may change from euphoria, to apathy, to annoyance and, finally, to antagonism (Doxey, 1975; Getz, 1994). When antagonism is expressed by the residents, it is assumed that the SCC threshold of the destination is breached and the destination is no longer attractive to the tourists. As a consequence, at this point the tourism industry is no longer sustainable. Akis, et al. (1996) stated that the theory provides a good indication about the perceptions of the residents as tourism develops in a destination. Butler's (1999) Tourism Area Life Cycle (TALC) theory builds on Doxey's (1975) Irridex model, using the tourism life cycle model to determine the trajectory of the sustainability of a tourism destination.

Butler's Tourism Area Life Cycle (TALC)

Butler's (1999) TALC original theory postulates that a tourist attraction, destination or site evolves and changes over time thus going through a life cycle as with a typical product life cycle. The suggested stages in the life cycle of a tourism product are exploration, involvement, development, consolidation and stagnation (Butler, 1999; Pappas, 2008). The stagnation stage is where the viability of the tourism product is threatened. It is at this stage that it is prudent for destination managers to take steps to rejuvenate the product for it to remain sustainable. According to Butler (1980), if no corrective action is taken, then the destination will continue to

trend towards a stage of decline and unsustainability. The movement through the stages is mainly driven by the desire of destination managers to increase revenue from tourism. With each stage comes more tourism development with the objective of attracting and increasing the number of tourists to the destination. Butler (1999) asserts that the tourism industry is flourishing up to the consolidation stage of the life cycle. After that, at the stagnation stage, tourist arrivals become sluggish, residents are no longer accepting of tourists and there is significant damage to the physical environment. The assumption then is that at the stagnation stage, the SCC limit is exceeded. The characteristics of each stage of the TALC are significant when evaluating the SCC of a destination, as it places the destination in a context that will guide the analysis. Furthermore, it was useful in explaining the findings.

Social Exchange Theory

Ap (1992) use of the Social Exchange Theory (SET) in the tourism context advanced the assumption that benefits gained from tourism are likely to influence the residents' perception of tourism. The primary influence of SET is based on residents' expectation to receive just gains from their exchange with tourist and their participation in tourism (Ribeiro et al., 2013). If this assumption holds true then the exchange will continue and their attitude will be positive towards tourism regardless of any negative impacts (Ap, 1992; McGhehee & Andereck, 2004). On the other hand, if the residents are not benefiting from tourism then they are likely to be dissatisfied and some may even be antagonistic towards the tourists (Mansfeld & Jonas, 2006). Several researchers' findings supported Ap's (1992) assumptions (Mansfeld & Jonas, 2006; Wang & Pfister, 2008). The assumptions of the SET was useful in guiding the preparation of the data collection instrument and for analysis of the results and discussion of this study.

Objectives of the Study

To be more specific this study was expected to realize the following objectives:

- To evaluate the impact of tourism on the quality of life of the residents in a SIDS.
- To examine the tolerance of tourism of the residents in a SIDS.
- To investigate whether the residents' dependence on tourism in a SIDS mediates between their perception of their QOL and their tolerance of tourism.
- To measure the SCC of a resort town of a SIDS.
- To test the feasibility of the 4 levels of Doxey's (1975) Irridex model as a measure of the SCC in an effort to determine the sustainability of tourism in a destination.
- To offer useful recommendations to government and other stakeholders in similar tourism destinations for the introduction of changes to policies and practices where necessary, in order to secure its sustainability and to suggest future research options.

Research Questions

1. How does the residents' quality of life affect the social carrying capacity of Ocho Rios, Jamaica?
2. How does the residents' tolerance of tourism affect the social carrying capacity of Ocho Rios, Jamaica?
3. Do the demographic variables influence the residents' perception of their quality of life and tolerance of tourism?
4. Is Doxey's (1975) Irridex model a reliable measure of the Social Carrying Capacity?

Significance of the Study

Theoretical Contributions

The main theoretical contribution is to test the relationship between residents' perception of their QOL, and their tolerance of tourism and the SCC in a SIDS. Doxey's (1975) Irridex model, that is the 4 levels of irritation was tested for its significance as a measure of the SCC. This is to fill a gap in the literature that failed to address the issue of establishing a predictable linkage between number of tourists and SCC. Secondly, the study tested the moderating effect of selected demographic variables on the residents' perception of their QOL and their tolerance of tourism. The study will provide empirical evidence regarding the residents' quality of life and tolerance of tourism, and their impact on the SCC as well as on the sustainability of tourism in Ocho Rios, Jamaica, a SIDS. The mediating effect of the dependency on tourism on the residents' perception of their QOL and tolerance level of tourism will be examined. In so doing the study will:

1. Add to the body of knowledge relating to the host community QOL, tolerance of tourism, SCC, SIDS, QOL and sustainable tourism, specifically in Jamaica, as presently limited number of studies have focused on these critical areas.
2. Extend that body of knowledge due to the few empirical studies relating to SCC in a sustainable framework.
3. Test the 4 levels of Doxey's (1975) Irridex theory as a reliable measure of the SCC.

Practical Contributions

The main practical contribution of this study is to provide a diagnostic model for assessing the SCC. Further, to examine the sustainability of the tourism industry in Ocho Rios,

Jamaica, a small island developing state. The model is expected to alert destination managers and other stakeholders to early warning signs of issues affecting the sustainability of a destination, that is, before the destination reaches the decline stage (Butler, 1999). The results of the study may provide a more efficient and effective method of monitoring the SCC in SIDS.

The study will also contribute to the management of island destinations by identifying strategies that enhance the QOL of residents, while at the same time achieve the tourism development goals of the communities and the country (Aref, 2011; Khizindar, 2012). The study will contribute to the relatively limited literature on sustainable tourism in Jamaica. Further, it will extend the discussion about the impact of the SCC on the sustainability of tourism in SIDS.

Conceptual Model

The conceptual model for assessing the SCC in SIDS within a sustainable framework is represented in Figure 1 which shows the evaluation of the relationship between the residents' perception of their QOL and their tolerance of tourism as a measure of the SCC. The data analysis, implications and conclusions will be guided by Doxey's (1975) Irridex Theory, Butler's (1980) TALC theory and Ap's (1992) Social Exchange Theory. The anticipated outcome is a measure that can be adopted as a preemptive approach to monitoring and managing threats to the sustainability of the tourism industry in SIDS.

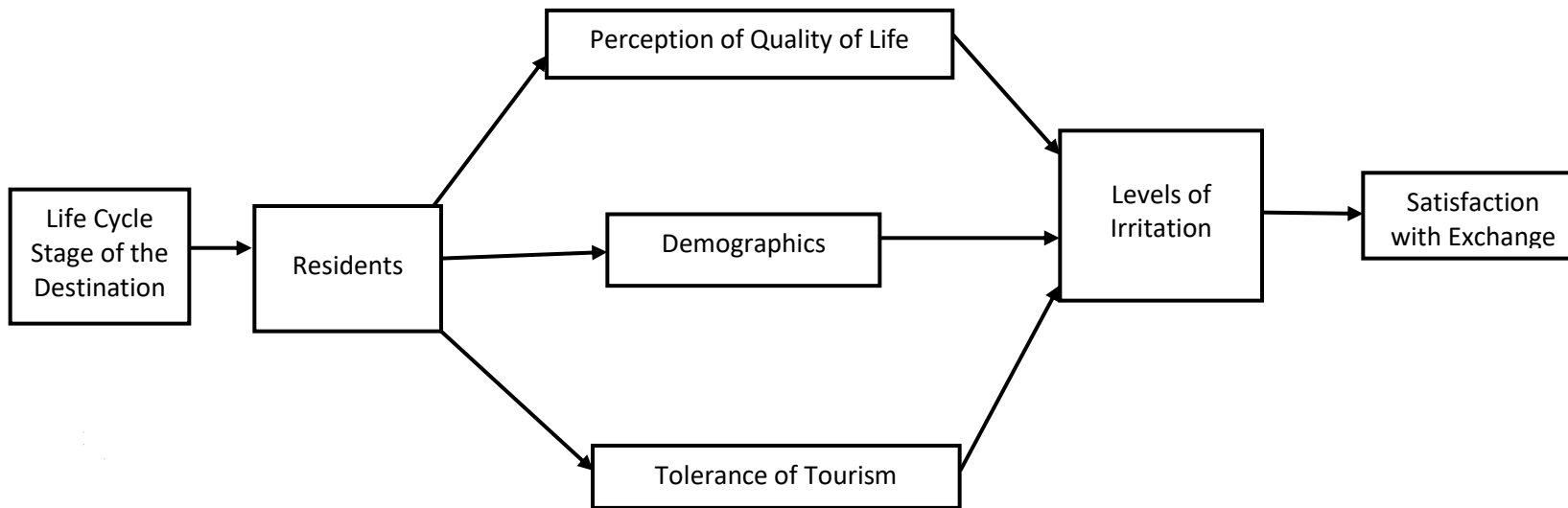


Figure 1. A conceptual model for assessing the SCC of SIDS

Scope of the Study

The study will be conducted in the town of Ocho Rios, Jamaica, and its environs where the tourist activity is most prevalent and where the residents live.

Definition of Terms

Indicators: Desirable instruments and/or measuring rods for assessing and monitoring progress towards sustainable development (Tsaur & Wang, 2007).

Quality of Life (QOL): The degree of well-being felt by an individual or group of people (Aref, 2011).

Residents: The local people that reside where the tourist activity exists.

Small Island Developing State (SIDS): This is a group of small island developing states that are vulnerable to social, economic and environmental threats (UN, 2010).

Social Carrying Capacity (SCC): The capacity of the destination area to absorb tourists before negative impacts of tourism is felt by the host country. It is also the levels beyond which tourist arrivals will decline because certain capacities as perceived by the tourists themselves having been exceeded, and therefore, the destination area ceases to satisfy and attract them. Hence the tourists will seek alternative destinations (O'Reilly, 1986; Saveriades, 2000).

Tolerance of tourism: The extent to which residents of a destination accept the various aspects of tourism of which they disapprove (Crick, 1973, Ryan & Aiken, 2010).

Tourists/Visitors: Any person visiting a country other than his usual place of residence, for any reason other than following an occupation remunerated from within the country visited (Jamaica Tourist Board [JTB], 2015).

Organization of the Dissertation

The Dissertation is organized into five chapters which includes the introduction, literature review, methods, findings and the conclusion. Chapter One gives a background of the study, the problem statement, objectives of the study and the theoretical as well as the practical contributions this study can make to this body of knowledge. Chapter Two provides an in-depth discussion of the extant literature and shows the gap that exists which this study aims to fill. The third Chapter outlines the research methods, research design and data collection and analysis methods used in the study. Chapter four shows the analysis of the data collected using relevant statistical techniques. The final chapter discussed the related findings, limitations, implications, future research and makes insightful recommendations.

CHAPTER II

REVIEW OF LITERATURE

This chapter is a review of extant literature on the social carrying capacity and its impact on the sustainability of the tourism industry. The main reasons for reviewing literature are to explain the theoretical rationale of the problem, tell the reader what research has been done on the problem and identify gaps in literature (Galvan, 2009). Behavioral research is a major element of building new knowledge and solving tourism problems (Gunn, 1994). It includes a discussion on the impact of tourism, specifically in Small Island Developing States. In the chapter, studies relating to the residents' perception of their quality of life and tolerance of tourism as likely variables for assessing social carrying capacity were examined. Further, the hypotheses are proposed based on the discussion from the literature. Additionally, current research regarding data collection and analysis methods are evaluated to ascertain the most suitable approach for this study. Finally, there is deliberation on the theoretical framework around which the study is structured.

Introduction

It has been suggested in previous research that the viability of tourism in a destination is largely dependent on residents' perceptions, habits, desires and attitudes towards the industry. As a result, the study was centered on testing a diagnostic model

useful in measuring the social carrying capacity (SCC) of small island developing states (SIDS).

Tourism is a major change agent in the social, political, and cultural system of a destination area, more so for SIDS. During the development of tourism in SIDS, destination managers often failed to evaluate the associated social as well as economic costs (Crandall, 1994). Hence, it is necessary to study the effects of tourism on destinations, particularly SIDS, as negative impacts are more prevalent and more detrimental in SIDS than in large developed countries (Crandall, 1994). Furthermore, the residents of SIDS are affected significantly more, whether negatively or positively than in larger economies (Capenerhurst, 1994). Further, the review of the literature draws attention to the problem that research on SIDS are few (Twining-Ward & Butler, 2002).

Past research has extended the literature on approaches to identifying and measuring tourism impacts on residents. One such method is the social carrying capacity (SCC). Even so, there is still an ongoing debate regarding the measurement of the SCC (McCool & Lime, 2001). In the literature, the previous models failed to preemptively indicate the status of a destination's SCC (Diedrich & Garcia-Buades, 2009).

Sustainable Tourism

Sustainability of the tourism industry was not integral to its development in the early stages. The expansion of the tourism industry in its initial stages was arbitrary, with no centralized strategic direction, neither locally nor globally (Holloway, 1994; Mansfeld & Jonas, 2006; Pappas, 2008; Saveriades, 2000). Regardless of the lack of direction, tourism burgeoned into a worldwide industry that brought with it well needed economic gains as well as other benefits to the destination (Sirakaya, Jamal & Choi, 2001).

However, the negative impact associated with tourism and its activities were noticeable primarily on the natural resources of the destination (Formica & Sun, 1997; Tovar & Lockwood, 2008). After a while, it became obvious that tourism not only adversely affected the natural environment, but also the residents and the tourists (Mathieson & Wall, 1982; Ritchie & Inkari, 2006). As a consequence of the unfavorable effects of tourism, the destination was likely to experience a decline in the residents' quality of life (QOL) and tourists' quality of experience, which lead to a subsequent decrease in tourist arrivals (O'Reilly 1986; Razovic, 2013). When there is a prolonged reduction in tourist arrivals, tourism in the destination is no longer sustainable (Coccosis, 2002; Neto, 2003).

Definition of Sustainable Tourism

The definition of sustainable tourism is widely debated in the literature and is often used synonymously with sustainable development (Butler, 1999; Coccosis, 2008; Jovicic & Dragin, 2008). The global response to the need for sustainable tourism within destinations was somewhat circuitous (Butler, 1993; Wall, 1991). The World Commission on Environment and Development (WCED) established the Brundtland Commission to prepare the first report on sustainable development primarily on an international scale. The report was entitled "Our Common Future" (World Commission on Environment & Development [WCED], 1987). It defined sustainable development as growth that "meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment & Development [WCED], 1987, p. 43). Butler (1993) criticized the Brundtland Commission for excluding tourism as one of the industries requiring sustainable development. However, it is worth noting that the introduction of the concept of

sustainable development changed the way tourism was conducted in destinations, as tourism stakeholders realized the industry would not be sustainable if its expansion were to continue in a haphazard manner (Butler, 1999; MacLellan & Strang, 2004).

Subsequently, definitions of sustainable development were proposed by tourism-driven international bodies. The recommended definitions focused on aspects of the industry that needed to be monitored and managed to ensure a sustainable future. The various facets of the definition of tourism highlighted were namely, environmental, cultural, economic and social. In addressing the misnomer, the organizations defined sustainable tourism as tourism which should have a low impact on the environment, the residents and their culture, while generating revenue and ensuring its preservation for future generations (UNEP & UNWTO, 2005; WTTC, 1992).

The definition of sustainable tourism is still widely debated in the literature and is often used synonymously with sustainable development (Butler, 1999; Coccossis, 2008; Jovicic & Dragin, 2008). Notwithstanding the definition proposed by an established international body namely, the World Tourism Organization (UNWTO), a number of researchers suggest in spite of sustainable tourism being a mainstream development strategy, there is still no widespread agreement on its meaning (Butler, 1993; Iliopoulou-Georgudaki et al., 2016). In fact, sustainable tourism is subject to varying interpretations depending on the researcher and the context in which it is used (Mansfeld & Jonas, 2006). There is, however, some general agreement in literature that sustainable tourism should involve minimizing negative impacts and maximizing positive impacts on the tourism enterprise, community life, visitor experience, and the environment to ensure it remains for the benefit of future generations (MacLellan & Strang, 2004; Razovic, 2013;

Weaver, 2006). The definitions proposed offered little insight into the direction destination managers ought to take to achieve sustainable tourism. To address this problem, Coccossis (2008) proposed operationalizing the sustainable tourism construct by looking at it from the perspective of the peculiar characteristics of tourism, namely, seasonality, saturation and *carrying capacity*. Others, however, suggested using the economic, ecological and sociocultural indicators depending on the area or activity under study (Martin & Uysal, 1990; Razovic, 2013; Shelby & Heberlein, 1986). Implicit in early and current work is the idea of limits to tourism activities and carrying capacity in sustainable tourism development (Butler, 1999; Chadenas et al., 2008; Cohen, 1997; Getz, 1994). When the carrying capacity is exceeded, the nature of tourism and the destination changes, the attractiveness decreases and tourism is no longer sustainable (Coccossis & Mexa, 2004; Jovicic & Dragin, 2008; Maggi et al., 2011). The small size and peculiarities of SIDS exacerbate their carrying capacity issues, which can lead to the unsustainability of their tourism industry (World Tourism Organization [UNWTO], 2014).

Small Island Developing States (SIDS): Historical Development

For most SIDS, tourism is their economy's main support and is used as the primary developmental strategy (Bhola-Paul, 2015; Briguglio & Briguglio, 1996). The revenue from tourism accounts for over 30–50 percent of their total exports in comparison to the average for developing countries (UN, 2014). SIDS were given recognition at the United Nations Conference on Environment and Development (UNCED) in June 3–14, 1992. The conference also known as the Earth Summit was held in Rio de Janeiro, Brazil. SIDS were categorized as a unique group of developing

countries facing specific social, economic and environmental vulnerabilities. The designation was made specifically in the context of Agenda 21 (Chapter 17 G), a non-binding, voluntarily implemented action plan of the United Nations with regard to sustainable development for SIDS. Thereafter, the Office of the High Representative for the Least Developed Countries (LDC), Landlocked Developing Countries and SIDS (UN-OHRLLS) was established as overseers. There are 38 islands designated as SIDS by the UN. SIDS are located in the Caribbean Sea, the Atlantic Ocean, Indian Ocean, Mediterranean Sea, the South China Sea (AIMS), and the Pacific Ocean (Briguglio, 1995; UN, 2014). The UN held its first global conference on sustainable development of SIDS in Barbados in April 1994. At the conference “The Declaration of Barbados and the Programme of Action (BPOA) for the Sustainable Development of Small Island Developing States” was adopted (Hein, 2004). The BPOA was reactivated in 1999 and again in January 2005. This time named the Mauritius Strategy for Implementation of the Programme of Action for the Sustainable Development of Small Island Developing States (MSI) (UN-OHRLLS, 2005). The way forward included in its action-oriented recommendation the need to:

- (f) Build small island developing states capacities for integrated planning processes related to responsible tourism that address such issues as tourism supply and demand, *carrying capacity*, resource utilization, and economic, sociocultural and environmental impacts. (UN-OHRLLS, 2005, 101)

In spite of this, SIDS were not given the desperately needed attention to assist with their development. After recognizing their neglect of SIDS, the United Nations declared 2014 the year of SIDS. This was in an effort to refocus their attention on SIDS

for an extended period to address the major challenges that threatened their sustainability (Hein, 2004).

Interestingly, the pioneering research on SIDS started before small islands were designated their special status (De Albuquerque, 1981; Demas, 1965; McElroy, 1975). The major challenges affecting SIDS are embedded in the similarity of their characteristics; these include their small size, remoteness, insularity and proneness to natural disasters (Briguglio, 1995). The fragile environment and socio-economic features are additional issues with which SIDS have to contend (Ali, Cullen, & Toland, 2015). Because of their size, SIDS possess limited resources, thus restricted economic diversity. Their remoteness and insularity make trade challenging. However, their distinctive biological and cultural diversity is a major pull factor for tourists and creates for them a distinct competitive advantage (World Tourism Organization [UNWTO], 2014). Therefore, in order for the governments of SIDS to optimize the economic benefits of tourism, emphasis is placed on maximizing the number of tourist arrivals (Briguglio & Briguglio, 1996). In other words, most SIDS practice mass tourism. In support of mass tourism, Sharpley (2003) stated that it has facilitated the socio-economic growth of the islands in Cyprus since the 1970's. However, despite the benefits the current literature suggests that the tourism industry in SIDS experiences major challenges that threaten its sustainability (UN, 2010).

Challenges and Benefits of Tourism in Small Island Developing States

The issues relating to SIDS discussed in the literature prior to the special designation by the UN included the apparent rise of tourism as the only means of export earnings due to lack of other resources (Demas, 1965; Rajotte, 1980; Winpenny, 1982),

the effects of tourism on the environment (Edwards, 1988; McElroy, 1975; Towle, 1985), the social ills such as crime and, dependency associated with tourism (De Albuquerque, 1981), and other negative impacts on the residents (Doxey, 1975). After this special designation by the UN, more researchers considered the implications of the costs and benefits of tourism on SIDS. The studies can be classified into three categories, namely, social, economic and environmental (Bagri & Kala, 2016). Limited research has been done on the social implications of tourism on SIDS (Tovar & Lockwood, 2008). However, research on the economic and environmental impacts have been extensive (Allahar, 2015; Bojanic & Lo, 2016; Cumberbatch & Moses, 2011; De Albuquerque & McElroy, 1992). Moreover, comparative studies have been conducted on SIDS mainly to examine their economic vulnerabilities.

The seminal work of Briguglio (1995) on SIDS was commissioned by the UN, borne out of the deliberations of United Nations Conference on Trade and Development. The primary purpose of the conference was to highlight the economic disadvantages facing SIDS. The aim of the study was to create a composite index of vulnerability in an attempt to quantify the major economic vulnerabilities of SIDS. Notwithstanding, the index failed to reflect SIDS as truly economically vulnerable. In an attempt to expand the composite index of vulnerability, the Tourism Penetration Index (TPI) was developed (De Albuquerque & McElroy, 1992).

The TPI, however, was limited to classifying SIDS with only a population of 500,000 or less. The construction of the TPI was guided by three criteria similar to that of the composite index of vulnerability. The main purpose of the TPI was to provide destination policy makers with an early warning sign for assessing the “non-sustainable

levels of visitor arrivals”. The islands were clustered according to a modified version of Butler’s 5-stage life cycle theory. In constructing the index, the researchers failed to include the seasonality of tourism variable. The exclusion of the seasonality of tourism variable seemed counterintuitive as it had major implications on the clustering of the islands and the recommendations made for the sustainability of tourism based on the clusters (De Albuquerque and McElroy, 1992).

Similar to Briguglio (1995), De Albuquerque and McElroy (1992) and Bojanic and Lo (2016) conducted a comparative study on SIDS, but it was not based on SIDS only. The comparison was between SIDS, regular countries and large islands. The focus was on classifying countries into quantiles according to their levels of economic development based on tourism receipts. Tourism receipts were used as a percentage of GDP to measure tourism reliance. In the conclusion of the study, it was substantiated that SIDS relied more on tourism for economic development than regular countries and large islands (Bojanic & Lo, 2016). Interestingly, the findings showed there was a strong association between achieving a higher level of economic development and implemented sustainable tourism policies in SIDS. Therefore, the assumption is, if tourism in SIDS is properly managed, it is possible for SIDS to realize economic growth even though they are heavily reliant on tourism (Bojanic & Lo, 2016).

Pratt (2015) had similar findings in another comparative study conducted on seven SIDS. The aim of the study was to assess the impact of tourism on their economies. The variables used to measure tourism’s impact on the economies were tourism expenditure multiplied by output and income multipliers (Pratt, 2015). The results highlighted the claim made in previous studies that tourism is indeed beneficial to

the economies of SIDS (Bhola-Paul, 2015; Twining-Ward & Butler, 2002). Pratt (2015) claimed that larger SIDS were able to take greater advantage of the increased tourism output producing what is referred to as the economies of size effect. A limitation of the study, however, was that the number of SIDS used in the study proved inadequate when compared to the total number of SIDS member states. This was attributed to the lack of available data (Pratt, 2015). It is worth noting even though tourism can contribute significantly to the development of SIDS, if not carefully monitored, it can lead to the destruction of the ecology and livelihood of the residents, a decline in the number of visitors and ultimately a decline in the economy (Bhola-Paul, 2015; Guler, 2006; UN-OHRLLS, 2011). Another vulnerability of the economies of SIDS is their overdependence on tourism.

Small island developing states overdependence on tourism is related to their limited economic diversity (Bhola-Paul, 2015; Bishop, 2010; Cumberbatch & Moses, 2011; UNWTO, 2014). On the other hand, it has been suggested that their size could be advantageous to tourism in that it ought to be easier to adapt to market demands in ways that effortlessly lead to economic development (Baldacchino, 2000; Croes, 2006; Streeten, 1993). The other challenges faced by SIDS, as discussed in the literature, include economic leakages through the repatriation of profits, high dependence on imports and a relatively high percentage of employment of foreigners (Potter, 1993; Scheyvens & Momsen, 2008a). The leakages from the economies of SIDS through tourism are mainly linked to the fact that the majority of the investments in the tourism industry is foreign-based. The loss of well-needed foreign exchange from their

economies poses a major challenge to island states, thus the appropriate governance of tourism is critical (Sharpley & Ussi, 2014).

The governance of tourism in SIDS as pointed out in the literature has implications for its viability (De Albuquerque & McElroy, 1992; Holder, 1988; McElroy, 2003; Sharpley & Ussi, 2014). The discourse is centered around which stakeholder truly governs the tourism industry in SIDS and their effects on the economy as well as the environment. Is it the government of SIDS or foreigners who truly control tourism (Erisman, 1983; Sharpley, 2003; Sharpley & Ussi, 2014; Wilkinson, 1989)? The external forces who influence how tourism is governed are not limited to only those who are direct stakeholders in the industry but include the markets from which the visitors originate as well as the international bodies which oversee the affairs of the countries which they represent (Bishop, 2010; Briguglio, 1995). Governance issues in SIDS include, but are not limited to, bureaucracy, corruption, lack of accountability from institutions, failure to implement planned policies relating to the tourism industry, and leakages (Aiyar, 2008; Meng, Siriwardana, & Pham, 2013; Pratt, 2015; Twinning-Ward & Butler, 2002). The implications of these issues are although the tourism industry contributes significantly to the economy, the lack of proper governance of the industry causes the country and its residents not to fully benefit from tourism (Sharpley & Ussi, 2014). There is also the case where the citizens feel disenfranchised as the land that was once controlled by local leaders are managed indirectly by foreigners, a transition facilitated by the government (Hampton & Jeyacheya, 2015). On the other hand, others have argued proper governance of tourism, even if it is in foreign hands, can indeed ensure long-term success (Griffith, 2002; Meng et al., 2013; Sharpley, 2003). Sharpley

(2003) further contends that dependency on external bodies is not necessarily a negative outcome of island tourism. Other researchers in earlier works have contended that environmental vulnerabilities to which SIDS are predisposed is a major challenge to the tourism industry.

Environmental issues experienced by SIDS have been the predominant research theme in the earlier works of the literature related to SIDS. The prevalence of environmental vulnerabilities as major research theme was primarily due to the natural resources destroyed by activities associated with tourism were the initial noticeable impact of tourism (Ali et al., 2015; Briguglio & Briguglio, 1996). In addition, SIDS are the most at-risk destinations for climate change (Hall, 2011). Other researchers have argued there is really very little that governments of SIDS can do to regulate the use and abuse of the natural resources because of the strong hold the foreigners have on the tourism industry (De Miquel-Molina, De Miguel-Molina, & Rumiche-Sosa, 2014; Wilkinson, 1989). Contrary to this, it was suggested if clear policies, strong collaboration among government agencies, monitoring and enforcement were in place SIDS could take control of their natural resources (Mycoo, 2014; Scheyvens & Momsen, 2008b). In contrast, one researcher pointed out that investment in the tourism industry often benefits the tourist rather than the residents (Hampton & Jeyacheya, 2015), thus creating social disadvantages which mainly affect the residents.

The social implications related to tourism in general are worsened in SIDS when compared to regular countries (Crandall, 1994; Ridderstat, Croes & Nijkamp, 2016). Research related to the social impacts of tourism is often based on the psychological dimensions of the resident and the tourist (Scheyvens & Momsen, 2008a). Moreover, the

degree of the impact is more penetrating on the residents of SIDS because of its smallness (Capenerhurst, 1994). Notwithstanding, tourism does contribute significantly to the reduction of poverty, improving the quality of life of the individual residents and the community as a whole (Akis et al., 1996; Ali et al., 2015; Briguglio, 1995; Ribeiro, et al., 2013; Scheyvens & Momsen, 2008a; Sharpley, 2003; Thomas, Pigozzi, & Sambrook, 2005). At the same time, tourism in SIDS poses a threat to the way of life of the residents (McElroy, 2003), therefore, solutions and strategies must be found to make tourism sustainable in these developing states.

Social Carrying Capacity

Small islands experience very high tourism densities in relation to their population and land area (Briguglio & Briguglio, 1996). Consequently, there is the assumption that SIDS tend to reach their SCC threshold very quickly. This stresses how critical monitoring the SCC of SIDS is to the sustainability and growth of the tourism product. Therefore, deliberate rather than reactive measures are necessary to control the growth of tourism.

The assessment of the SCC is one such preemptive approach. SCC considers the impact of tourism on the residents and tourists. Chadenas et al. (2008) argued SCC could be looked at as the capacity of the individuals' tolerance of tourism. The CC concept has been around since the 1940's. Historically, researchers were mainly concerned with how unrestricted use of naturally occurring recreational facilities would affect its long-term preservation (Stankey & McCool, 1984; Sumner, 1942 as cited in Stankey & McCool, 1984). As a result, CC studies were conducted primarily on recreational sites (Frissell & Stankey, 1972; Lime & Stankey, 1971; Stankey & McCool, 1984). In the 1970's,

tourism was seen as an industry that would cause no harm to the environment; this led to the uncontrolled development of tourism. The concept of CC in tourism stemmed from the need to manage the negative impacts caused by the development of the industry. Additionally, it became evident that mass tourism, a “high-intensity, high-impact type of tourism”, was damaging the physical as well as the social environs of the destination (Inskip, 1991; Saveriades, 2000). Hence, in sustainable development of tourism studies, the CC concept was a fundamental research theme (Graefe, Vaske & Kuss, 1984; Shelby & Heberlein, 1986; Da Silva, 2002).

Pioneer researchers of CC defined the concept as controlling the numbers of visitors that occupies a recreational site at any one time. The aim of which was to prevent destruction of the physical attributes of the site caused by overuse and establish a level of visitors at which sustainability was possible (Alipour, et al., 2006; Coccossis, 2008; Saveriades, 2000). Albeit, a number of researchers have explicitly or implicitly questioned the basis on which the CC is assessed as there are no established methods for measuring the concept (Getz, 1987; Kakazu, 2008; Marzetti & Mosetti, 2005). As a result, it was not fully accepted by tourism stakeholders as an approach for influencing sustainable tourism policy (Stankey & McCool, 1984). Furthermore, it lacked parameters and acceptable indicators of what signified damage to the environment, the community, the tourist, and the economy of a destination (Crandall, 1994). In addition, the techniques used were too complicated and difficult to adapt in a research context (Alipour et al., 2006). Nevertheless, other researchers argued in favour of how crucial the CC was to the development of tourism and is a means of establishing the standards for a sustainable tourism product (Coccossis, 2008; Jovicic & Ivanovic, 2007; Tovar & Lockwood, 2008).

In addition, once CC is being applied to humans, it must be recognized the concept is primarily socially determined (Seidl & Tisdell, 1999).

Over time, researchers and major tourism organizations turned their attention to the need to protect not only the natural resources but also the host population and the visitors. There was also increased awareness of the critical role played by residents and visitors in the sustainability of a tourism destination (Eugenio-Martin, 2011; Mansfeld & Jonas, 2006; Tovar & Lockwood, 2008; UNEP/UNWTO, 2012). The SCC is concerned about the effect of tourist development, activities and volumes on the residents and their quality of life, and also on the tourists and the quality of their experience (Marzetti & Mosetti, 2004; O'Reilly, 1986; UNCED, 1992). Current studies suggest using the SCC as a measure to control the impacts of tourism on the residents and the tourists.

The SCC is defined as the maximum number of visitors a destination can tolerate without causing permanent damage to that destination or a significant reduction in the quality of life of the residents and the quality of experience of visitors (Eugenio-Martin, 2011; Jurado, Damian, & Fernandez-Morales, 2013; Mansfeld & Jonas, 2006; Stankey, McCool & Stokes, 1984; Thomas, et al., 2005). The primary assumption governing the SCC is that when the threshold is breached, residents have a negative attitude towards the tourists and, in turn, the tourists seek out new attractions resulting in a subsequent sizeable decline in tourist arrivals (Butler, 1980; Doxey, 1975; O'Reilly, 1986).

Several researchers have suggested various forms of SCC (Marzetti & Mosetti, 2005; McCool & Lime, 2001). Marzetti and Mosetti (2005) intimated SCC thresholds exist for the residents and another for the tourists. On the other hand, it is presumed in the literature that an area can have several SCC thresholds, depending on the activities

(McCool & Lime, 2001; Stankey & Schreyer, 1985). Interestingly, not only are there various SCC limits, but it is believed the SCC threshold is not a single one-time measure, but it can change over time (Saveriades, 2000). The assumption is there is a positive correlation between the SCC threshold and the benefits of tourism accruing to the residents (Cheng, 1980; Cooper et al., 1993; Dogan, 1989; Iliopoulou-Georgudaki et al., 2016). In spite of this, existing studies have indicated the need for SCC research as a fundamental precondition to a sustainable tourism industry (Coccosis, 2008; Tovar & Lockwood, 2008; Saveriades, 2000).

Current studies recognized the usefulness of assessing the SCC to managing a sustainable destination (Cumberbatch & Moses, 2011; Eugenio-Martin, 2011; Needham, Szuster, & Bell, 2011). In fact, it has been suggested the tourism carrying capacity and by extension, the SCC, simplifies complicated issues relating to sustainability (Coccosis, 2008). Moreover, the evaluation of the SCC assists government and other stakeholders in making more informed decisions that ensure the development of a sustainable product which will satisfy not only the residents, but also the visitors to that community (Eugenio-Martin, 2011; Raymond & Brown, 2007). It is noted in the literature the residents have a critical role to play in the sustainability of tourism in a destination, more so in SIDS (Choi & Murray, 2010; Jackson & Inbakaran, 2006; Lopez-Bonilla & Lopez-Bonilla, 2008; Mansfeld & Jonas, 2006; Pappas, 2008; Ramseook-Munhurrun, & Naidoo, 2011). There is continuous deliberation in the literature about the method and variables to be used for assessing the SCC as well as the type of SCC to be assessed (Alipour et al., 2006; Marzetti & Mosetti, 2005; Chadenas, et al., 2008; Coccosis et al., 2001; Diedrich & Garcia-Buades, 2009; Lindberg, McCool, & Stankey, 1997). However, for a number

of researchers the value of measuring the SCC to the sustainability of the destination is a foregone conclusion (Cumberbatch & Moses, 2011; Jurado et al., 2013; Maggi & Fredella, 2010).

A few researchers pointed out that evaluating the residents' SCC necessitated assessing the attitudes and irritation levels of the residents (Doxey, 1975; Saveriades, 2000). On the other hand, Butler (1980) purported the SCC limit could be determined by evaluating the destination's life cycle stage as defined by the TALC. As stated earlier, the typical method used to assess the SCC is to determine the maximum number of visitors which cause a decline in tourist arrivals. Many authors agree it is difficult to arrive at a number because values, ethics and politics play a critical role in the numbers that visit an area or the restriction of the numbers to the area (Castellani & Sala, 2012; Jurado et al., 2013; McCool & Lime, 2001; Seidl & Tisdell, 1999).

Measuring Social Carrying Capacity

The most appropriate method for measuring the SCC of a destination is continuously deliberated in the literature (Alipour et al., 2006; Marzetti & Mosetti, 2004; Marzetti & Mosetti, 2005; Chadenas, et al., 2008; Coccossis et al., 2001; Diedrich & Garcia-Buades, 2009; Lindberg, McCool, & Stankey, 1997). A number of researchers have suggested using as its premise the combined attitudes and behavior of the residents to arrive at a fixed SCC threshold. For example, where the attitudes of the residents are largely negative, there will be a subsequent decline in tourist arrivals, at this point, the SCC threshold of the destination is breached (Butler, 1974; Butler, 2011; Doxey, 1975; Jurado et al., 2013; Martin & Uysal, 1990; McGhehee & Andereck, 2004).

In pioneering and subsequent studies, the primary indicator of the SCC is a decline in the number of tourists, but the methods used have raised doubts about its accuracy as well as its relevance (Kakazu, 2008; Lopez-Bonilla & Lopez-Bonilla, 2008; Saveriades, 2000). Recent research has tended to show the numerous issues that complicate measuring the SCC. The argument put forward is the application of limiting the number of tourists is of more relevance to certain types of tourism activities. For example, tours conducted to nature reserves and historical sites, but for destinations, it has little to no operational meaning (Castellani & Sala, 2012). Meanwhile, SIDS are challenged by the political difficulties in accepting limits to development (Coccosis, 2008; Sharpley & Ussi, 2014). The usefulness of the number limit as a measure of the SCC is further questioned by numerous scholars. They have grappled with several issues including the seasonality of tourism, possible changes in the attitude of the residents towards tourism, and more importantly, the number limit lacks the critical component of providing early warning signals of the approach to the SCC threshold (Ap, 1992; Marzetti & Mosetti, 2005; Chadenas et al., 2008; Damonte et al., 2012; Gallopin, 1997; Lime, 1970; McCool & Lime, 2001). Hence, it can be inferred that the maximum number of tourists that cause a decline whether in the quality of life of the resident or the quality of the experience of the visitor has its limitations. Therefore, it is not an ideal measure of the SCC.

A number of studies have attempted to establish a numerical figure for the SCC limit based on the assessment of the attitudes, behaviors or perceptions of the residents and the tourists (Marzetti & Mosetti, 2005; Kakazu, 2008; Jurado et al., 2013; Saveriades, 2000). Marzetti and Mosetti (2005) proposed using two models of measuring SCC of

mass tourist sites based on economic models using levels of crowding. The cost-benefit analysis (CBA) assumes the SCC is the optimum number of visitors which maximizes the social net benefit and the cost valuation method (CVM) attempts to measure residents' and visitors' loss of welfare due to overcrowding. The researchers further argued that there are two SCC limits one for residents and another for visitors. The SCC for the residents and tourists is based on the maximum number of visitors capable of optimizing the social welfare of the host community and the satisfaction levels of the tourists respectively. Recognizing, however, that the two SCC limits may be in conflict and it is the responsibility of the local policy makers to arrive at a consensus that can allow for sustainable growth. Both methods are based on value judgement lacking in objective data, thus making obvious their unreliability.

In spite of this Kakazu (2008) adapted the CVM from Marzetti and Mosetti (2005) but introduced the net present value (NPV) approach for calculating the SCC for island tourism, specifically in the case of Okinawa, Japan. It is worth noting the two numerical limits were calculated based on the CVM and NPV methods which yielded different numerical results. Similar to Marzetti and Mosetti's (2005) results. Kakazu (2008) concluded the variables used to determine the SCC did not have available reliable data. Therefore, the number of tourists which represented the SCC limits was not valid.

In another study based on three regions in the Republic of Cyprus, ratios of the number of tourists to the number of residents were developed to determine SCC of the destinations. However, it was inconclusive as to whether the SCC was breached as some of the residents were willing to tolerate the increasing numbers of tourists due to the

derived benefits. Further, the method used to arrive at the ratios was not explicitly outlined (Saveriades, 2000). There remain many unanswered questions.

A study conducted by Lopez-Bonilla & Lopez-Bonilla (2008) utilized a ratio similar to Saveriades (2000). However, the ratio was based on the number of unsatisfied to satisfied tourists, in an attempt to arrive at a numerical figure for the SCC limit. In their conclusion the researchers contended there was no need to calculate a determined number of tourists as a tolerance threshold of a destination. Empirical evidence confirmed it was more prudent to have indicators that alerted destination managers to a decline in satisfaction levels which would require prompt intervention to address the problem. McCool and Lime (2001) concurred with the use of indicators to assess SCC, but with emphasis on indicators that trigger responses to a situation requiring correction, the researchers suggested the use of Limits of Acceptable Change (LAC). The assumptions of the LAC are negative impacts are inevitable once tourism activity is present. The control of negative impacts lies in the appropriate acceptable conditions versus unacceptable conditions. Once unacceptable conditions are emerging, destination managers can implement measures to control, reduce or mitigate the impacts. The weakness in using the LAC, is the difficulty in arriving at and agreeing to the limits that would represent the threshold. Furthermore, the method is lacking in scientific theory even though they are enveloped in decision-making frameworks (Castellani & Sala, 2012).

Limitations of Social Carrying Capacity.

Coccosis (2008) stated and other researchers concurred that as a concept SCC is powerful and can be used to assess the current state of tourist destinations in order to

review the course of development pursued and attempt to provide a plan to steer it towards sustainable development (Alipour et al., 2006; Marzetti & Mosetti, 2005; Eugenio-Martin, 2011; Raymond & Brown, 2007; Saveriades, 2000). Nonetheless, it is believed the SCC approach is limited by the difficulty in its application at the “operational level” (Coccossis, 2008).

The practicality of the SCC measure is impacted by a number of limitations: “political interferences, non-acceptance of limits, arriving at a common goal, differing measurement methods, destination managers and stakeholders’ apathy towards decisions” (Coccossis & Mexa, 2004, p. 7). Furthermore, the process of evaluating and executing the SCC approach may be tedious and time-consuming, and also requires the input of several stakeholders. Destination managers could find it onerous to implement and sustain because the SCC measure is not static (Coccossis, 2008). It has been suggested that out of all the various types of CC, the SCC threshold may be the most problematic to evaluate. This is because of the challenge involved in measuring attitudes and perceptions (Saveriades, 2000). The social exchange theory (Ap, 1992) attempts to explain and suggest how to overcome this issue.

Though challenges exist regarding the measurement and implementation of the SCC of a destination, it is still significant for the proper planning of tourism development with the aim of remaining competitive and able to support future generations. As was stated in a report to the European Union on tourism carrying capacity, the SCC is not a fixed concept and ought to be regarded as a tool for guiding policy formulation and implementation towards sustainable tourism (Coccossis et al., 2001). That being so, Manente (2008) indicated the weaknesses relating to evaluating SCC can be tackled by

the selection of appropriate indicators that provide early warning signs of pending unsustainable conditions. In addition, it is critical to use indicators which are policy relevant, able to provide coinciding evaluation of various aspects of society, and are beneficial to destination managers, government and other stakeholders (Gallopín, 1997; Manente, 2008).

Social Indicators

Description and Purpose

In Butler's (1999) pioneering study, it was observed a lack of suitable indicators for CC related to sustainable tourism. Further, it was noted the decline in attractiveness of the destination perceived through a reduction in tourist arrivals, as an indicator was considered "non-sustainable" (Butler, 1999, p. 39). Butler (1999) also claimed such indicators were often too late for suitable remedial action. Although tourism impact research has made significant progress, there was still the issue of determining which indicators were more beneficial in monitoring whether or not a destination was on a sustainable course, especially in SIDS (Weaver, 2006).

It was pointed out in several studies the ideal indicator of the SCC must be diagnostic in nature, that is, providing early warning signs of potential negative impacts, by drawing attention to specific problem areas that can lead to the instability of the tourism industry while at the same time promote sustainable growth (Ceron & Dubois, 2003; Choi & Sirakaya, 2006; Hart, 1997; Miller, 2001). Tsaur, Lin, and Lin (2006) defined indicators as instruments to assess and monitor the advancement towards sustainable development. Miller (2001) contended the most important characteristic of an indicator was that it measures the "phenomena" for which it is designed. The number

of tourists as an indicator of a breach of the SCC is viewed from two perspectives: the declining number of tourists; and the number of tourists that cause harm to the destination. It is acknowledged in the literature the number of tourists is a suitable indicator of SCC breaches. Further, it does not satisfy any of the criteria mentioned earlier, neither does it aid in the movement towards the sustainability of a destination (Lopez-Bonilla & Lopez-Bonilla, 2008; McCool & Lime, 2001; Miller, 2001). Other researchers argued in favor of a set of indicators which would systematically track and monitor socio-economic changes. The aim of which is to amend, where necessary, measures designed to sustain tourism within a destination (Choi & Sirakaya, 2006; Lopez-Bonilla & Lopez-Bonilla, 2008; McCool & Lime, 2001; Park & Yoon, 2011).2002).

Selection of Indicators

According to Gallopin (1997), the selection of indicators must be guided by certain principles to ensure their reliability, validity and relevance to what is being measured. Additionally, indicators must be practical, manageable, robust, investigative, generalizable, measurable and affordable, and policy relevant. Additionally, pertinent indicators need to be integrated into existing policies as well as incorporated into new policies and easily applied to other similar tourism areas with well-defined data sources (Castellani & Sala, 2012; Choi & Sirakaya, 2006; Kakazu, 2008; Miller, 2001; Twining-Ward & Butler, 2002).

The number of tourists as a primary indicator to determine the SCC limit of a destination failed to provide information that lead to controlling, reducing and mitigating impacts which put the destination at risk for future generations. This benchmark also does

not meet the standards of a pragmatic indicator. Therefore, a gap remains in the literature for studies that investigated other possible key SCC indicators capable of quantifying, simplifying and transforming the data into information which facilitated proper planning of tourism development with the view of remaining competitive and able to support future generations (Coccosis, 2008).

The study examined indicators based on variables used in previous research (Andereck & Nyaupane, 2011; Eugenio-Martin, 2011; Mansfeld & Jonas, 2006; Pappas, 2008; Saveriades, 2000). The aim of the research was to establish indicators by empirical methods that were sound predictors of SCC in the small island developing state of Jamaica as this was not previously done. The proposed indicators were the residents' QOL and tolerance of tourism. Residents' perception and attitude towards tourism is critical to its sustainability (McDowall & Choi, 2010; Pizam, 1978).

Sustainability and Residents' Perceptions

According to Coccosis, Mexa, and Parpairis (2001), the resident is a critical element of the "hospitality" shown to visitors and, by extension, the sustainability of the destination. Hence, the essential role of the residents as well as their perception of and attitude towards tourism has been researched extensively over the last three decades (Garcia, Vazquez, & Macias, 2015; Sharpley, 2014). In respect to the Caribbean and the Mediterranean, there was some concern regarding the lack of studies in these areas even though they are heavily dependent on tourism (Perez & Nadal, 2005). Studies relating to residents' perceptions and attitudes have investigated the effects of tourism on the residents from an environmental, economic and social perspective from a single community to island states and even entire countries (Andereck, Valentine, Knopf, &

Vogt, 2005; Gursoy, Jurowski, & Uysal, 2002). The majority of the studies have highlighted how responses to the impacts of tourism on the individual, the community as well as clusters within a community have differed (Davis, Allen, & Consenza, 1988; Harrill, 2004; Huang et al., 2007). An extension of these studies examined residents' perceptions and attitudes linked to the CC and the SCC of the area (Alipour et al., 2006; Jovicic & Dragin, 2008). The differences in responses from the residents have been attributed to socio-demographic, economic variables and assumptions related to various theories: Butler's TALC, Doxey's Irridex, and the Social Exchange Theory. The basic problem being addressed in the literature was the extent to which residents' perception affected the viability of tourism in the area. (Butler, 1974; Coccossis, 2008).

Understanding the residents' perception of tourism is significant to their participation and support, and is integral to a sustainable tourism product (Boxhill, 2004; Choi & Sirakaya, 2006). In addition, the research on residents' perception of tourism can assist planners to choose developments that maximize the benefits and minimize costs to the residents (Mason & Cheyne, 2000). In doing this the destination managers are able to garner the support of the local community and ensure the sustainability of tourism within the destination (Ritchie & Inkari, 2006). The residents' perceptions and attitudes are influenced by how they see their lives and lifestyles changing as a result of tourism. Wall (1982) stated the social impacts of tourism really are the changes to the quality of life (QOL) of the resident.

In the majority of the research in the literature no distinction is made between perceptions and attitudes (Deery et al., 2012; McDowall & Choi, 2010). In fact, they are often used interchangeably, consecutively and concurrently (Perdue, Long & Allen,

1990). Sharpley (2014) discussed whether there was a difference in the two concepts in the review of literature on resident perceptions, only to conclude that it was purely “semantics” (p. 44).

Residents’ Perception of Tourism

Table 1 shows copious studies that have examined residents’ perceptions and attitudes towards tourism. The general areas covered included QOL, tourism impacts whether social, economic or environmental, tourism development.

Table 1

Studies on Residents’ Perceptions and Attitudes in Tourism

Area of Study	Author and Date
Quality of Life	Andereck and Nyaupane (2011), Aref (2011), Guo, Kim, and Chen (2014), Khizindar (2012), Kim (2002), Kim, Uysal, and Sirgy (2013), Ridderstaat, Croes, and Nijkamp (2016).
Tourism impacts	Ap (1992), Assante, Wen, and Lottig (2012), Bagri and Kala (2016), Da Cruz Vareiro, Remoaldo, and Ribeiro (2013), Davis, Allen, and Cosenza (1988), Getz (1994), Huttasin (2008), King, Pizam, and Milman (1993), Mansfeld and Jonas (2006), McDowall and Choi (2010), Pizam (1978), Tosun (2002), Tovar and Lockwood (2008), Wang & Pfister (2008).
Tourism Development	Jackson and Inbakaran, (2006), Perdue, Long, and Allen (1990), Mason and Cheyne (2000), Pappas (2008), Raymond and Brown (2007), Ribeiro, Oom do Valle, and Silva (2013), Ritchie and Inkari (2006), Sinclair-Maragh (2016), Sinclair-Maragh, Gursoy, and Vieregge (2015).
Tourism Events	Fredline and Faulkner (2000), Lawton and Weaver (2015), Weaver and Lawton (2013).
Benefits from Tourism	Ramesook-Munhurrun (2011), Wang and Pfister (2008)
Review of related literature	Deery, Jago, and Fredline (2012), Harrill (2004), Sharpley (2014).

Note. This table is inclusive of studies that evaluated residents’ perceptions and attitudes in tourism. Therefore, its coverage is not exhaustive.

In fact, according to McGehee and Andereck (2004) residents' attitudes and perceptions toward different aspects of tourism was one of the most researched areas of study in tourism. Jafari (1986) identified three distinct aspects of tourism that researchers focused on by decades. In the 1960s, the focus was on the positive impacts, in the 1970s, it was on the negative impacts and in the 1980s, researchers had a more balanced approach. McGehee and Andereck (2004) noted in the following decade there was a shift to studying the residents in their community. With the recognition of the critical role residents hold in the sustainability of tourism, researchers have focused on different areas with the aim of identifying the concerns of the residents. Further, in these studies recommendations were made to address the attendant issues.

A number of researchers whether implicitly or explicitly have linked residents' perceptions and attitudes to the SCC concept (Lopez-Bonilla & Lopez-Bonilla, 2008; Mansfeld & Jonas, 2006; Saveriades, 2000). Other studies have focused on residents' perception of the effect of tourism on their QOL (Andereck & Nyaupane, 2011; Guo, Kim, & Chen, 2014; Khizindar, 2012; Kim, Uysal, & Sirgy, 2013; King, Pizam, & Milman, 1993).

Other studies examined residents' perceptions and attitudes regarding impacts on one or all three of the following domains, namely, environmental, economic and social (Ap, 1992; Bagri & Kala, 2016; Da Cruz Vareiro, Remoaldo, & Ribeiro, 2013; Davis, et al., 1988; Huttasin, 2008; McDowall & Choi, 2010; Pappas, 2008; Pizam, 1978; Tovar & Lockwood, 2008). Another area of research is the residents' attitude towards and support for proposed and established tourism attractions as well as cultural and community tourism development (Choi & Murray, 2010; Jackson & Inbakaran, 2006; Mason &

Cheyne, 2000; McGhehee & Andereck, 2004; Pappas, 2008; Raymond & Brown, 2007; Ribeiro et al., 2013; Ritchie & Inkari, 2006; Sinclair-Maragh, 2016; Sinclair-Maragh, Gursoy, & Vieregge, 2015; Wang & Pfister, 2006). A few studies examined residents' attitude towards major events in their community (Fredline & Faulkner, 2000; Lawton & Weaver, 2015; Weaver & Lawton, 2013).

Another area of focus was on existing levels of tourism (Long, et al., 1990; Ridderstaat, Oduber, Croes, Nijkamp, & Martens, 2014), where dependency on tourism was the main focus of these studies (Ap, 1992; King et al., 1993; Pizam, 1978), while other studies sought the opinion of residents about government's management of tourism (Assante et al., 2012; Davis et al., 1988). Further, other research looked at host's perceptions to determine destination decline (Butler, 1974; Diedrich & Garcia-Buades, 2009; Manente & Pechlaner, 2006). Content analysis was conducted on residents' attitude towards tourism development and social impact literature (Deery, et al., 2004; Garcia et al., 2015; Sharpley, 2014). Attitudes towards perceived tourism benefits were also examined (Ramesook-Munhurrun, 2011; Wang & Pfister, 2008). The two common areas recurring in the literature, though not the primary variable under study for some of the studies, was the QOL and the other was the socio-demographic of respondents.

Residents' Perception of Quality of Life

Studies conducted on residents' perceptions of tourism most often included the QOL variable. Interestingly, the perceptions and attitudes of the residents towards tourism were circuitously presumed to determine if the SCC threshold of a destination is breached (O'Reilly, 1986). Therefore, the question that must be addressed in every destination is whether the residents' QOL is truly better or worse because of tourism and

if the residents' perception of tourism is impacting the SCC. A number of researchers contend the answer to these questions can likely decide the fate of tourism in a destination (Gursoy et al., 2002; Williams & Lawson, 2001).

According to Andereck and Nyaupane (2011) the importance of QOL studies lies in the specificity of information, as QOL studies look at how tourism affect the lives of residents. As a result, studies relating to residents' perception and attitude regarding how tourism has affected their QOL have been the focus of many studies relating to the sustainability of tourism in communities, islands and entire countries (Akis, et al., 1996; Andereck & Nyaupane, 2011; Ap, 1992; Aref, 2011; Da Cruz Vareiro, et al., 2013; Diedrich & Garcia-Buades, 2011; Guo, et al., 2014; McDowall & Choi, 2010). It is widely acknowledged that tourism improves the QOL of the residents, but there is also evidence to show where their QOL is adversely affected, an issue which should not be ignored (Khizindar, 2012; King et al., 1993).

It can be concluded there is a general consensus that residents often can separate the benefits and costs of tourism. However, this awareness of the negative impacts does not necessarily affect their support for tourism (King, et al., 1993). There is theory and evidence which corroborates this fact, suggesting certain variables may interfere with the residents' responses, which may be in conflict with the reality (Ap, 1992; Ridderstaat, Oduber et al., 2014). Frequently tested in QOL studies is the effect of the socio-demographic and dependency on tourism (economic variable) on the residents' perception of tourism on their QOL. Evidence exists in literature to both support and refute the fact that demographic variables intervene in the residents' perceptions and attitudes of the impact of tourism on their QOL (Harrill, 2004). Nevertheless, it cannot

be overlooked that when the negative impacts of tourism surpass the positive impacts, residents' perceptions of their QOL are less favorable and tourism is no longer seen as beneficial (Ap, 1992).

The effects of tourism on the QOL of residents can be viewed from two perspectives, that is, how it affects their personal lives and how it affects their community as a whole (Aref, 2011; Kim et al., 2013). In previous research it was found that residents' perception of their QOL was positive even when it negatively impacted their QOL, mainly because they are directly dependent on tourism for their livelihood (Mansfeld & Jonas, 2006; Saveriades, 2000). Contrary to this, other researchers have stated that residents have a positive attitude towards tourism even if they are not directly dependent on tourism, because they know the overall benefits of tourism to the community (Tovar & Lockwood, 2008)). The assumption is residents who perceive tourism in a positive light are receptive to tourists and, in turn, create a satisfying experience for the tourist, and when this happens the tourists will want to return (Wang & Pfister, 2008). Further to this, according to Jurowski and Gursoy (2004), residents who receive greater benefits from tourism have a more positive perception than those residents who receive fewer or no benefits. Hence the hypotheses:

H₁: Residents with a positive perception of tourism are more receptive to tourists.

H₂: There is a positive relationship between the residents' perceived benefits from tourism and their perception of tourism.

The impacts of tourism on QOL is discussed in the literature but it is difficult to separate it from economic and environmental impacts since residents' QOL is so

interconnected within the community. Nevertheless, the distinction between QOL and other impacts has been attempted (Andereck & Nyaupane, 2011; Aref, 2011). Moscardo (2009) claims that the personal perspective of QOL is subjective, because QOL is concerned with an individual's sense of how well things are going for them, therefore QOL is concerned with the person's perceived satisfaction with the circumstances in which they live. The very fact that it is based on an individual's perception makes it subjective (Andereck & Nyaupane, 2011; Coccossis, 2008).

The community perspective is more likely to be objective (Uysal, Sirgy, Woo, & Kim, 2016), as one can readily see and measure the mechanisms and infrastructure that have been put in place to improve the QOL of the community. The positive impacts affecting the residents QOL include employment opportunities, educational opportunities, financial prosperity and increased entertainment for the residents (Mason & Cheyne, 2000). The costs to the residents are overcrowding, lack of access to tourism area, attractions and, entertainment, crime and prostitution. In effect, the negative impacts are what threatens the SCC threshold, the residents' tolerance of tourism and the sustainability of tourism in the area (McCool & Lime, 2001; Pizam, 1978).

In the literature the discussion regarding residents' perception of their QOL highlighted the recurring themes (Harrill, 2004). The following factors were repeatedly of significance: socio-economic factors, spatial factors and, economic dependency (Sharpley, 2014). Others used demography, tourist flows, employment, social behavior, health and safety, psychological issues (Coccossis et al., 2001). One of the major findings across the literature was where residents were willing to make concessions

regarding the negative effects relating to their QOL when economic benefits were involved (Ap, 1992; Diedrich & García-Buades, 2009; Mansfeld & Jonas, 2006).

In one study it highlighted where the residents felt tourism was solely responsible for the spread of AIDS epidemic in their region. Surprisingly, this did not affect their support for more tourism (Saveriades, 2000). Tovar and Lockwood (2008) were assessing the perceptions and attitude of local residents in Tasmania, a rural region in Australia. Respondents indicated that tourism had a greater positive impact on the community and but had very little effect on their personal quality of life. On a personal level they benefitted from better shopping, dining and recreational facilities; it also contributed to the development of better public spaces. At the community level, they felt it stimulated the economy and increased community pride. The negative effects on a personal level were the increase in prices of goods and services and overcrowding of public spaces and facilities. More than half felt, from a community perspective, there was increased property prices and value, environmental deterioration and too much money spent for tourists (Tovar & Lockwood, 2008).

Huttasin's (2008) study on a tourism village in Thailand found that community benefits were the generation of income, job opportunities, creation of jobs for women, attraction of investment, increase in the pride of the villagers, increase in the standard of living. Moreover, the villagers were given the chance to be entrepreneurs, as confirmed by previous studies (Andereck & Vogt, 2000; Andriotis & Vaughan, 2003). The residents also believed tourism brought them pride in being self-sufficient, and pride in the cultural and traditional heritage of the village (Dyer, Gursoy, Sharma & Carter, 2007; Besculides, Lee & McCormick, 2002; Gilbert & Clark, 1997; Perdue, Long, & Allen,

1987; Sheldon & Var, 1984). The results of the studies were explained by Doxey's (1975) Irritation Index where the residents are in a state of euphoria. While in relation to Butler's (1980) destination life cycle theory the destination itself is at the involvement stage. Demonstrating that the residents' perception of their quality of life and their tolerance of tourism can be explained by Doxey's (1975) Irridex model and Butler's (1980, 1999) TALC and by extension Ap's (1992) SET. Nevertheless, relatively few, if any studies have been carried out in Jamaica, a SIDS, on the impact of tourism on the residents' perception of their QOL and their tolerance of tourism.

Residents' Tolerance of Tourism

Residents' tolerance of tourism is another factor that significantly affects the sustainability of tourism within a destination. Tolerance of tourism is defined as the extent to which residents of a destination accept the various aspects of tourism of which they disapprove (Crick, 1973, Ryan & Aiken, 2010). Marcus, Pierson, and Sullivan (1980) stated tolerance assumes opposition or disagreement. People are intolerant or tolerant to whatever it is that they oppose (p. 733). The SCC of residents is linked to their tolerance of tourism in their community (Chadenas et al., 2008). As stated earlier the smaller the land mass, the more quickly it will reach its density and the more rapidly it ought to reach its SCC limit (Bojanic & Lo, 2016; Briguglio, 1995). The result of this could be where residents display hostility towards tourists, tourism development, tourism stakeholders and even to other residents through the demonstration effect (Gilbert & Clarke, 1997; Irandu, 2004). A number of researchers have concluded, when residents become antagonistic towards tourists, they are dissuaded and begin to visit other destinations. This results in a drastic reduction of tourist numbers and a subsequent

downturn in the tourism industry (Butler, 1980; Doxey, 1975; Eugenio-Martin, 2011; Jackson & Inbakaran, 2006).

Therefore, residents' tolerance of tourism needs to be assessed to determine whether their SCC threshold is exceeded, notwithstanding the assumption of Social Exchange Theory (SET) which postulates that even though residents are experiencing some negative effects of tourism they will still tolerate tourism (Ap, 1992; Damonte et al., 2012; Jurowski & Gursoy, 2004). On the other hand, there are other residents who feel differently, exposing the fact as asserted by some scholars that residents in a destination are not likely to have homogenous perceptions nor are their attitudes unidirectional towards tourism (Androitis & Vaughan, 2003; McElroy, 2003; Ritchie & Inkari, 2006). Therefore, the need to examine the perceptions empirically is critical to a valid assessment of the SCC of the destination (Diedrich & García-Buades, 2009; Lopez-Bonilla & Lopez-Bonilla, 2008; Sharpley, 2014).

Socio-demographic Variables

Many studies have reported the benefits and costs of tourism are perceived differently across demographics (Jackson & Inbakaran, 2006; Mason & Cheyne, 2000). In some studies, the researchers argued convincingly that demographics significantly influences the residents' perception of their QOL, and likewise, the residents' tolerance of tourism (Ryan & Aicken, 2010). As Andereck and Nyaupane (2011) pointed out, there has not been any consistent findings regarding the statistical significance between the socio-demographic variables and residents' perception. Nevertheless, other researchers have indicated the relevance of examining the relationship between

demographic variables and residents' perception (Mason & Cheyne, 2000; Sinclair-Maragh, 2015).

Examining the relationship between demographic variables and resident perceptions and attitudes becomes even more significant in the context in which it was examined as with Mason and Cheyne (2000), where they examined the establishment of a café/bar in rural New Zealand. It was found that women were more opposed to the establishment because of the negative impact they perceived it would have, for example, an increase in drunk driving. While men on the other hand, were more supportive. The importance of assessing demographic variables is that destination managers have empirical evidence to support the planning and management of tourism. Therefore, it is crucial for the demography of the residents in each area under study to be evaluated in order to get more information to fully understand and appreciate the reason behind the perceptions and attitudes of the residents (McGehee & Andereck, 2004). The socio-demographic variables that are frequently examined in the literature are age, gender, educational level, income, length of residency, proximity of residence and dependency on tourism (Diedrich & Garcia-Buades, 2009; Garcia et al., Vazquez & Macias, 2015; Harrill, 2004). Interestingly, in some studies dependency on tourism, length of residence and proximity of residence are not considered socio-demographic variables (Davis et al., 1988; McGehee & Andereck, 2004).

Examining the socio-demographic variables in relation to residents' perception would further strengthen the predictive capacity of the findings. Harrill (2004) highlighted in the review the socio-demographic variables as playing a key role in terms of explaining the variation in resident attitudes toward tourism development. In contrast,

Huttasin (2008) reported the socio-demographics were not found to be good variables to predict the social impacts of tourism in the Baan Tawai village. In some of the related literature, dependency on tourism was classified as a socio-economic variable, while in other studies it is considered a socio-demographic variable (Pizam, 1978; Wang, Pfister & Morais, 2006). Hence, in order to critically examine the effect of the dependency on tourism on QOL and tolerance of tourism it will be tested as a socio-economic variable.

Oftentimes, the findings of studies in relation to residents' perceptions and the demographic variables contradicted each other. The contradiction has been explained by the fact that destinations are influenced by their history, culture and socialization which in turn affects how the demographics are likely to impact the residents' attitude (Garcia, et al., 2015). Sinclair-Maragh (2016) used similar demographic variables in assessing the attitude of the residents' support of tourism development in Jamaica. It was based on the identity theory, demographics play a critical role in the planning of tourism development which the residents will support. For this reason, it is clear for any study conducted on assessing residents' perceptions to be credible it ought to be analyzed in relation to their demographics. The demographics to be examined in correlation to residents' perceptions of their QOL and tolerance of tourism in this study are, as in similar studies, age, gender, educational level, income level, proximity to tourism center and length of residency.

Age

Given the evidence in the literature it can be deduced that age influences the residents' perception towards tourism and their quality of life (Akis et al., 1996; Ritchie & Inkari, 2006; Sinclair-Maragh, 2016). Nevertheless, findings of other studies refute the effect of age on residents' perception on specific variables, namely environmental

impacts (Bagri & Kala, 2016; Kuvan & Akan, 2005). The results of several studies contend that older persons had a more positive perception of tourism than younger ones (Khizindar, 2012; Snyman, 2014; Tomljenovic & Faulkner, 2000; Tosun, 2002). Contrary to this, in the results of other studies, older persons had a more unfavorable perception of tourism than younger ones because it negatively affected their quality of life, their identity, the morality, and culture of the community (Cavus & Tanrisevdi, 2002; Da Cruz Vareiro, Remoaldo & Cadima Ribeiro, 2013; Deng, Arbogast & Selin, 2011; Hampton & Jeyacheya, 2015; Huang, Wall & Mitchell, 2007; McGehee & Andereck, 2004; Sinclair-Maragh, 2016). Some possible reasons younger persons supported tourism was because they would benefit through accessing jobs and were able to afford the entertainment and recreational facilities provided for the tourists (Hugh & Vogt, 2008; Pizam, 1978; Tomljenovic & Faulkner, 2000; Tovar and Lockwood, 2008).

On the other hand, the same researcher found younger people were more vulnerable to increase in prices of goods, services and rent (Tovar & Lockwood, 2008). Interestingly, as suggested by Huh & Vogt (2008), age could explain the change in perceptions which may occur over time. The findings of their study showed as the age increased the perceptions became more negative (Huh & Vogt, 2008). Hence the hypotheses:

H_{3a}: There is a relationship between the residents' age and the perception of their quality of life.

H_{3b}: There is a relationship between the residents' age and their tolerance level of tourism.

Gender

In several studies, the researchers argued persuasively about the gender of residents affected their perception of tourism (Mason & Cheyne, 2000; Pappas, 2008; Sinclair-Maragh, 2016; Wang & Pfister, 2008). However, there is also evidence of how males and females' perceptions of tourism were similar in some cases (Khizindar, 2012; Mansfeld & Jonas, 2006; Sharpley, 2014; Tosun, 2002). The studies highlighted because women are more nurturing, their response will either be protective, where they sense a threat or supportive if they perceive there is an opportunity to provide for their families (Fischer & Arnold, 1994; Nunkoo & Gursoy, 2012). This claim was corroborated in numerous studies. For example, in Mason and Cheyne's (2000) research of rural communities in New Zealand, female respondents were more opposed than men to tourism based on the type of development and the perceived negative impacts, even though they recognized that there were economic benefits. Khizindar's (2012) study on the effects of tourism on residents' QOL in Saudi Arabia found that men were more positive about the positive social and environmental effects of tourism.

A study by Harrill and Potts (2003), conducted in South Carolina, acknowledged gender as a significant predictor of the perceptions of tourism. In other studies, the women who supported tourism did so because it would create jobs and open opportunities for business (Pappas, 2008; Wang & Pfister, 2008). The results of these studies clearly indicate gender differences in perceptions of tourism and the need to examine the perceptions in order to make a reliable assessment of the SCC of a destination (Kuvan & Akan, 2005).

Hence the hypotheses:

H_{4a} Residents' perception of their quality of life is influenced by gender.

*H*_{4b} Residents' tolerance of tourism is influenced by gender.

Education Level and Income

Evidence from the literature infer education and income level variables as being closely associated (Saarinen, 2003). It can be deduced after analysis of related literature the likelihood that the higher the education level of a respondent, the higher the income. The opposite of this inference is also likely (Haralambopoulos & Pizam, 1996). The higher the education and income level of the respondents the more positive they were about tourism (McCool & Martin, 1994; Pizam 1978; Teye, Sirakaya, & Sonmez, 2002; Snyman, 2014). The more positive attitude of those with a higher education was due to the residents' exposure to information about the benefits of tourism than those with a lower education (Teye et al., 2002). Contrary to the findings previously mentioned other studies have shown wheret income and education were not reliable predictors of residents' attitude (Sinclair-Maragh, 2016; Snyman, 2014).

On the other hand, other researchers reported residents with an average to low education had a more favorable perception towards tourism than those with a higher education (Androitis & Vaughan, 2003; Khizindar, 2012). Residents' with a higher education were more concerned about the negative environmental tourism impact than their less educated counterparts (Hernandez, Cohen, & Garcia, 1996; Sheldon and Abenoja, 2001). Respondents with higher education were less concerned about the negative effects of tourism on the community's quality of life (Harrill, 2004). The greater recognition of personal opportunity benefits among highly educated respondents were related to their relative ability to access shopping, dining and recreational opportunities (Sharpley, 2014, Tovar & Lockwood, 2008). Residents with a higher level

of education were also less concerned about the negative effects associated with an increase in prices of goods and services and properties and the uneven distribution of benefits derived from tourism (Tovar & Lockwood, 2008).

As with other socio-demographic variables various studies had differing results. For example, the results of one study revealed residents with higher incomes had more positive attitudes towards tourism. While residents with lower income had negative attitudes towards tourism (Haralambopoulos & Pizam, 1996). Other studies highlighted residents with lower income had stronger negative perceptions of tourism impacts and disagreed tourism brought more job opportunities. On the contrary however, they believed tourism did not increase the cost of living compared with the higher income groups (Ritchie & Inkari, 2006). Further, another study conducted in the 14 parishes of Jamaica showed there was no relationship between residents' income and tourism development (Sinclair-Maragh, 2016). Therefore, given the evidence the following hypotheses were developed:

- H_{5a}: There is a positive relationship between resident's perception of tourism impacts and their education level on their perceived quality of life.
- H_{5b}: There is a positive relationship between the education level of the resident and their tolerance of tourism.
- H_{6a}: There is a positive relationship between resident's perception of tourism impacts and income level and on their perceived quality of life.
- H_{6b}: There is a positive relationship between the income level of the resident and their tolerance of tourism.

Proximity to Tourism Center

Another factor which significantly influences the views of tourism's positive or negative impact on the residents QOL and tolerance is their proximity to the tourism center (Jurowski & Gursoy, 2004; Milman & Pizam, 1988).

The proximity to the tourism center refers to the distance the residents live from the tourism hub (Jurowski & Gursoy, 2004). In some literature it is referred to as spatial factors (Harrill, 2004; Long et al., 1990; Raymond & Brown, 2007). It has been hypothesized that residents who live closer to the center of the tourism center are more likely to have negative attitude towards tourism, than those further away (Harrill, 2004; Raymond & Brown, 2007). The hypothesis has been accepted in some studies and rejected in others. For example, residents living closer to the tourism hub had a more positive attitude to tourism (Belisle & Hoy, 1980; Haley, Snaith, & Miller, 2005; Huttasin, 2008; Sheldon & Var, 1984). Furthermore, in one study done in Lewes district, Southern England and another in Victoria, Australia residents living within a one to five-mile zone agreed tourism improved shopping, cultural activities, and dining options (Jackson & Inbakaran, 2006; Ritchie & Inkari, 2006). One researcher stated positive attitudes could be confounded due to the economic benefits derived from tourism (Harrill, 2004). While at the same these same residents had an issue with increased traffic and parking problems (Ritchie & Inkari, 2006). On the other hand, respondents residing on the coast, in urban areas or lived close to a tourist attraction where the tourists frequented, gave a stronger indication that tourism had an adverse effect on their personal quality of life (Jackson & Inbakaran, 2006; Tovar & Lockwood, 2008).

Past studies have indicated the greater the distance of the residents from the tourist mecca the more they were concerned about tourism impacts, they were less supportive of future tourism development and less positive about their perception of tourism than those living closer, perhaps because they were not benefitting from tourism (Gursoy, Jurowski & Usyal, 2002; Tovar & Lockwood, 2008, Williams & Lawson, 2001). Rural residents and residents living further away from the tourism center seem to derive less economic benefits from tourism and, therefore, were not in a position to tradeoff negative effects against financial gain. On the other hand, the urban residents and those living in close proximity to the tourism activities were concerned with increases in the prices of goods, services and rents (Mansfeld, 1992; Sheldon & Var, 1984; Tovar & Lockwood, 2008). The reason for this is the opportunity of employment and benefit from improved infrastructure and public services (Jurowski & Gursoy, 2004). Contrary to this finding, other researchers found that residents living closer to attractions had fewer positive perceptions of tourism than those living further away (Harrill & Potts, 2004; Jurowski & Gursoy, 2004; Madigral, 1993; Pizam, 1978; Williams & Lawson, 2001). This was due to traffic congestion, crime, litter, noise and increase in the cost of living (Tyrrell & Spaulding, 1984).

On the other hand, those living farther away from the attraction felt there may be more benefits than cost especially if there was an increase in visitor numbers (Jurowski & Gursoy, 2004). Jurowski and Gursoy (2004) whose study was based on distance effects on residents' attitudes towards tourism stated the findings verified the proximity to tourism center as a reliable predictor. Therefore, proximity to tourism center is a likely predictor of residents' attitude and tolerance towards tourism. Hence the hypotheses:

H_{7a}: The residents' perception of their quality of life is positive if they reside in close proximity to the tourism center.

H_{7b}: The residents' tolerance of tourism increases if they reside in close proximity to the tourism center.

Length of Residency

There is still the debate in the literature about an existing relationship between length of residency in a tourism destination and residents' perceptions. McCool & Martin (1994) surmised the longer a resident lived in a community the more attached they are to that community. Therefore, are more interested in seeing the development of the community than residents with shorter time of residency (Gursoy, Jurowski & Uysal, 2002). Interestingly, length of residency has been associated with community attachment either directly or indirectly (Almeida-Garcia, Pelaez-Fernandez, Balbuena-Vazquez & Cortes-Macias, 2016; McGehee & Andereck, 2004).

A number of studies indicate the longer residents have been living in a community the more negative their perception and tolerance of tourism (Almeida-Garcia, et al., 2016; Haley et al., 2005; Jurowski & Gursoy, 2004; Sharma, Dyer, Carter, & Gursoy, 2008). In one such study, Harrill (2004) surmised from his summary of the literature on resident attitudes was the longer residents lived in a community the more negative their perception of tourism development. This was supported by another researcher who found residents living in the area for 21 years or more strongly agreed with the statement 'tourism has increased traffic and parking problems, when compared to the residents residing 3-6 and 11-20 years (Ritchie & Inkari, 2006). In contrast, Jackson and Inbarakan (2006) reported residents who lived in the community for more

than 20 years were supportive of tourism. Another study highlighted the fact that residents who lived longer in their community showed a disinterest in the impacts of tourism development (Sinclair-Maragh, Gursoy & Vieregge, 2015).

Contrary to this, Huttasin (2008) reported the variable length of residency was not found to be a reliable in to predicting the residents' perception of the social impacts of tourism in the Baan Tawai village because the evidence suggested the destination was at the euphoria level of Doxey's (1975) Irridex model and the exploration stage of Butler's TALC. In effect, the residents at these stages are very welcoming of tourism and the tourists.

Tovar & Lockwood (2008), who conducted a study in rural Australia, had findings that similar to Huttasin (2008), where the findings revealed length of residency had no significant effect on perception of tourism impacts. Contrary to this, Almeida-Garcia, et al., (2016) stated length of residency was a strong predictor of negative attitudes of tourism impact on socio-cultural and environmental aspects of the community. Where persons who lived in the town for less than five years had a more positive attitude towards tourism. Hence the hypotheses:

H_{8a}: There is a positive relationship between length of residency and the residents' perception of their quality of life.

H_{8b}: There is a positive relationship between length of residency and residents' tolerance of tourism.

Dependency on Tourism

According to Andereck and Nyaupane (2011) the only consistent predictor variable of resident perceptions of tourism across studies is their dependency on tourism.

Both from a personal and a community perspective (Harrill, 2004; Long et al., 1990; Pizam, 1978), it is verified in the literature residents' perception of tourism is likely to be influenced by their dependency on tourism (Ap, 1992).

Furthermore, there is evidence to suggest those who work in tourism, or who have a family member employed in tourism or benefit from it will likely identify more positive than negative impacts (Andriotis, 2005; Haley et al., 2005; Long et al., 1990; Pizam, 1978; Snyman, 2014; Tovar & Lockwood, 2008). The majority of studies examining residents' perceptions towards tourism concur with the aforementioned claim (Ap, 1992; Harrill, 2004).

In fact, the findings of a number of studies have shown residents' who did not benefit from the tourism industry had the most negative attitude towards tourism (Pizam, 1978; Tovar & Lockwood, 2008). In most of the studies the residents who were dependent on tourism were aware of the negative impacts of tourism on the community and their personal quality of life but were willing to overlook and accept these negative impacts in exchange for the perceived benefits (Choi & Sirakaya, 2005; Fredline, 2002; Williams & Lawson, 2001). In fact, Harrill, (2004), in the article reviewing related literature stated SET is often used to explain the rationale of this assumption.

Conversely, residents who were not economically dependent on tourism were more likely to have a negative perception of tourism (Kuvan & Akan, 2005; Milman & Pizam, 1988). This was refuted by other researchers where the findings showed in Southern England and Ghana respectively, residents working directly in the tourism industry had negative perceptions of tourism (Ritchie & Inkari, 2006; Teye et al., 2002). Another researcher found residents who were dependent on tourism were less likely to support tourism than

those who were not dependent (Jackson & Inbakaran, 2006). Although in the literature the hypothesis has been confirmed it was noted by Harrill (2004) that many dimensions of this relationship have been found. In light of this, dependency on tourism can be examined as a mediating variable between residents perceived QOL and tolerance of tourism. Hence the hypotheses:

H_{9a}: There is a positive relationship between the residents' dependency on tourism and their perceived quality of life.

H_{9b}: There is a positive relationship between the residents' dependency on tourism and their tolerance of tourism.

H₁₀: When residents' perceived quality of life is positive, then dependency on tourism heightens their tolerance of tourism.

In conclusion, even though many studies have examined the relationship between residents' responses and their socio-demographic and socio-economic profile, based on Garcia et al. (2014), observation studies of this nature are still relevant as respondents' history, culture and situations differ. In addition, the interaction between the resident and tourism differs because of context, roles and expectations (Sharpley, 2014). Therefore, no researcher should assume the results of such studies can be applicable to other studies examining a similar phenomenon.

Measurement of Quality of Life

The SCC is primarily based on the residents' psychological threshold or a "felt" capacity (Chadenas et al., 2008). Therefore, its measurement should correspond accordingly. The SCC threshold of SIDS is often threatened or breached (Briguglio & Briguglio, 1996; Wilkinson, 1989). This is manifested in the negative impacts of tourism

which affect the QOL of residents and their tolerance of tourism (Jurowski & Gursoy, 2004; Belisle & Hoy, 1980). It is noted in past research historically the initial attempts to measure QOL emerged from the social indicators' movement (Aref, 2011; Biderman, 1974; Kim, 2002; Parke & Sheldon, 1974; Uysal et al., 2016). Measuring QOL can be done from an individual perspective as well as family, community and societal perspectives (Kim, 2002; Uysal et al., 2016). In the related literature the measurement of QOL was carried out using either a subjective or objective approach or both (Samli, 1995; Uysal et al., 2016).

The objective measurement is external to the individual and can be regarded as facts of life or reality (Andereck & Jurowski, 2006). The objective factors include income, education, employment opportunities and social issues like recreational opportunities, family structure and cultural integrity and environmental factors such as crowding, noise, pollution, and traffic congestion (Andereck & Nyaupane, 2011). The objective measure is critical to the measurement of QOL as it provides an unbiased perspective to the analysis of the residents' QOL. Additionally, it is not influenced by the individuals' perceptions (Diener & Suh, 1997; Perdue, Long, & Gustke, 1991; Urtasun & Gutierrez, 2006). The very strength of the objective indicator can also be its weakness, in that, it does not sufficiently capture the individual resident's true circumstances (Andrews & Withey, 1976; Michalos, 2003).

On the other hand, the subjective perspective is the individual's feelings and perceptions about life (Aref, 2011; Urtasun & Gutierrez, 2006). Subjective indicators focus on satisfaction. This is significant to this study because Doxey's Irritation Index is based on the residents "felt" capacity, making the subjective approach a plausible method

for measuring the SCC. Even though the subjective measure is emotional and value laden (Saveriades, 2000); the resident's personal perception of the impact of tourism is critical to the sustainability of the destination (Deidrich & Garcia, 2009; Stylidis, Biran, Sit & Szivas, 2014).

Subjective indicators are not without disadvantages. The responses can be affected by the mood of the respondents at the time of the survey and communication differences (Uysal, Perdue, & Sirgy, 2012). It is worth noting, the majority of studies reviewed by Uysal et al. (2016) used subjective indicators to measure the residents QOL. There is, however, some controversy surrounding the validity of subjective as well as objective indicators. Whereas the objective indicators may reflect the community having a high QOL, the subjective indicators may reflect a low QOL (Michalos, 2003). Hence it was suggested objective and subjective indicators should both be used to provide a more holistic view of the QOL of the residents (Uysal et al., 2016). In the present study, both subjective and objective indicators will be used to measure QOL.

Uysal et al. (2016) stated, even though research relating to QOL has been conducted since 1980's, the focus was mainly on tourism impacts from a social, environmental, economic and ecological perspective. Further, measuring QOL in tourism studies have also been shrouded in resident perception and attitude studies (Andereck & Nyaupane, 2011). Thereafter, with increasing indication of tourism's adverse effect on residents' QOL, it became evident further empirical research was needed. As a result, more studies emerged examining the relationship between tourism impacts and residents' QOL. The basis on which to measure the residents' QOL is an

ongoing debate in the literature (Ap & Crompton, 1993; Perdue, et al., 1990; Dissart & Deller, 2000).

Pizam (1978) investigated residents' perception of impacts in Cape Cod, Massachusetts from which he constructed an Attitudinal Index. The purpose of the index was to get an overall sense of residents' attitude towards tourism impacts in Cape Cod. The majority of survey items could be considered QOL items but was never categorized as such. Many other studies on resident perceptions and attitudes were similarly general in nature (Belisle & Hoy, 1980; Lankford & Howard, 1994; Liu & Var, 1986; Perdue et al., 1987; Tosun, 2002; Weaver & Lawton, 2001), while others were more specific (Andereck, 1995; Crandall, 1994; Dogan, 1989; Liu, Sheldon, & Var, 1987). The studies relating to the social impact of tourism on the residents were more closely associated with the QOL construct, but nevertheless did not directly examine residents' perception of tourism impacts on their QOL (Andereck & Nyaupane, 2011).

With the emergence of quality of life studies in tourism came a variety of methods purported to best measure the residents' QOL. One such method was put forward by Andereck and Nyaupane (2011). The researchers sought to improve the Tourism and Quality of Life (TQOL) instrument previously created by Andereck and Jurowski (2006) and Andereck et al. (2005). The purpose of the instrument was to refine the QOL variables by including measures of personal /importance and satisfaction with community characteristics. Like other researchers, they examined the impact of variables including knowledge about tourism, contact with tourists, involvement with tourism and the impact of residents' socio-demographic profile on their QOL.

The TQOL index was calculated based on the subject's perception of tourism effects on QOL. Thus, the TQOL score represented both the extent to which tourism is perceived to influence a QOL indicator, and also the respondent's value judgement of the indicator because of the inclusion of the importance and satisfaction indicator. Factor analysis was conducted on the TQOL scores to develop TQOL domains. The analysis produced eight domains, community well-being, urban issues, way of life, community pride and awareness, natural/cultural preservation, economic strength, recreation amenities and crime and substance abuse. The results showed community well-being as having the greatest impact on the QOL of the residents while the domain crime and substance abuse had the lowest impact on QOL (Andereck & Nyaupane, 2011).

The main contribution of the study was developing a QOL measure based on a subjective approach similar to a sociology approach and to explicitly measure QOL unlike previous studies (Andereck & Nyaupane, 2011). Moreover, the assumption of the importance the resident places on the tourism impact will determine whether they care about the particular effects of that impact. The implication of this assumption is that the attribute will positively influence the residents QOL only if they believe it is important. The researchers used the principal component analysis using varimax rotation to extract the factors. The researchers surmised the eight domains derived from the analysis were more accurately defined based on the fact that it led to a better understanding of how residents perceive that tourism influences their QOL. The drawback of this conclusion is the results of the domains were dependent on the residents' responses which makes it very specific to the residents/site under study. Therefore, it is likely if the same questions

administered to another set of residents is not likely to yield the same domains based on the assumption of Garcia et al. (2015). Hence the results cannot be universally applied.

Similarly, Guo et al. (2014) conducted a study on residents QOL in Shanghai, China. As with numerous other QOL studies the instrument was formulated from questionnaires used in other related studies. The questionnaire was divided into three sections. The tourism impact items were modified and used from other studies to measure environmental, economic, social and cultural impacts, the items for the second section collected information on residents' perception of their QOL, while the final section like most studies garnered socio-demographic information. Seven-point Likert scale type questions were used as responses from *1-strongly disagree* to *7- strongly agree*. The factor analysis was conducted on the items in the quality of life and tourism impact section. The QOL analysis yielded eight domains specifically public security, leisure time, family cohesion, community construction, societal atmosphere, health status, and economic margin and living costs. The analysis of the tourism impact items produced nine factors, namely better community life, positive environment, positive cultural impact, economic benefits, tourism planning, better family life, positive employment opportunity, and public participation. The researchers found a significant positive correlation between perception of tourism and residents' quality of life. A number of the dimensions needed to be defined and the relationships explained to improve the validity of the results as was done in Kim's (2002) study.

Kim (2002) derived five domains of life satisfaction from Cummins (1997), who conducted a literature review on domains of life satisfaction and found 173 related phrases. From these terms an attempt was made to categorize them into seven domains,

referred to as the Comprehensive Quality of Life Scale (Cummins, 1993). Kim (2002) used the domains from the CQLS related to tourism as shown in Figure 2. These domains are material well-being, community well-being, emotional well-being, and health and safety well-being. The material well-being looked at the standard of living, income and employment, emotional well-being included leisure and spiritual activity, community well-being was related to aspects of community life and setting that affects people's satisfaction or dissatisfaction with their community or neighborhood (Aref, 2011; Khizindar, 2012).

In another study Kim et al. (2013) constructed a survey instrument from other tourism impact studies, as well as other QOL studies to measure perceptions of tourism impact, the sense of well-being in particular life satisfaction domains and to gather socio-demographic information. The first section used 5-point Likert type questions with scales from *strongly disagree* to *strongly agree*. It is worth noting the section on sense of well-being also used 5-point Likert type questions but used satisfaction scales, that is, *very dissatisfied* to *very satisfied*.

Aref (2011) conducted an exploratory study of residents' perception of their QOL using Shiraz, Iran as a case study. The measurement of the residents' perception was based on the five domains selected and used by Kim (2002). Aref (2011) used a questionnaire to examine the effects of tourism on residents' QOL using Likert scale type questions. Each item had a 5-scale response from *1-strongly disagree* to *5-strongly agree*. In this study, twenty impact items adapted from Sirgy (2001) and Kim (2002) were used. The items covered both the benefits and costs of tourism on the residents QOL. The researcher mainly used descriptive analysis to derive the results of the study. The

measurement of the residents' QOL in the studies examined, used items based on the factors critical to the well-being of the residents personally and also their community. The items were measured using the Likert scale items testing the satisfaction and the extent of how much the residents agree with the particular life domains impacted by tourism. The measurement of the tolerance of tourism is not so well-defined.

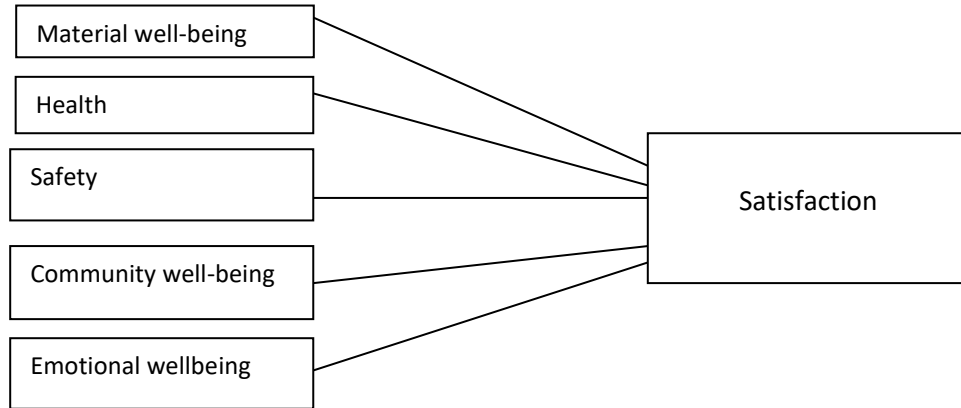


Figure 2. Quality of life domains.

Adapted from Kim (2002). Figure adapted from *The effects of tourism impacts upon quality of life of residents in the community* (Doctoral dissertation), by K. Kim, 2002, ProQuest Dissertation and Theses Database, p.53.

Measurement of Tolerance of Tourism

Based on the review of the literature, very few studies have candidly focused on residents' tolerance of tourism. In the literature it is infrequently defined and developed as a construct in resident perception and attitude studies (Ryan & Aicken, 2010). Rather it is implicit in the discourse of the related literature, collection and analysis of data or in the discussion and conclusion of the studies. In fact, tolerance of tourism is used interchangeably with attitudes towards tourism. Therefore, in the context of this study tolerance of tourism is defined as the extent to which residents of a destination accept the various aspects of tourism of which they disapprove (Crick, 1973, Ryan & Aiken, 2010). Marcus et al. (1980) stated that implicit in tolerance is the presumption of disagreement with something or someone. In his seminal work, Doxey (1975) tested the residents' and

visitors' tolerance of tourism in Barbados a SIDS and Niagara-on-the-Lake, Ontario. The findings of this study revealed tolerance level of tourism can be impacted by more than one variable, that is, from tourist numbers to a perceived threat to the residents' "way of life" (Doxey, 1975, p. 195). A number of researchers agreed with Doxey's conclusion of the existence of tolerance thresholds for tourism among residents (Page, Brunt, Busby, & Connell, 2001; Young, 1973). Similar to measuring QOL, behavioral tolerance is based on psychological responses. Interestingly, the SCC is referred to as a psychological threshold (Chaldenas et.al. 2008; Swarbrooke, 1999).

According to Jovicic and Dragin (2008), the CC, and by extension the SCC, is characterized by a tolerance limit, if this limit is exceeded the impacts of tourism are mostly negative. This is endorsed by Mansfeld and Jonas (2006) using the revised version of the Carrying Capacity Value Stretch (CCVS) model and the Nominal group technique to analyze the attitude of members of a community towards tourism. From the findings, evidence emerged that locals have "red lines" where negative socio-cultural impacts of tourism are concerned. If these lines are crossed it can result in the residents refusing to allow tourists and tourism in their community. Based on this it was found the residents had 17 different "red lines" representing intolerable socio-cultural impacts mainly on their QOL. In spite of this, it was found that members of the Kibbutz Yiron were ready to live with the most intolerable socio-cultural impacts when economic benefits were involved. Thus, highlighting the difficulty of measuring residents' tolerance of tourism (Mansfeld & Jonas, 2006).

One study examined visitors' tolerance level of negative environmental impact of tourism activities (Haukeland, et al., 2013). Another evaluated visitors' risk tolerance of

destination preferences (Tavor & Teitler-Regev, 2015). While another used tolerance as a mediator on residents' support for tourism events (Qi, So, Cardenas, Hudson, & Meng, 2016). Still another investigated residents' tolerance of a contentious tourism event (Lawton & Weaver, 2015; Weaver & Lawton, 2013). Haukeland et al., (2013) examined the tolerance level of visitors in relation to potential negative environmental impacts on a Norwegian national park. This was based on the extent of acceptance of negative effects on specific species of wildlife and vegetation. The meaning of tolerance was not explicitly mentioned, but it is noteworthy in measuring tolerance, acceptance was included. It was found that socio-demographic variables were suitable tools for predicting visitors' tolerance of environmental impacts caused by tourism. The findings showed respondents with higher education had a lower tolerance of damage to the environment caused by tourism activities. On the other hand, no significant difference in tolerance level was found in relation to gender and age. The significant differences in tolerance levels of the visitors were based on the subjects' orientations towards nature (Haukeland et al., 2013).

Another study conducted in Israel, explicitly measured the risk tolerance of tourists as against their general risk tolerance of the general population (Tavor & Teitler-Regev, 2015). The results showed a positive correlation between the visitors' risk tolerance of tourism and their general risk tolerance. In addition, tourists seeking novelty-based experience had a higher risk tolerance than those who preferred well known destinations. Risk tolerance was measured using a psychometric questionnaire. The instrument had Likert type questions. Based on Section 1 of the questionnaire an index was created according to the average points respondents gave to different

statements. A lower score in the index indicated lower risk tolerance, and a higher score indicated higher risk tolerance.

The Qi et al. (2015) study included tolerance in the SET model. The purpose of this was to increase the explanatory power of the model. The researcher suggested perceived benefits and costs are based on opinions, while tolerance is inclusive of beliefs and evaluation. In other words, tolerance assigns importance to the perceptions of the residents and their preferred state. The researchers also surmised perceived benefits and costs are determinants of tolerance. Stemming from this is the assumption that residents who perceive more benefits than costs have a higher tolerance level of tourism. The converse is true where the residents who perceive more costs have a lower tolerance level of tourism. Of course, the assumptions are not absolute. Still, there is the need for tolerance of tourism impacts to be more explicitly measured in the literature.

Weaver and Lawton (2013) in their study of “Schoolies week” a contentious tourism event in the Gold Coast of Australia conducted a principal component analysis on the responses of the residents which resulted in three “factors”. One of which was labelled “tolerance” based on 11 items where the responses showed positive attitudes but not wholehearted support. A cluster analysis was performed on the 21 factored items resulting in the acceptance of four-clusters. It was concluded that there is “overall attitude of tolerance” (Weaver & Lawton, 2013, p. 174) despite its antagonistic aspects. This was attributed to the mixed feedback of the cost-benefit evaluation of the event at the community level and at the individual level (Weaver & Lawton, 2013).

Despite the complex social exchange dynamics involved in assessing resident’s tolerance of tourism, it is still significant in recognizing issues as they are impactful on

the sustainability of tourism. Therefore, when preparing the instrument, the items should be evaluated for their understandability and answerability, and their ability to differentiate between individuals with different levels of tolerance for tourism. Moreover, the questionnaire in its entirety should be subjected to an evaluation of its adequacy. Adherence to these principles can ensure that the questionnaire's results are both reliable and valid. In this current study, the QOL and tolerance of tourism will be used to measure the SCC of Ocho Rios, Jamaica.

Theories Relevant to the Study

Theories are applied to research to help to understand how variables interact and how the outcomes of these variables are produced (Creswell, 2014; Hampton & Jeyacheya, 2015). There are three theories that are relevant to guiding this research Doxey's (1975) Irridex, Butler's (1980) Tourism Area Life Cycle and Ap's (1992) interpretation and adaptation of the Social Exchange Theory (Blau, 1964; Emerson, 1967; Homans, 1958; Thibaut & Kelley, 1959). Each theory will influence the methods, analysis and interpretation of findings, results, conclusion, implications and recommendations of the research. Further, there is evidence in the literature where there is need for more theoretically informed research in understanding this aspect of tourism research (Sharpley, 2014).

Tourism Area Life Cycle

Butler (2011) noted the tourism area life cycle (TALC) theory has been used by researchers for over three decades. Despite the changes in the tourism industry the theory is still being used to explain the development of destinations in a range of settings and circumstances (Butler, 2011).

Butler's (1980) Tourism Area Life Cycle (TALC) theory suggested each tourist attraction, destination or site exists in a specific life cycle stage and moves from one to the other over time as shown in Figure 3. It is based on the product life cycle. The theory has been used in previous studies in various contexts. For example, to explain the predicament and status of destinations and for analyzing the tourism industry within a destination.

In other studies, the stages have been delineated and examined individually (Manente & Pechlaner, 2006). Where the aim of the study was to define and identify signs of the decline of tourist destinations. This is in an effort to develop an early warning system, in order to counter any shortfall of the theory as alluded to by Cooper and Jackson (1989). In another study the researcher in examining Lancaster county combined the last three stages, namely, consolidation, stagnation, and decline or rejuvenation. This was an attempt to identify the stage of the destination then to make recommendations for strategies to avoid eventual decline (Hovinen, 2002). Butler's theory was used to influence the recommendations and solutions given for addressing the issues facing the destination.

Prior to Butlers' TALC model, Gilbert (1963) and Christaller (1963) proposed three stages of evolution in resorts: discovery, growth and decline. Butler (1980) then extended the model to six stages (Getz, 1992). Butler (1980) suggested the movement of the destination through the life cycle is influenced mainly by the government and investors in tourism (Hampton & Jeyacheya, 2015). On the other hand, Plog (2001) stated the tourists are the ones to influence the movement of the destination through the lifecycle. From the other studies one can deduce the characteristics of each stage of the

TALC are significant when evaluating any tourism destination as it gives perspective and context to the findings of any related study. Butlers' TALC theory suggested the attitude of the residents as well as the tourists in the destination are impacted by the unique characteristics of each stage. (Andriotis, 2001; Huttasin, 2008; Jackson & Inbakaran, 2006; Pappas, 2008; Yu-Hua, 1997). This is verified by Uysal, Woo, & Singal (2012) where it was pointed out the characteristics of each stage affects the QOL of the residents both in negative and positive ways. Table 2 provides a description of Butler's (1980) TALC.

Table 2

Butler's Tourism Area Life Cycle

Stages of life cycle	Description of stages
Exploration	Destination is undiscovered, attracting very little tourists as access and infrastructure is limited.
Involvement and Development	More tourists begin to visit the destination. As a result, more, tourist areas are improved and more attractions added, tourist arrivals grow at a fast pace.
Consolidation	The rate of increase of visitors has now declined, although total numbers are still increasing and exceed permanent residents. The destination has most of the major franchises and chains represented and there is an identifiable business district.
Stagnation	Peak numbers have now been reached and the destination is no longer fashionable. It relies on repeat visits and business use of its facilities and major efforts are needed to maintain the number of visits. The destination has reached its social and environmental carrying capacity limits, the residents and tourists grow hostile towards each other.
Rejuvenation	Significant improvements in the infrastructure, increasing carrying capacity, controlling of tourist numbers, implement measures that take into account the needs of the community and involvement of the community so that the destination can be rejuvenated.

Decline	Exceeded carrying capacity limits, unsustainable development or after the destination experienced a disaster or crisis. Tourists numbers continue to decline.
---------	---

Note. Adapted from Cooper, Fletcher, Gilbert & Wanhill, (1993). From *Tourism principles and practices*, by. Cooper, C., Fletcher, J., Gilbert, D., & Wanhill, S., 1993, Harlow, United Kingdom: Longman.

Butler (1980) proposed six stages of a destination's life cycle as seen in Table 2.

After the fourth stage the destination could take several trajectories between rejuvenation and decline as seen in Figure 3. The critical stage of the model is where it appears that the destination has reached its social and environmental carrying capacity limits. At that point the residents and tourists grow hostile towards each other and the increase in tourist arrivals is marginal to non-existent and is referred to as the stagnation stage. There are two possible directions the destination could take after the stagnation stage, that is, rejuvenation or decline. The decline stage is caused by exceeding carrying capacity limits, unsustainable development or after the destination experienced a disaster or crisis. However, with significant improvements in the infrastructure, increasing carrying capacity, controlling of tourist numbers, implementing measures that consider the needs of the community and involvement of the community the destination can be rejuvenated (Butler, 1980). Therefore, what Butler's model is suggesting is appropriate interventions are necessary to avert the decline of the destination (Butler, 2011).

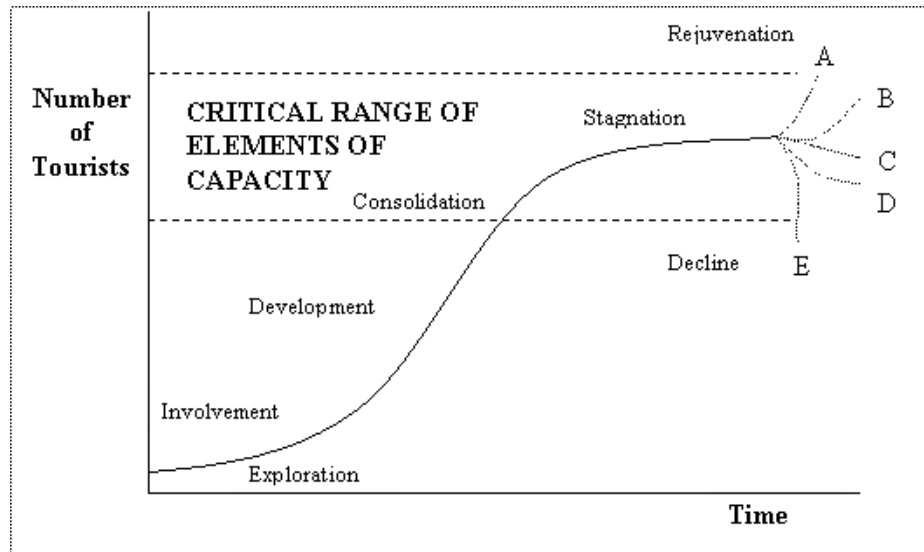


Figure 3. Butler's Tourism Area Life Cycle. Hypothetical evolution of a tourist area. Adapted from Miller and Gallucci (2004).

Several researchers used Butler's TALC to gain a more nuanced understanding of the characteristics of the area under study in relation to the perceptions and attitudes of the local community. In addition, a number of the studies after the life cycle stage of the area was ascertained, found the majority of the characteristics of the area coincided with description of Butler's TALC model. This provided a useful platform for further insight into residents' perceptions of tourism impacts (Castellani & Sala, 2012; Damonte et al., 2012; De Albuquerque & McElroy, 1992; Diedrich & Garcia-Buades, 2009; Hovinen, 2002; Manente & Pechlaner, 2006; Uysal, Woo, et al., 2012).

The use of the TALC model in the analysis of residents' perception was demonstrated in studies conducted by Diedrich and Garcia-Buades (2009) and Castellani and Sala (2012). Both researchers conducted a comparative analysis of tourist areas at different stages of the life cycle. The discussion surrounded the relationship between the stages of TALC and the positive and negative impacts of tourism. One study was conducted in five tourist areas in Belize, each at a different stage of tourism development

(Diedrich & Garcia-Buades, 2009). The other study examined two areas (Castellani & Sala, 2012).

A comparative analysis of the residents' perceptions of the impacts of tourism in each area was done. It was observed in both studies as the areas progressed through the life cycle stages of Butler's TALC the benefits of tourism as perceived by the residents decreased, at the same time the costs of tourism increased. It was argued that the development stage is a critical stage to which destination managers need to give close attention because it is at this stage tourism expands rapidly and overwhelms the residents. In other words, it is at this stage the costs of tourism surpass the benefits, causing the residents to have a more negative attitude to tourism than a positive one, thus making the area less attractive and affecting the sustainability of the area. It is at this point, the CC threshold is exceeded leading to the decline stage of the destination (Diedrich & Garcia-Buades, 2009). The issue with this study is its overdependence on the TALC model to explain the relationship between local perceptions of residents and tourism impacts.

The findings of their study were impacted by the different stages of the life cycle. Butler's theory also influenced the recommendations and solutions given for addressing the issues facing the destination. The Life Cycle Theory identifies the characteristics of the destination and provides a context from which to analyse the area under study. There is also a better understanding of the findings of the study's enabling cogent interpretation, discussion and conclusions. A content analysis of QOL literature outlined the attributes of each stage affect the QOL and, implicitly, the tolerance of tourism of the residents in the destinations (Uysal, Woo, et al., 2012). This is endorsed by Kim et al. (2013) where

Butler's life cycle was used as a moderating variable of residents' perception of their QOL.

Butler's (1980) theory was criticized for postulating the life cycle of a destination as unidirectional and perhaps occurring over a fairly short period of time (Cooper, 2011). However, Jovicic and Dragin (2008) suggested that because tourism is dynamic, the direction can change which may be stimulated internally and externally (Jovicic & Dragin, 2008). But others have disagreed with this notion, because implicit in the commentary concerning the TALC are signals of the need for adjustments to plans that ought to change the downward spiral of the destinations' life cycle. In fact, it is explicitly demonstrated at the stagnation stage where the destination can be rejuvenated (Andriotis, 2001; Butler, 1980; Formica & Sun, 1997; Manente & Pechlaner, 2006).

McElroy (2003) argued that the stages in Butler's (1980) theory are empirically difficult to define, and there may be the existence of several tourism areas and activities within the same destination that create different cycles (Agarwal, 1994; McElroy, 2003). One issue with the model is not predictive (Debbage, 1990). Another shortfall is the stages are only recognizable in "hind-sight" (Cooper & Jackson, 1989), and questions the variables that are the best measure of each stage (Haywood, 1986). Even though in McElroy's (2003) earlier work he was critical of TALC, in the later work it is posited that despite the criticisms of the TALC theory, there was continued use of it to describe and analyze destinations (McElroy, 2006). In addition, Hovinen (2002) pointed out that TALC theory places the area in a framework that enhance the understanding of the progression and forms of tourism development. Interestingly, another advantage of the theory is the ability to apply it to micro situations such as attractions as well as macro

circumstances. For instance, De Albuquerque and McElroy (1992) applied it to 23 SIDS, and Formica and Sun (1997) used it to assess tourism in Taiwan. Additionally, on the micro level, Ferreira and Harmse (1999) used it to conduct an analysis of tourist congestion on the development of the Kruger National Park in South Africa and Whitfield (2009) applied the TALC to the UK conference industry.

McElroy and De Albuquerque (1994) attempted to condense the TALC into three stages with the intention of making it plausible to define the stages empirically, and with the aim of developing a more pragmatic approach to measuring tourism impacts. The truncated version of the theory was used to create a tourism penetration index for 23 SIDS. The islands were clustered into three stages of rising tourism penetration based primarily on economic indicators. The stages were low-density emerging destinations, growing intermediate destinations, and mature high-density destinations. The researchers claimed the modified version improved the identification of characteristics and impacts of destinations in order to categorize them into the development stages, and moreover, it facilitated a more realistic assessment of tourism on the island economy. The modified version suggested by McElroy and De Albuquerque (1994) is limited in its application unlike Butler's model.

The TALC theory has been used extensively in CC studies (Castellani & Sala, 2012; Martin & Uysal, 1990; Thomas et al., 2005; Zelenka & Kaceti, 2014) as well as QOL studies (Kim et al., 2013; Uysal, Perdue, et al., 2012; Vogt & Jun, 2004). Martin & Uysal (1990) emphasized the importance of understanding the relationship between the TALC concept and the carrying capacity concept to the development of tourism policies affecting residents' perception and attitude. Hence the hypotheses:

H_{11a}: There is a positive relationship between the existing life cycle stage of the destination and the residents' perception of their quality of life.

H_{11b}: There is a positive relationship between the existing life cycle stage of the destination and the residents' tolerance of tourism.

Therefore, in the analysis of residents' perceptions in general and their QOL specifically, it is important to identify the stage of the destination in order to help to determine the SCC and the sustainability of the destination (Diedrich & Garcia-Buades, 2009; Uysal, Perdue, et al., 2012). The TALC model compliments the Irridex model (Doxey, 1975) in interpreting the perceptions and attitudes of residents towards tourism.

Doxey's Irridex

Doxey's (1975) Irritation Index is widely used to gauge the impacts of tourism on the residents by examining their attitude (Iranlu, 2004; Pappas, 2008; Saveriades, 2000). According to Doxey (1975) there are four levels of irritation the residents experience as the number of tourists and tourism development increases.

The residents go through stages of euphoria, apathy, annoyance and antagonism as described in Table 3. The levels of irritation become more negative and intense as there is increased threat to the residents' QOL and the benefits from tourism diminish.

According to Harrill (2004), Doxey's Irridex model is one of the best-known models for explaining the social impacts of tourism on resident perceptions and attitudes.

Table 3

Doxey's (1975) Irridex Model

Level of Irritation	Description of Levels
The level of Euphoria (A feeling of intense happiness)	<i>Initial phase of the development, visitors and investors are welcome, little planning or control mechanisms. The initial thrill and enthusiasm that come along with tourism development means that the tourist is made welcome.</i>
The level of Apathy (indifference, lack of interest or concern)	<i>Visitors are taken for granted, contacts between host and visitors become more formal (commercial), planning concerned mostly with marketing. Once tourism development is underway and expansion has taken place, the tourist is taken for granted and is now seen as a source of profit-taking; contact is now on a more formal basis.</i>
The level of Annoyance (Irritation, displeasure, resentment, annoyance, impatient)	<i>Saturation is approached and local people have misgivings about tourist industry, planners attempt to control via increasing infrastructure rather than limiting growth. As the industry approaches saturation point, the hosts can no longer cope with the number of tourists without additional facilities.</i>
The level of Antagonism (a strong feeling of dislike, hostility that leads to active resistance)	<i>Open expression of irritation, visitors seen as cause of all problems, planning is remedial yet promotion is increased to offset deteriorating reputation of destination. The tourist is now seen as bringer of all ills, hosts are antagonistic towards tourists, and tourists are regarded as being there to be exploited.</i>

Level of Irritation	Description of Levels At this level the maximum number of tourists is reached, tourism development is saturated residents are concerned about crime, price increases, negative tourist behavior and have strong feelings of irritation.
The final level	During the above process of development, the hosts have forgotten that all they once regarded as being special was exactly what attracted the tourists, but in the rush to develop tourism, circumstances have changed.

Note. Adapted from Cooper, Fletcher, Gilbert & Wanhill (1993). *Tourism Principles and Practices*, Longman group Limited, British Library in Cataloging Publication Data, .p. 102. from Irandu. (2004). The role of tourism in the conservation of cultural heritage in Kenya. *Asia Pacific Journal of Tourism Research*, 9(2), 133-150. The information in italics is taken from this study. Adapted from Reisinger (2009). *International Tourism Cultures and Behavior*, Butterworth Heinemann, Oxford. p. 221

On the other hand, Doxey's (1975) Irridex model has been vehemently criticized by Weaver and Lawton (2013) as being "obsolete" because of the basic assumption of the unidirectional movement of the residents' attitude from euphoria to antagonism fueled by growth in tourism. Evidence of this emerged as a number of studies have found that residents' experience differing levels of irritation simultaneously. In other words, the irritations do not necessarily occur concurrently (Brougham & Butler, 1981; Ritchie & Inkari, 2006).

Contrary to the obsolescence argument, Doxey's Irridex model is still used to assess the perceptions and attitudes of the local community (Da Cruz Vareiro et al., 2013; Damonte et al., 2012; Mason & Cheyne, 2000). A study was conducted by Gilbert and Clark (1997) in two urban centers in the UK, namely, Canterbury and Gilford. The finding revealed the residents of Canterbury were closer to the annoyance stage of Doxey's Irridex than the apathy stage. This was based on the evidence where a significant number of the residents felt the present level of tourism development should not be exceeded.

Ap and Crompton (1993) attempted to introduce the Embrace-Withdrawal continuum scale as a better measure of how residents respond to tourism than that proposed by Doxey (1975). The four responses are embracement, tolerance, adjustment and withdrawal. Snepenger, O'Connell and Snepenger (2001) claim the difference between the Irridex model and the continuum scale is the latter uses attitudes and behavior while the former uses primarily behavior. The essence of the Irridex model remains in the continuum scale, in that, according to Azjen's (1991) Theory of Planned

Behavior, attitudes precede behavior, although one's attitude may not translate into the behavior

Getz (1982, 1994) used Doxey's (1975) model as an assessment tool in a longitudinal study on residents' attitude towards tourism in Spey Valley in the United Kingdom in 1978 and 1992. The findings only partially supported Doxey's (1975) theory, in that, even though residents generally had a negative attitude towards tourism they wanted an increase in tourist arrivals. Mason and Cheyne (2000) used the Irridex model to assess the residents' attitude to a proposed café/bar for tourists in a rural area in New Zealand even though the residents had not yet experienced the benefits or costs of the proposed attraction, The Irridex theory was still utilized so the resident could be classified according. This current study will use the 4 levels of irritation based on Doxey's (1975) Irridex to assess residents' perceptions, Hence the hypotheses:

H_{12a}: There is a relationship between the 4 levels of irritation and residents' perception of their quality of life.

H_{12b}: There is a relationship between the 4 levels of irritation and residents' tolerance of tourism.

H₁₃: There is a relationship between the 4 levels of irritation and the social carrying capacity.

Butler's (1980) TALC Theory and Doxey's (1975) Irritation Index is linked to the SCC concept and provided parameters and variables used to determine the indicators. In addition, the theories, assisted in interpreting the results and provided the bases for drawing conclusions and making recommendations regarding the destinations sustainability. Andriotis (2006) links the movement through the irritation levels to the

progressing stages of the TALC, for example, where the antagonistic stage is linked to the decline of the destination. Faulkner and Tideswell (1995) suggested that theories relating to tourism are fragmented and need to be integrated in a general context. The integration of theories will improve the framework for assessing the impacts of tourism on the local community.

Social Exchange Theory

The main purpose of the social exchange theory (SET) in tourism is to explain the residents' responses to tourism impacts and how certain conditions affect the responses (Ap, 1992). Homans (1958) conceptualized the idea of social exchange, but it was further developed by Thibaut & Kelley (1959), Blau (1964) and Emerson (1967).

Homans (1958) viewed social behavior as an exchange of goods, not only material goods but also non-material ones, such as the symbols of approval or prestige. Homans (1958) further stated individuals who invest much in a relationship expect the same or more in return and the individuals on the receiving end are pressured to give back the same or more.

Thibaut and Kelley (1959) further examined Homans' (1958) social exchange theory and developed the Comparison level of alternatives (CL_{alt}). CL_{alt} is defined as the minimal point of an outcome one party will accept from a relationship in view of other available alternatives. It attempts to clarify a person's decision to stay in or exit a relationship. In other words, when the outcomes available in an alternative relationship, exceeds those available in the present relationship, the likelihood of leaving the relationship increases. Thibaut and Kelley (1959) claimed that persons were constantly evaluating costs and benefits in a relationship.

Blau (1964) extended the theory by examining exchange and power in social life, that is, more about the process of the exchange. The exchange theory according to Blau (1964) assumes that exchange processes can lead to differentiation of power and privilege in social groups. Therefore, those with more resources have more power and are in a better position to benefit from the exchange. Furthermore, power is also derived when one is less dependent on the exchange. Emerson (1972) continued the line of reasoning and stated that power in exchange relationships can be either balanced or imbalanced, similar to what Blau (1964) was alluding to where one party has more resources, they have more power and, the exchange is imbalanced. According to Emerson (1972) an exchange relationship is considered to be balanced if both persons have equal power, which means they are equally dependent on each other for the exchange. The exchange relation is imbalanced if one person is more dependent on the other person for the exchange. In this case the less dependent person in the exchange has more power.

Ap's (1992) research was the first study to develop the Social Exchange process model as a basis for explaining residents' perception of tourism impacts. According to Ap (1992) unlike other theories that attempt to explain residents' responses to tourism impacts, the SET can account for the positive and negative perceptions from a personal as well as from a community standpoint. Ap (1992) claimed that the social exchange theory was used in mainstream research to explain exchange principles but was never used in the tourism setting. Ap's (1992) Social exchange process model has four parts.

The model. The main assumption of the model is that the actors in a social exchange evaluate the exchange and expect to mutually and equally benefit from the exchange or the transaction. In other words, people evaluate an exchange based on the benefits and cost associated with that exchange (McGehee & Andereck, 2004, p. 133). Whether or not the expectation is met will determine if one or both actors will continue the relationship. The applicability of the SET is in the fact that exchanges are integral to tourism. Especially, for residents “fully-dependent” on tourism and those who are “partially dependent” on tourism, who are expecting reasonable benefits from services supplied to the tourists (Marzetti & Mosetti, 2005). It does not, however, preclude those residents who are “not dependent” on tourism. Implicit in this theory is the assumption that residents’ perceptions or attitude can predict their behavior (Ajzen, 1977). Sharpley (2014) contended, SET compared to other theories like dependency theory and social representation theory only partially elucidated the residents’ perceptions, it neglects to explain what influences the perception. On the other hand, SET according to Ap (1992) explains the whole process of the interaction between people. Ap’s SET model is presented as a 4-stage process. The first stage is where the resident and the tourist identify a need and are motivated to have it satisfied. The next stage is the exchange formation where the exchange must have the principles of “rationality” (reward seeking), “satisficing” (satisfying minimal aspirations), “reciprocity” (mutual gratification) and “justice” (fairness and equity) for the persons engaging in the process (Getz, 1994). At the third stage the exchange is evaluated for balance. If it is deemed balanced, then the process is evaluated positively and the exchange will occur. On the other hand, if the

exchange is unbalanced, the process is evaluated negatively then the parties will opt out of the exchange.

Based on the stages in the model Getz (1994) suggested that the most potentially sound approach to explaining residents' perception of tourism impact is the SET as postulated by Ap (1992). Getz's (1994) interpretation of Ap's theory is that residents examine the expected benefits and costs which are realized in exchange for resources and services. The gist of this proposition is that residents' attitudes are positive when rewards are perceived as satisfactory and balanced.

According to Jurowski and Gursoy (2004) the SET suggests individuals will make a decision about engaging in exchanges after having assessed the costs and benefits, if the resulting rewards are valued by the actors, the exchange is likely to produce appreciated rewards. In such an exchange the perceived costs do not exceed perceived benefits. So, theoretically, residents who view tourism as potentially or actually valuable and perceive that the costs do not exceed the benefits will more likely favor the exchange and will consequently be supportive of tourism. In the context of SET favorable impacts are described as "benefits" while negative impacts are described as "costs". So, theoretically, if persons make logical educated and rational assessments, residents will support tourism once the benefits outweigh the costs. As a consequence, residents are likely to have a positive perception about their QOL and a high tolerance of tourism (Ryan & Aicken, 2010). Support for the tenets of SET is widespread throughout related literature, even though the results are somewhat mixed on specific relationships and causes.

Several researchers have used SET to examine the relationship between perceived impacts and residents' support for tourism (Getz, 1994; Jurowski, Uysal, & Williams, 1997; Perdue, et al., 1990). According to Bestard and Nadal (2006) the results of the application of the SET to local community perceptions and attitudes towards tourism has brought to light differences in attitudes depending on several variables. The variables include a region's level of tourism development (Long, et al., 1990), length of time living in the community (Sheldon & Var, 1984), knowledge of the local tourism industry (Lankford, 1994), the degree of contact with tourist (Akis et al., 1996), the type of tourism development (Carlsen, 1999; Weaver & Lawton, 2013), environmental issues (Bestard & Nadal, 2006), and proximity to tourism center (Jurowski & Gursoy, 2004).

The social exchange theory was used (Andereck et al., 2005; Bleasdale & Tapsell, 1999; McCool & Moisey, 1996) to examine the connection between how residents see the "impact of tourism" on their lives and "their support for tourism development" (Huttasin, 2008, p. 178). The overall conclusion of these studies was, residents considered the benefits and costs of tourism in their decision to support tourism. Getz (1994) argued SET supports the assumption that residents who benefit from tourism perceive greater economic and fewer negative social and environmental impacts from tourism. Dependency on tourism is usually found to account for positive attitudes towards tourism. In the literature regarding the investigation of residents' attitude towards various types of tourism, a number of studies supported the main hypothesis of the SET.

In a study conducted by Damonte et al. (2012) on a new motor cycle event in Horry/Georgetown County using the SET as a basis of evaluation, the results of the study

highlighted the permanent residents perceived the value of the benefits from the event did not outweigh the costs of such events. Therefore, they were willing to engage the tourists in an exchange. The willingness to enter the exchange with the tourists meant they were willing to support the event. In other words, tourism will be supported only if the resulting benefits are valued, and the perceived costs do not exceed perceived rewards.

Similarly, Weaver and Lawton's (2013) study of a contentious event in Australia, results supported the SET and highlighted the theory could be applied to the individual resident as well as the community as a unit. In that, residents clearly understood the social costs but at the same time recognized the economic gains for the community. On the other hand, from the individual perspective there was a balance between receiving "no gains" and not experiencing any losses. So, despite the lack of gains to the individual the exchange was perceived as valuable for the community. Therefore, it was concluded that residents were willing to tolerate the festival in light of the economic benefits to the community, but not to them personally (Weaver & Lawton, 2013).

Unlike previous studies Wang and Pfister (2008) claimed to have used the SET in a sociological and social psychological context in Washington, North Carolina, an emerging destination. Wang and Pfister (2008) concurred with Harrill (2004) that SET has been more frequently used in studies to assess the relationship between residents' attitude towards tourism and economic benefits accrued from tourism. Thus, the study specifically examined the relationship between residents' attitude towards tourism and non-economic benefits of tourism.

The difference with the sociological approach is the principle of rationality is more so on sentiments and value domains and social conditioning, rather than on

maximizing economic benefits. The sociological approach served as an explanation the position an “actor” may take in the exchange (Wang & Pfister, 2008). Interestingly, the results of the study showed that noneconomic benefits were sufficient in the exchange for the majority of residents to support the proposed tourism development in Washington. The findings of the study further echoed that the social exchange theory is drawn from established areas of the social sciences like psychology and sociology, and, therefore, t provides a good foundation for explaining resident attitudes towards tourism.

Critique of SET. Sharpley (2014) in reviewing the theoretical frameworks used in host perceptions studies, lamented that a number of the studies lacked an identifiable theoretical framework. However, for those studies that proposed a theoretical framework SET was predominantly used. Sharpley (2014) however claimed that the SET has not been helpful in explaining resident’s perceptions. As there is a lack of consensus among studies of its usefulness to definitively explain residents’ perception of tourism. One critique as stated by Sharpley (2014) is based on the presumption that in the tourist-host context where the exchange is unbalanced there will be no exchange. However, in the tourism context the exchange though unbalanced may still take place (McGhehee and Andereck (2004).

McGhehee and Andereck (2004) used the SET theory as the basis to explain how the benefits and costs of tourism impact the perceptions of the residents. The results of the study for the most parts supported the SET, however, it was found that personal benefits from tourism does not necessarily mean residents have a positive view of tourism and will, therefore, support tourism development. Two shortcomings of the SET theory in relation to the study were highlighted. The first is where one or both persons

entering an exchange relationship may not possess all the information relating to the exchange. Secondly, persons do enter into relationships even though it is unbalanced, that is, they may not personally benefit from the exchange. Additionally, absent from the second limitation was whether or not the residents entering the exchange were cognizant that the benefit would accrue to the community as a whole or to other individuals. The SET other constraint is the assumption that persons enter into exchanges only if they see where they will gain (McGhehee & Andereck, 2004). The question is asked, “What about the residents who do not stand to gain from the exchange?” SET accounts for the losers in terms of residents who may have less power in the exchange but nevertheless must participate in the exchange (Emerson, 1972).

Social Exchange Theory and the Social Carrying Capacity

Based on the assumptions of the SET the benefits gained by residents from tourism can likely mediate the relationship between negative effects of the SCC breaches on the residents in a destination and their perceptions and tolerance of tourism (Ap, 1992; Jackson & Inbakaran, 2006; Mansfeld & Jonas, 2006; Saveriades, 2000).

Summary

This chapter defines the constructs to be studied based on the conceptualization and previous empirical and theoretical studies. First, this chapter reviews the concept of sustainable tourism and SCC. The second section reviewed studies on residents’ QOL and tolerance of tourism, and their interrelationships with the socio-demographic of the residents, thus, proposing several hypotheses. The third section addresses the theories that can explain the residents’ perception of tourism impact. The following chapter provides a summary of research hypotheses and discusses research design and

methodology in detail. The items that are going to be used to measure each construct are also discussed in a brief manner

CHAPTER III

METHODOLOGY

The chapter will introduce the research paradigm used to guide the study. The research design outlines the most appropriate research methods used, the study area, a description of the population and sample, the method used to select the sample and the instrument administered. The chapter also provides an explanation of methods used to collect and analyse the, as well as the ethical considerations that guided the study. The research design was devised to provide answers to the research questions and to test the proposed hypotheses.

Purpose of the Study

The purpose of this study was to test a diagnostic model for assessing the social carrying capacity (SCC) in small island developing states (SIDS). Additionally, the 4 levels of Doxey's (1975) Irridex model is to be tested as a likely measure of the SCC. In order to accomplish this, the relationship between the independent variables, that is, the resident's perception of their quality of life (QOL) and their tolerance of tourism and the dependent variable, the SCC, was examined. The model is intended to provide a means of testing indicators that can provide timely warning to destination managers of SIDS to possible breaches of the SCC threshold. Several hypotheses were proposed to examine

the effect of the socio-demographic variables and the economic demographic variable dependency on tourism on the residents' perception of their QOL and their tolerance of tourism. Data analysis procedures included descriptive as well as multivariate techniques.

There is a growing interest of government and other stakeholders of SIDS to be able to make predictions relating to the future of tourism. One of the primary issues with predictions is the lack of basic data, more so, in SIDS (Gunn, 1994; McElroy, 2006; Pratt, 2015). Therefore, based on in-depth investigation and the proposed methods, the study is intended to produce definitive findings that provide an accurate identification of the issues that may be useful to destination managers of SIDS (Bojanic & Lo, 2016; Twining-Ward & Butler, 2002; World Tourism Organization [UNWTO], 2018).

Presentation of Hypotheses

The following hypotheses were tested:

H₁: Residents with a positive perception of tourism are more receptive to tourists.

H₂: There is a positive relationship between the residents' perceived benefits from tourism and their perception of tourism.

H_{3a}: There is a relationship between the residents' age and the perception of their quality of life.

H_{3b}: There is a relationship between the residents' age and their tolerance of tourism.

H_{4a}: Residents' perception of their quality of life is influenced by gender.

H_{4b}: Residents' tolerance of tourism is influenced by gender.

H_{5a}: There is a positive relationship between residents' perception of tourism impacts and education level on their perceived quality of life.

H_{5b}: There is a positive relationship between the education level of the resident and their tolerance of tourism.

- H_{6a}: There is a positive relationship between residents' perception of tourism impacts and income level on their perceived quality of life.
- H_{6b}: There is a positive relationship between income level of the resident and their tolerance of tourism.
- H_{7a}: The residents' perception of their quality of life is positive if they reside in close proximity to the tourism center.
- H_{7b}: The residents' tolerance of tourism increases if they reside in close proximity to the tourism center.
- H_{8a}: There is a positive relationship between length of residency and the residents' perception of their quality of life.
- H_{8b}: There is a positive relationship between length of residency and residents' tolerance of tourism.
- H_{9a}: There is a positive relationship between the residents' dependency on tourism and their perceived quality of life.
- H_{9b}: There is a positive relationship between the residents' dependency on tourism and their tolerance of tourism.
- H₁₀: When residents' perceived quality of life is positive, then dependency on tourism heightens their tolerance of tourism.
- H_{11a}: There is a positive relationship between the existing life cycle stage of the destination and the residents' perception of their quality of life.
- H_{11b}: There is a positive relationship between the existing life cycle stage of the destination and the residents' tolerance of tourism.
- H_{12a}: There is a relationship between the 4 levels of irritation and residents' perception of their quality of life.
- H_{12b}: There is a relationship between the 4 levels of irritation and residents' tolerance of tourism.
- H₁₃: There is a relationship between the 4 levels of irritation and the social carrying capacity.

Research Design

The survey research method using a case study was employed to achieve the objectives of the study. According to Leedy and Ormond (2005) the survey instrument is the foundation on which the entire research rests. Surveys are studies of large and small populations conducted by selecting and studying certain characteristics, attitude or behavior of the samples from the population to discover the relative trends, incidence, distribution and interrelations of variables (Creswell, 2014). The survey method collects large amounts of quantitative data is very effective in academic research (Creswell, 2014). It allows inferences to be drawn from the sample to the population (Creswell, 2014; Kerlinger, 1979). The purpose of the survey is to garner residents' perception of their quality of life and their tolerance of tourism. In addition, demographic characteristics of respondents including gender, age, proximity to tourism center, length of residency, income, dependency on tourism and level of education forms part of the survey. The questionnaire as a data collection instrument have several advantages relevant to the current study. With the questionnaire, there was more assurance of subject's anonymity. Another advantage of questionnaires is the contribution to the reliability of the study by promoting greater consistency. Another strategy was to ask the same question different ways to verify answers to questions critical to the study. The use of questionnaires also reduced the introduction of bias by eliminating the ability of interviewers to influence answers either intentionally or inadvertently (Leedy & Ormond, 2005). The method however, is not without its weaknesses.

The disadvantages of the survey method are shallow penetration, high time consumption, very little control over misconceptions or misunderstanding of questions,

which could lead to incorrect answers. Another drawback of the method is the lack of control over the research setting. Attitudinal surveys present a unique problem of the possibility of unstable reflections of the attitudes, in that, attitudes can change frequently as well as they may be affected by other extenuating factors (Ap, 1992; Cohen, 1988; Pizam, 1994). The instrument used to collect data must be well-structured, designed and scaled, if the research is to achieve its objective and mitigate against the disadvantages of the survey method.

This survey instrument was developed from items adapted and modified from several resident attitude and perception, and QOL studies, namely, Akis, et al. (1996), Andereck and Nyaupane (2011), Aref (2011), Bagri and Kala (2016), Chen and Raab (2012), Diedrich and Garcia-Buades (2009), Huttasin (2008), Kim (2002), Mansfeld and Jonas (2006), Mason and Cheyne (2000), McGhehee and Andereck (2004), Ramseook-Munhurrun and Naidoo (2011), Sinclair-Maragh, et al. (2015) and, Wang, Pfister, and Morais (2006). The items on the survey are mainly 5-point Likert-scale type from *1-strongly disagree* to *5-strongly agree*. The neutral option was not used in the scale for this study. Some controversy exists as to whether a neutral point should be offered. If this option is removed, this forces the respondent to choose a response, which may lead to respondent irritation and increase non-response bias, but on the other hand may allow for more sound results (Burns & Grove, 1997).

The studies, from which the items were selected, had been subjected to testing for internal consistency, content and face validity. However, there are a few original questions, hence, the questionnaire was pilot tested and analyzed for its reliability using

the Cronbach's alpha statistic. The case approach was useful in realizing the objectives of the study.

The use of the case approach provides a thorough examination of specific settings or particular aspects of social setting resulting in a complete, well-organized picture of the unit under study (Black & Champion, 1976; Isaac & Michael, 1981). The primary benefit of the case study approach, was investigating a relatively small unit across a large number of variables. The weakness of the case approach is the uncertainty of the generalizability of the findings (Leedy & Ormrod, 2005). Most SIDS have similar characteristics (Briguglio, 1995). Hence, it may be possible to use the findings of this study to draw conclusions or use similar methods to arrive at conclusions specific to other small island developing states (SIDS).

Study Area

Ocho Rios, Jamaica a SIDS is a well-established tourism destination that attracted 291,925 number of stopover visitors in 2005 and boasts 379,021 in 2015. Mass tourism is responsible for the 'explosive' growth seen over the last 25 years, hence tourism is the economic lifeblood of this town. The congestion in the town of Ocho Rios has increased threefold with no real infrastructural changes taking place in the town making the town unbearable for both the residents and the tourists.

In many SIDS the tourism industry is the predominant economic driver (Ali, et al., 2015; Briguglio & Briguglio, 1996) however, further development of the industry may lead to residents' negative attitude towards tourism, then ultimately a decline in the industry (Butler, 1999; Thomas, et al., 2005). Therefore, it is now critical for SIDS such as Jamaica, to assess the perceptions of the residents to determine the SCC. In fact,

Briguglio and Briguglio (1996) stated that it is not difficult for SIDS to exceed the SCC threshold due to its size. That being so, Ocho Rios a resort town in Jamaica was used for assessing the SCC in a SIDS.

Data Collection Instrument

The data collection instrument is the means to solving the problem under investigation (Hair, Black, Babin, & Anderson, 2010). The main data collection instrument was a structured questionnaire. The objective of the questionnaire is to secure valid data needed to understand the relationship between residents' perception of their QOL, their tolerance of tourism and the SCC. Further, to examine the effect of the demographics of the population on the two constructs that drive the proposed diagnostic model of SCC in a sustainable framework. A thorough review of the relevant literature related to residents' QOL, attitudes and perceptions of tourism impacts shaped the data collection instrument and procedures.

Description of the Instrument

The data collection instrument was formulated using items from surveys of existing literature conducted with residents relating to their attitudes and perceptions towards the impacts of tourism generally and on their QOL specifically. The questionnaire was comprised of 4 sections (see Appendix A, it included a mix of Likert-scale type and close-ended questions.

A brief statement about the purpose of study and the instructions needed to complete the survey was placed at the beginning of the instrument. Instructions were also placed at each section of the questionnaire. The first two sections of the questionnaire had items relating to the benefits and costs of tourism impacts as perceived

by the residents on their QOL. Such items have a number of subscales that “tap” into the main construct being measured (Rattray & Jones, 2007). Kim’s (2002) 5-well-being domains guided the development of the items used to measure QOL. The questions consisted of both subjective and objective indicators. Noting that subjective indicators are best measured using a degree of satisfaction, that is, scales like 1-strongly disagree to 5 strongly agree (Kim, 2002; Uysal et al., 2016). The benefits and costs as perceived by the residents was measured using 5-point Likert-type scale questions. For example, an item relating to the benefits of tourism was “Tourism improves the appearance of the community” or to measure costs “Tourism leads to traffic congestion, noise and pollution”.

The third section covered items measuring the residents’ tolerance of tourism. Again, the Likert type scale is used. However, the options used to measure tolerance of tourism items was 1-totally unacceptable to 5-perfectly acceptable. As indicated in the Chapter II previous studies examined selected demographic variables as key factors that significantly influence the perceptions of residents towards tourism (Kim, et al., 2013; Saveriades, 2000; Sinclair-Maragh, et al., 2015; Wang, 2013).

The final section of the instrument related to the personal information of the respondents. This consisted of age, gender, length of residency, employment status, education level, income, proximity to tourist center, and dependency on tourism. Socio-demographic data was used to categorize residents and correlate perceived impacts with different variables. The survey instrument was subjected to a number of procedures to ensure its reliability and validity to collect the relevant data needed to answer the central research question.

Refining the Instrument

In the initial stage of the pilot study the survey instrument was carefully critiqued by hospitality and tourism research experts from Oklahoma State University and the University of Technology, Jamaica firstly for content validity (Kim et al, 2013; McDowall & Choi, 2010). Content validity is the extent to which the items in the instrument accurately measures the construct being investigated (Leedy & Ormrod, 2005; Wiersma, 2000). Further the experts reviewed the instrument for its layout, wording, sequencing, understanding, readability and clarity. In addition, they were also asked to identify redundant items. The instrument was amended based on their recommendations before the pilot testing. All of this was done to “produce highly reliable data” (Cone & Foster, 2006, p. 168).

The purpose of the pilot test was to use the responses to judge the validity of the questionnaire according to its contents, clarity of its meaning and suitability to avoid any misunderstanding by the participant (Lucas, 1999). The pilot test was also necessary because the instrument had a number of the items from previous studies which were used in various contexts. (Hair, Black, Babin & Anderson, 2010). Furthermore, the items taken from the previous studies was modified for this study. Additionally, the pilot test was helpful in improving the items, scales, format of the questionnaire and ensured the items were linked to the objectives of the study (Creswell, 2014).

Pilot Study

The convenience sample method was used to distribute forty (40) of the measurement instruments to faculty members, students, family members and acquaintances that met the following criteria - were current residents, previous residents,

stayed for an extended period in or visited Ocho Rios. Only 30 of the instruments were returned. A few of the participants for the pilot study were found based on referral. The participants were asked to comment on the appropriateness of wording, format and length of time to complete the questionnaire. They were also asked to comment on content and provide feedback on understandability, and asked to identify any of the scale items that were redundant.

Demographic Profile of the Pilot Sample

The demographics of the sample as shown in Table 4 revealed that 66.7 of the respondents were female and 13.3% were male. The most frequently occurring age group of the participants were between 35-44 years, while the majority of the respondents had tertiary education (93.3 %).

Table 4

Demographic Profile of the Pilot Sample

Category	Frequencies	Percentages
Gender (N=30)		
Male	4	13.3
Female	26	66.7
Age (N=30)		
18-24	5	16.7
25-34	2	6.7
35-44	6	20.0
45-54	11	36.7
55-64	5	16.7
Over 65	1	3.3
Level of Education (N=29)		
Primary	0	0
Secondary	1	3.3
Tertiary (Bachelors, Masters, PhD.)	28	93.3

Analysis of the Pilot Study

Major revisions were made based on the recommendations of the experts and the Cronbach('s) Alpha reliability test. The revisions included deleting some of the items, simplifying the language used and further clarifying the instructions for respondents to make it more readable and understandable. Further, there was the separation of multiple variables in a single item within the subscale so they could be measured separately to facilitate better analysis and results. There was also the recommendation to downsize the font of the instrument in order to reduce the number of pages. Further to print the document on both sides of the page to reduce the number of sheets. This was done in an effort for the survey to appear short to the participants.

After the data was coded and inputted into SPSS, the Cronbach('s) Alpha statistic was used to test the reliability for the internal consistency of the measurement instrument and to identify the ideal combination of items (Assante et al., 2012; Lee & Graefe, 2003). The instrument is considered reliable if the Cronbach('s) alpha coefficient is 0.70.

Perceived community benefits and costs. As stated in Chapter II and III the perceived community benefits and costs were guided by using Kim's (2002) 5 domains which constitute the quality of life of the community construct.

The domains include safety and health well-being, emotional well-being, community well-being and material well-being. As mentioned earlier, the reliability for the items measuring the subscale perceived community benefits and costs ($\alpha = 0.868$) exceeded the recommended the Cronbach('s) alpha reliability test estimate of 0.70. Therefore, there was no need to remove any items to improve the reliability estimate. However, based on the recommendations of the Hospitality and Tourism Industry faculty

experts the language of items 1, 6, 9, 10,11, 13, and 15 were simplified or reworded for understandability as literacy among the population was a concern. In addition, variables in some of the items were separated so that each would be measured individually to facilitate in-depth analysis and findings. The adjusted items are 2, 7, 9, and 14.

Perceived personal benefits and costs. Section 2 of the questionnaire “perceived personal benefits and costs” was examined using only 4 of the 5 quality of life domains namely safety and health well-being, emotional well-being, and material well-being. The Cronbach(’s) Alpha reliability estimate was less than the recommended score ($\alpha = 0.639$) for this subconstruct. Consequently, for this section to have a reliable score of at least 0.70, items 3,11 and 12 should be deleted. Nevertheless, the items were not deleted but modified by rewording in easily understood language. The items were retained because they were based on actors suggested in the literature as good measures of a person’s quality of life (Uysal, Perdue et al.,2012).

In addition, a number of these items were selected from previous QOL studies as mentioned earlier. For example, item 11 stated “The cost of housing is higher in and near to the tourism center because of tourism”, the modified item is “the cost of renting and buying a house is more expensive in and near to Ocho Rios because of tourism”. The reworking of the questions was based primarily on the recommendation of the experts. The low reliability estimate could be attributed to confounding error (Kim, 2002). A situation in which the effect or association between an exposure and outcome is distorted by the presence of another variable. A confounding error can be attributed to the presence of several variables, so much so that it may be difficult to identify a cause-and-effect relationship of any one of the variables (Leedy & Ormrod, 2005, p.220). Therefore,

items with more than variables were split into single variable items. For example, “My utilities supply and quality has improved due to tourism” was changed to reflect the different “utilities” “My water supply is better due tourism” and “My electricity supply is better because of tourism”. The division of the item should also provide some rich data.

Tolerance of tourism. The Cronbach(’s) alpha estimate for the tolerance of tourism subscale was low ($\alpha = 0.585$). Based on the Item-total statistic table to get this section at a reliable score of 0.70 and above, items 2, 3, 5 and 6 must be deleted.

The feedback on this section from the experts and the participants was that the instruction given was not clear. In addition, the items were ambiguous. Therefore, items were again reworded to simpler language for clarity and understanding. The instruction was modified to ensure understandability and to remove any ambiguity. The tolerance of tourism is a variable that is inferred in the related literature as stated in chapters II, and was not directly measured. Hence, the items used in this study were deduced from the few studies that indirectly examined this construct.

Final Instrument

As was stated earlier the initial instrument was comprised of 4 sections, section 1 had 26 items that measured the perceived benefits and costs of tourism to the community, in section 2 there were 17 items looking at the perceived personal benefits and costs of tourism, while section 3 measured the residents’ tolerance of tourism consisted of 8 items and the final section was designed to collect demographic information from the respondents had 13 items. The final instrument was reduced from 7 to 5 pages, redundant questions were deleted. In the first section of the instrument there were 25 items, section 2, 18 items, section 3, 6 items and section 4, 12 items (see Appendix B).

Population

The population of interest is represented by all the residents in and within a 15 mile or approximately 31km radius of Ocho Rios, Jamaica. Residents consist of male and female, employed, unemployed, self-employed, owners of large and small hotels, tour companies, taxi operators, craft vendors, operators of attractions and other businesses and persons currently residing in Ocho Rios and its environs, and are between the ages of 18 to 65yrs, and over. In this study, three types of residents are presumed as adapted from Marzetti and Mosetti (2005).

1. The residents who are directly and fully tourism-dependent and represent the tourist needs (or supplies the goods that satisfy the tourist needs).
2. Those who are partially dependent on tourism that is, residents that benefit from a well-developed tourist sector and,
3. Those who are not dependent on tourism

Sample and Sample Size

Oftentimes, it is not practical, nor is it economically feasible to investigate all of the population of interest when conducting an empirical research. Therefore, a sample, which is fully representative of the population, is chosen. The selection of the sample allows inferences to be made from the sample to the population (Leedy & Ormrod, 2005).

The sample size has to be large enough for the results of the study to be meaningful (Hair, et al. 2010). The population of Ocho Rios is approximately 16,700 as recorded in the last population census 2011 (STATIN, 2011). In order to achieve a 95% confidence level, a 5% sampling error and 0.5 maximum variability (recommended) the

required sample size was 385 respondents based on Cochran's Formula (1963, p. 75) for large populations (Akis et al., 1996; Cochran, 1963; Leedy & Ormrod, 2005).

The calculation of the sample size is based on the following formula:

$$n_0 = \frac{Z^2 pq}{e^2}$$

Where n_0 = sample size

Z^2 = desired confidence level

p = estimated portion of the attribute

q = 1- p

e = desired level of precision

$$n_0 = \frac{(1.96^2)(.5)(.5)}{(.05)^2}$$

$$n_0 = 385 \text{ residents}$$

Data Collection

Convenience sampling, a non-probability design is used in quantitative research where a true representative sample of the population is in numbers but the sample is not randomly selected; in other words, the respondents are selected based on their availability. This method may lead to bias in the results (Cone & Foster, 2006). However, it is still a useful method and is most suitable for this study due to monetary and time constraints. In order to counter the weaknesses of the convenience sampling method a number of strategies was employed.

To overcome the weakness of the representativeness of the sample using convenience sampling the following strategies were employed. These questionnaires were administered in December 2017. It is worth noting this was during the tourism peak season. The survey instrument was administered in the town center of Ocho Rios, shopping centers, residential communities, and at various places of employment including hotels where the majority of demographics that are a part of the population

exist. The survey was conducted over a seven-day period, which included days in the week as well as weekend days. These times were specifically selected to access as wide a spectrum of the population as possible (Guo et al., 2014). Additionally, questionnaires were left at workplaces and collected 2-3 days later.

Data was collected by persons from a marketing company in Jamaica who have experience in conducting surveys. The administrators used the recruitment script (see Appendix E) as a guide to enlist participants. At the beginning of the recruitment process residents were informed of the nature of the study by the administrators. This information was also placed at the beginning of the instrument, which was sufficient information for the resident to decide whether they should participate in the study. Once the subject verbally agreed to complete the survey, it was accepted as informed consent. The agents informed the respondents that they could refuse to answer any of the questions as well as terminate filling out the survey at any time.

Where necessary, the administrators assisted the respondent in completing the survey, as some residents' literacy level may be low. Once the questionnaire was completed the respondents were given a participant information sheet (see Appendix B.) outlining the title and purpose of the study, contact information of the investigators, the risks, benefits and, compensation related to the study. In Jamaica the culture to readily participate in surveys is lacking. Hence it is one of the limitations of this study. Since this is so, an incentive was necessary to induce participation. The incentive was a chance in a raffle. The incentive offered for completing the questionnaire was a stay for one at a hotel in Ocho Rios. In order to participate each respondent voluntarily gave his or her email address or contact number which was entered in the raffle.

Further, the persons who collected the data were on occasion required to translate the questions into patios, the indigenous language of Jamaica. The translation of the items may be necessary to ensure that all socio-economic groups have a clear understanding of the questions. In the hotel industry, the majority of the employees are low skilled which may reflect the level of education attained by the some of the residents.

Ethical Considerations

Ethics considerations for the conduct of research is critical, particularly if the research involves the use of human subjects. Hence, the first step was to seek approval (See Appendix C) of the proposal to conduct the study from the Internal Review Board (IRB) of the Oklahoma State University. The approved IRB application guided the data collection procedure. Through the IRB application it was demonstrated that respondents would not be exposed to any physical or psychological harm as a result of participating in this study. The questionnaire does not have any questions regarding any personal experiences harmful to the participant (Creswell, 2014).

In order to ensure confidentiality of the information collected several steps were taken. One such step was to sign a mutual confidential disclosure agreement (see Appendix D) between the researcher and the marketing company engaged to administer the survey. Next, the persons administering the survey were briefed on the protocol as subscribed by the IRB. Additionally, they were guided by the recruitment script (see Appendix E) regarding informing residents that the data collected will remain anonymous, confidential and only group results will be reported. Moreover, the data was screened for missing data to prevent biased results, loss of critical information and increase the generalizability of the findings (Dong & Peng, 2013; Hair et. al., 2010).

Data Screening

Four hundred and fifty (450) questionnaires were administered, seven were eliminated due to a high number of items not answered. After removing the unusable responses 443 were retained for data analysis. The acceptable level for missing values that can be ignored is 10 percent for an individual case or variable (Hair et. al, 2014). The majority of the variables had sufficient data for analysis. The variables with highest reported occurrence of missing values was among the demographic variables', income at 23.8 percent and employment at 13.5 percent. The pattern of missing values relating to income was also observed in the pilot study (16.5%). In SPSS there are two ways to address missing values, system-defined or user-defined. Both methods were employed in the study. With the user-defined method, the missing values identified were replaced by the numeric value nine.

Data Analysis

Data analysis is the process of attaching value and meaning to data through descriptive and inferential statistics. Before the data analysis process can begin, the recommendation is to devise a system that outlines and describes the coding of the data before entering it into the computer (Cone & Foster, 2006).

Coding involved the translation of the data into numerical form, and specifying the name of each variable to represent the information in SPSS 20 (Cone & Foster, 2006; Pizam, 1994). This process is fundamental to the analysis of the data and the validity of the results as it reduces measurement error. Survey results were hand-coded into SPSS 20.

Data analysis was performed using the Statistical Package for the Social Sciences (SPSS) version 20. Frequency distributions, cross-tabulation tables and measures of central tendency were used to illustrate the characteristics of the Ocho Rios residents surveyed. Factor analysis, regression analysis, One-way ANOVA, independent samples t-test, Chi-square analysis, Pearson's correlation and Kruskal Wallis H test were used to test the research hypotheses. All tests were performed at the 5% level of significance. The strength of Significant relationships were assessed using the following statistics for the following tests:

1. Correlation – correlation coefficient
2. Chi-square – contingency coefficient
3. T-test, One-way ANOVA, and Kruskal Wallis H – eta

Additionally, for the One-Way ANOVA, Tukey's HSD post-hoc test was used to identify significant differences amongst the groups.

The purpose of analyzing data in this study was to identify patterns, trends and, causes of issues relating to the tourism industry of SIDS (Fyall & Thomas, 1999). The statistical tests selected must be suited to answering the research question and hypotheses (Creswell, 2014). The independent variables are residents' perception of QOL, residents' tolerance of tourism and residents' demographic characteristics. The dependent variable is the SCC proposed to be measured by Doxey's Irritation index. The economic demographic variable, dependency on tourism was examined as mediator variable. While the socio-demographic variables were analyzed as moderator variables (Wang & Pfister, 2008). The theories used were helpful in placing the research problem in context.

The theories provided guidelines or assumptions permitting better analysis and interpretation of the relationship of the variables related to the research questions and hypotheses (Creswell, 2014). Based on Butler's TALC model in the context of this research it was assumed that the tourism area under study is at the consolidation stage. Founded on this assumption, it may be likely that Butler's theory is able to explain the relationship between the residents' perception of tourism and the resulting implications for the SCC (Damonte et al., 2012). Furthermore, Ap's (1992) SET theory may also explain to some extent the outcome of the relationship between the variables (Creswell, 2014). Additionally, theories also guide the development of the measurement instrument.

The use of structured questionnaires with Likert scale items to measure perceptions of tourism impact made it feasible to use parametric and nonparametric statistical methods of analysis (Cone & Foster, 2006). In addition, numerous other researchers (Akis et al., 1996; Choi & Murray, 2010; Jackson & Inbakaran, 2006; Pappas, 2008) have set the precedence for this assumption. The data was analysed using a three-step process.

Step 1. Descriptive analysis was conducted mainly on the socio and economic demographic variables and other items in section 1 of the questionnaire. The statistics included frequencies, percentages, mean, standard deviation and cross tabulation. The information was mainly presented in tables. The aim of the descriptive analysis was to summarize and assess the profile of the participants.

Step 2. Factor Analysis. The main purpose of factor analysis is data reduction, that is by assessing the structure of correlations among the large number of variables then grouping the variables that are highly correlated into factors (Hair et. al., 2010). Factor analysis was used based on the priori criterion of this study to develop the scales for the constructs, quality of life, tolerance of tourism, perception of tourism, perceived benefits of tourism, Doxey's Irridex and Butler's TALC. Cronbach's Alpha (α) a reliability analysis method was conducted on the scales. Factor loadings of 0.3 and greater were deemed significant as the sample size was over 350 (Hair et. al., 2010). The Maximum likelihood analysis with varimax rotation loaded reasonably well on the factors. The advantage of the maximum likelihood analysis is in its ability to decrease the incidence of measurement error based on the assumption in social sciences that the variables under study are usually correlated. While the varimax rotation an orthogonal procedure assumes there is no intercorrelations between the variables minimizing the occurrence of multicollinearity. An examination of ProMax an oblique rotation and varimax an orthogonal rotation factor structure was conducted to determine the best representation of the data (Hair et. al., 2010). The steps as recommended by Hair et. al., (2010) was used to arrive at the scales. The steps were to examine the factor matrix loadings, identify significant loadings for each variable, assess the communalities of the variables, re-specify the factor model if needed and finally label the factors. Prior to carrying out the analysis the Kaiser-Meyer-Olkin measure of sampling adequacy and the Bartlett's test of sphericity were examined. Once the KMO falls within the accepted measure of 0.8 and 1, there is sufficient sampling adequacy for conducting factor analysis. The Bartlett's test

of sphericity which shows if there is any statistical significance of correlation among at least some of the variables was significant (Hair et. al., 2010).

Step 3. A series of parametric and nonparametric tests were conducted to test the proposed hypotheses. A series of Pearson's product moment correlation (R^2), and Kruskal Wallis H test was utilized to assess the relationship between continuous and/or ordinal variables for any statistically significant correlation. If any significant relationships were found then further analysis would be conducted. One must still be cautious that even though variables may be correlated they may not influence each other in any way (Cone & Foster, 2006).

The independent samples t-test was used to compare the means of two independent groups to determine whether there is statistical evidence that the associated population means are significantly different. All inferential procedures were performed at the 5% level of significance. These tests are useful to isolate any significant differences that might be evident between the socio-demographic characteristics of respondents and their level of support for tourism (King, et al., 1993)

The One-way ANOVA was used to analyse the means of two or more groups to find any significant differences as a result of a particular influence or treatment or by chance. The statistical technique was used to determine if residents' quality of life and tolerance of tourism differed significantly by the socio-demographic variables. The correlation coefficient examined the relationship between two (quantitative) variables. (Turner & Thayer, 2001). The correlation coefficients were used to evaluate the strength of the relationship for significant correlations, while the eta statistic was used to assess

the effect size. Where differences were found among groups the Tukey’s HSD post hoc test examined how the groups differed.

Regression analysis is useful in making predictions about the dependent variable based on the observed values of the independent variables (Allison, 1999). Regression analysis was conducted to test the moderating effect of the demographic variables on residents’ perception of QOL and tolerance of tourism. It was also used to test the mediating effect of the variable “dependency on tourism” on the relationship between QOL and tolerance of tourism. Additionally, multiple regression analysis was conducted where other significant relationships were found that were not previously hypothesized in the study. Further, with the regression model there is the possibility of the findings being generalized beyond the sample.

In anticipation of conducting the regression analyses, reference group for categorical variables inputted into the models were set. Reference groups were created and coded as zero as seen in Table 5.

Table 5

Reference Group for Categorical Variables

Variable	Non-reference categories	Reference category
Dependence on tourism	Partially dependent Fully dependent	Not dependent
Gender	Females	Males
Age group	18 – 24 years 25 – 34 years 35 – 44 years 45 – 54 years 55 – 64 years	65 years and older
Level of education	Primary Secondary	Tertiary

Variable	Non-reference categories	Reference category
Income groups	\$100,000 and under	\$500,000 and more
	\$100,000 - \$200,000	
	\$200,000 - \$300,000	
	\$300,000 - \$400,000	

The predictors for the multiple regression models were selected based on the theory in the literature as well as the significant relationships from the bivariate analysis which indicates their relevance in understanding the outcome variables. A significance level of $\alpha < .05$ was used for all regression models. The multiple regression equation is:

$$Y_i = b_0 + b_1X_{1i} + b_2X_{2i} + \dots + b_nX_{ni}$$

Where:

Y_i is the outcome variable (dependent variable)

X_i is the i th score on the predictor variable

b_0 is the intercept (or constant)

b_1 is the gradient

Standardised residuals and Cook's distance were used to determine how well the model fitted the observed data. The regression model is considered to be a poor representation of the data on the following basis: i) if the approximate value for the standardised residual exceeded 3, ii) if more than 1% of the sample cases had approximate standardised residual greater than 2.5 and iii) if more than 5% of cases have approximate standardised residuals greater than 2. A Cook's distance exceeding 1 is an indication of a case having undue influence on the model. Stevens (2002 as cited in Fields, 2009) noted that it is unnecessary to delete a significant outlier with a Cook's distance not exceeding 1 as it will not have a large effect on the regression analysis.

The ability of the regression model to generalize findings beyond the sample was assessed using several statistical indicators. Quantitative predictor variables were normally

distributed and at least measured at the interval level. Dummy variables were created for all categorical predictors. Multicollinearity was assessed using the variance inflation factor (VIF) and the tolerance statistic; a VIF greater than 10 and a tolerance less than 0.1 indicates the existence of multicollinearity. Homoscedasticity was assessed using residual plots. The plot shows a violation of this assumption. For the lower values on the X-axis, the points are all very near the regression line. The assumption of independent errors was tested using the Durbin-Watson statistic. The assumption will be considered met if the Durbin-Watson statistic falls within the range of 1 to 3. Normally distributed errors were assessed using histogram, normal probability plots and Kolmogorov–Smirnov test (K-S test). Scatterplots are used to analyze patterns in bivariate data and can test for linearity. The Conditional Process Analysis (Hayes, 2013) or the Andrew Hayes Process Macro was used to analyse the mediating and moderating relationships proposed in this study. The Andrew Hayes Process Macro analysis integrates the mediation and moderation analyses. It is applicable when the researcher wants to examine the conditional characteristics of the methods by which variables conveys effects on each other. The Process method takes into account the direct as well as indirect effects.

Summary

The methods section discussed the procedures involved in undertaking the research. Information on the variables, population, the sample and sampling technique were provided. The preparation and pilot testing of the instrument to ensure content and face validity was discussed. In addition, data analysis methods outlined was critical to the validity of the results. The methods section ought to reassure the reader about the

reliability of the data collected and the validity of the results, conclusions and recommendations of the study (Baum, 1999).

CHAPTER IV

FINDINGS

Introduction

The results of the data analysis and hypothesis testing is presented in Chapter IV and is divided into four sections. The first section provides a description of the treatment of the data for analysis and the demographic profile of the respondents. The second section is a descriptive discussion of the statistical tests used to analyse the data as well as the development and description of the scales for the constructs in the study. The third section of the study focuses on the results of the hypotheses tested, including the moderating effect of selected demographic variables and the mediating effect of dependency on tourism on the residents' quality of life and tolerance of tourism. The final section of the chapter presents the analyses conducted to develop models for predicting quality of life and tolerance of tourism scores.

Demographic Profile of Participants

Frequency distributions, cross-tabulation tables and measures of central tendency were used to illustrate the characteristics of the Ocho Rios participants surveyed. The socio-demographic profile of the participants' gender, age, and education level is shown in Table 6.

As indicated in Table 6, more than half (54.6%) of the respondents were female, of the four hundred and forty-three participants in the survey that provided gender information and 45.4% were male. Based on the survey, the majority of participants were in the 18-24 years (37.5%) and 25-34 years (31.8%) age group. The greater proportion of the 18-24 years and 25-34 years were females. In the 35-44 years age group there were almost equal numbers of female and male (17.4%) participants.

Respondents surveyed were fairly well-educated with approximately 50% having attained tertiary education as their highest level; five percent had primary level education. The results showed that marginally more males than females had primary (5.6% vs 4.6%) and secondary (51.5% vs 37.9%) education as their highest educational level. Interestingly, a greater proportion of female participants (57.5%) had attained tertiary education as compared to male participants (42.9%).

Table 6

Demographic Profile of Participants

Variables	%	Frequency (n)
<i>Gender</i>		
Male	45.4	201
Female	54.6	242
		n= 443
<i>Age</i>		
18-24 years	37.5	166
25-34 years	31.8	141
35-44 years	17.4	77
45-54 years	9.0	40
55-64 years	2.3	10
65 years and older	2.0	9
		n = 443
<i>Education Level</i>		
Primary	5.0	22
Secondary	44.1	19
Tertiary	50.9	223
		n = 439

Geographic Profile of Participants

Length of Residency and Proximity to Town Center

More than a half of the participants (57.9%) resided in Ocho Rios for 10 years or more, while the least number (9.8%) of participants resided in Ocho Rios between 4-6 years (see Table 7). Residents who have lived in Ocho Rios for over 10 years were the greatest supporters of tourism (58.8%). Additionally, the 10 years and over group were in the majority that agreed the benefits from tourism were greater than the costs (57.6%).

Close to a half of the respondents (46.5%) lived within 5 km (11 miles) of the town of Ocho Rios, while approximately 10% lived the farthest from the town as shown in Table 7. The majority of the respondents who lived closest to the town of Ocho Rios supported tourism (46.7%), while those who lived the farthest had the least supporters of tourism (10.3%). The majority of the residents who lived closest to Ocho Rios, that is 1-5km (11miles) and the 6-10km (21miles) thought that the benefits of tourism outweighed the costs (78.5%).

Table 7

Geographic Profile of Participants

Variable	%	Frequency(n)
<i>Length of Residency in Ocho Rios</i>		
1-3yrs	20.1	89
4-6yrs	9.7	43
7-9yrs	12.0	53
10yrs and over	57.3	254
		n= 439
<i>Proximity to Ocho Rios</i>		
< 5km (< 11miles)	46.1	200
6-10km (12-21miles)	30.2	131
11-15km (22-31miles)	13.6	59
over 16km (> 32miles)	10.1	44
		n = 434

Economic Profile of Participants

Approximately three-quarter of the participants were employed (76.6%, Table 8). More than a half of the residents were in full-time jobs (53.3%), on the other hand 14.3% were self-employed.

The majority of participants (67.8%) had gross monthly income of under \$100,000 while the least number of respondents (2.3%) earned between \$300,000 and \$400,000 as seen in Table 8. Income had a high percentage of missing values (23.8%). It appeared to be a trend among the participants.

Table 8 shows that over one third (36.8%) of participants surveyed were dependent on the tourism industry for their livelihood. The places of work for those who were employed included hotels (18.4%) and tourist attractions (5.9%). Approximately thirty seven percent of employed participants, whether through full-time (44.43%), part-time (42.5%) or self-employment (34.9.1%), worked in the tourism industry. Approximately fifty one percent of participants reported that members of their household worked in the tourism industry, predominantly at hotels (35.2%), tourist attractions (16.7%) and tour companies (13.3%) as shown in Table 8. It is worth noting employment status had a slightly high incidence of missing values (13.5%).

All of the participants who were employed in the tourism industry fully supported it, while approximately 62.9% who were not dependent on the industry also supported tourism (see Table 8). Approximately eighty seven percent of the respondents who were fully dependent on the industry for their livelihood thought that the benefits of tourism outweighed the costs, while 68% of the residents not dependent on tourism stated that the benefits outweighed the costs.

The dependence on tourism (DEPTOUR) scale which measured participants' and their household's economic dependence on tourism showed that approximately forty six percent of them were partially dependent and approximately a third (32.6%) were not dependent on tourism for their livelihoods as shown in Table 8.

Table 8

Economic Profile of Participants

Variable	%	Frequency(n)
<i>Employment Status</i>		
Full-time	53.3	235
Part time	9.1	40
Self-employed	14.3	63
Not employed at this time	23.4	103
		N = 441
<i>Employed in Tourism Industry (self)</i>		
Yes	36.8	144
No	62.9	246
		N = 391
<i>Tourism field (self)^a</i>		
Hotel	18.3	81
Tours	5.0	22
Craft	2.0	9
Duty-free shop	3.2	14
Tourist attraction	5.9	26
<i>Employed in Tourism Industry (household)</i>		
Yes	50.6	223
No	49.4	218
		N = 441
<i>Tourism field (household)^a</i>		
Hotel	34.9	156
Tours	13.2	59
Craft	10.5	47
Duty-free shop	6.9	31
Tourist attraction	16.6	74
<i>Dependence on Tourism</i>		
Not dependent	32.6	127
Partially dependent	45.6	178
Fully dependent	21.8	85
		N = 390

(continued)

<i>Gross monthly income (J\$)</i>		
Under \$100,000	67.8	232
\$100,000 - < \$200,000	21.1	72
\$200,000 - < \$300,000	5.6	19
\$300,000 - < \$400,000	2.3	8
\$500,000 and over	2.9	10
		N = 342

Notes. ^a: Yes, responses displayed only

Other Profile of Participants

The survey findings showed that 84.8 % of participants had contact with tourists. More participants reported frequent contact (45.4%) in comparison to 39.2% of them who had some contact with tourists. The majority (96.4%) of the participants supported tourism in Ocho Rios. While 3.6 % of the participants did not support tourism in Ocho Rios (see Table 4). Approximately three-fourths of participants (73.6%) were of the opinion that the benefits of tourism outweighed the costs while 26.4% thought otherwise, that is the cost outweighed the benefits as shown in Table 9.

Table 9

Profile of Participants

Variable	%	Frequency(n)
<i>Level of Contact</i>		
Frequent Contact	45.6	201
Some Contact	39.2	173
No Contact	15.2	67
		N = 443
<i>Support for Tourism</i>		
Yes	96.4	424
No	3.6	16
		N = 443
<i>Benefits vs Costs</i>		
Yes	73.6	320
No	26.4	115
		N= 435

Data Analysis

As stated in Chapter III, the data was analysed using exploratory factor analysis, maximum likelihood extraction with varimax rotation, regression analysis, one-way ANOVA, independent samples t-test, Pearson's product moment correlation, using the correlation coefficient, Kruskal-Wallis H and Chi Square tests using the contingency coefficient. The main purpose of the factor analysis was to assess the structure of correlations among the large number of variables in the study by grouping the variables that are highly correlated into scales (Hair et. al, 2010). Cronbach's Alpha (α), a reliability analysis method was conducted on the scales.

Development of Scales

In order to develop the scales for analysis the exploratory factor analysis (EFA) method was used. The maximum likelihood with varimax rotation method was used to analyse the structure of the correlation among the questionnaire responses, where 6 factors were extracted and 7 iterations required. The factor analysis was useful in developing factors relating to six of the constructs of this study for further analysis. The constructs were quality of life, perception of tourism, perceived benefits of tourism, tolerance of tourism, Doxey's Irridex and Butler's Tourism Area Life Cycle. The maximum likelihood analysis with varimax rotation was conducted on the items in sections one to three of the instrument which resulted in the factors loading reasonably well.

As stated in Chapter III the maximum likelihood analysis allows for generalizations from the sample to the population, with the caution that the results are relevant only to the variables understudy. Another advantage of this type of analysis is

that it takes into consideration measurement errors. The decision on the number of factors to extract was based on a priori criterion, hence the number of factors to be extracted was input in the SPSS for analysis (Hair, et al., 2010). Therefore, the scree test was used to verify the number of factors to extracted. However, it is worth noting the eigenvalue for the final analysis was 1.343 meeting the suggested criteria for retaining factors. It has been suggested by Field (2018) that part of the process of the analysis is to run both an oblique rotation and an orthogonal rotation. Based on this recommendation the Promax and the varimax rotational analysis was conducted on the data. The varimax method, an orthogonal rotation was carefully selected as the more appropriate method as in social science research the majority of the time it is assumed that variables are correlated. The varimax method minimizes the number of variables that have high loadings on each factor, thereby reducing the incidence of multicollinearity and simplifying the interpretation of the factors (Hair, et al., 2010).

Prior to carrying out the analysis the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and the Bartlett's test of sphericity were examined. The KMO was .840 which falls within the accepted measure of .8 and 1, thus verifying sampling adequacy for conducting factor analysis. The Bartlett's test of sphericity was statistically significant ($p < .05$) as shown in Table 10. It verifies there is statistical significance of correlation among at least some of the variables, indicating the data is suitable for factor analysis (Hair, et al., 2010).

Table 10

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.848
	Approx. Chi-Square	7024.158
Bartlett's Test of Sphericity	df	946
	Sig.	.000

The first step in running the analysis was to examine the factor matrix of loadings for the rotated factor matrix (varimax) and the factor matrix (Promax), these were found to be similar (see Appendix H and I). However, in order to reduce the correlation among the factors, that is, to yield factors that are more likely to be dissimilar the varimax rotation matrix was selected.

The second step in the process was to identify significant loadings for each variable. The factor loadings with values greater than or equal to 0.3 were used to determine significant loadings. This value was acceptable because the sample size needed for significance was more than 350 (Hair et al., 2010). The factor loading represents the amount of variation explained by the factor. The process used for creating the scales was to identify and group the factors with the highest loading. This process was repeated for all the remaining factors. During this step cross-loading of factors was identified in the rotated factor matrix, that is, where some factors had loadings that were significant on more than one variable (see Appendix H). Additionally, there were factors with loadings below the given threshold. In both instances the items were removed before further analysis was conducted (see Appendix J).

The next step was to assess the goodness-of-fit of the factor solution as shown in Table 11 below. The maximum-likelihood factor analysis produces this statistical measure.

The goodness-of-fit of the factor solution as shown in Table 11 was significant which means the factor solution explains a sufficient proportion of the variance (Field, 2018). In other words, the factor solution is a good fit for the data.

Table 11

Goodness-of-fit Test

Chi-Square	df	Sig.
1653.136	697	.000

In the final step the factor structure was defined and labelled. The factor loadings and communalities of the rotated solution are presented in APPENDIX L. The six factors had eigenvalues greater than one as shown in Table 4.7. The variance explained by each factor in the model was 20.25% for quality of life (QOL), 11.01% for perception of tourism (PERTOUR), 5.94% for perceived benefits of tourism (PERBEN), 4.83% for tolerance of tourism (TOLTOU), 4.23% for Butler’s tourism area life cycle (BUTALC) and finally 4.19% for Doxey’s Irridex (DOXIRR). These factors (scales) were used for further analysis. It is worth noting that there was one item from the survey instrument namely “the hospitals and clinics are better because of tourism” that loaded well on the tolerance of tourism (TOLTOU) scale, however it did not make sense conceptually, hence it was removed. The total variance explained by the final model was 50.51% as shown in Table 12.

Table 12

Total Variance Explained by the Six Factor Solution

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.910	20.249	20.249	8.271	18.799	18.799	6.224	14.145	14.145
2	4.874	11.078	31.327	4.219	9.588	28.386	3.927	8.925	23.070
3	2.613	5.939	37.266	1.450	3.296	31.682	2.704	6.145	29.216
4	2.123	4.825	42.091	1.907	4.334	36.016	2.124	4.826	34.042
5	1.862	4.232	46.323	1.608	3.655	39.671	1.926	4.378	38.419
6	1.843	4.188	50.511	1.343	3.052	42.723	1.893	4.303	42.723
7	1.326	3.014	53.526						
8	1.293	2.938	56.464						
9	1.190	2.704	59.168						
10	1.126	2.560	61.727						
11	1.077	2.449	64.176						
12	.917	2.083	66.259						
13	.900	2.047	68.306						
14	.882	2.004	70.310						
15	.822	1.868	72.177						
16	.762	1.731	73.908						
17	.739	1.680	75.589						
18	.705	1.603	77.191						
19	.667	1.515	78.707						
20	.652	1.482	80.188						
21	.623	1.415	81.603						
22	.606	1.377	82.980						
23	.573	1.302	84.283						
24	.553	1.256	85.539						

25	.518	1.176	86.715						
26	.478	1.085	87.800						
27	.451	1.026	88.826						
28	.430	.977	89.803						
29	.416	.946	90.749						
30	.397	.903	91.651						
31	.380	.863	92.515						
32	.369	.838	93.352						
33	.342	.778	94.131						
34	.325	.739	94.870						
35	.305	.694	95.564						
36	.295	.671	96.235						
37	.266	.605	96.840						
38	.260	.592	97.431						
39	.252	.573	98.004						
40	.231	.524	98.528						
41	.213	.483	99.011						
42	.167	.379	99.390						
43	.149	.340	99.730						
44	.119	.270	100.000						

Extraction Method: Maximum Likelihood.

Reliability analysis was conducted to determine the internal consistency within each of the scales derived from the factor analysis. The majority of the scales Cronbach's Alpha (α) was above the acceptable level of 0.7 as shown in Table 13. The reliability statistic for the quality of life (QOL) scale was .905, while the tolerance of tourism (TOLTOU) scale results showed the Cronbach's Alpha (α = .508) below the required 0.7. It is worth noting if any additional items were removed, the Cronbach's alpha would decrease. However, the scale was retained as is as it made conceptual sense. The perception of tourism (PERTOUR) scale Cronbach's alpha statistic was .857, while for the perceived benefits (PERBEN) scale was .771. The reliability statistic for Butler's tourism area life cycle (BUTALC) was .739. Doxey's Irridex (DOXIRR) nearly met the criteria (α = .697).

Table 13

Reliability Analysis Statistics for Scales

Scale	Cronbach's Alpha (α)
QOL	.905
TOLTOU	.508
PERTOUR	.857
PERBEN	.771
DOXIRR	.697
BUTALC	.739

Description of Scales

All six scales were normally distributed. Where necessary, responses for negatively worded statements were reversed before conducting the analysis. The mean score for quality of life (QOL) scale for participants was 2.83 (SD = .72) reflecting that most of the participants surveyed perceived their quality of life (QOL) as being somewhat improved because of tourism. For the perception of tourism (PERTOUR) scale, the average score

was 2.13 (SD = .73) suggestive of a more favourable outlook of the industry. The mean score for the perceived benefits of tourism (PERBEN) scale was 3.03 (SD = .77) indicating that on average the participants believed that they somewhat benefited from tourism. Residents on average scored 2.95 (SD = 1.02) on the tolerance of tourism (TOLTOU) scale, symptomatic of a more tolerant attitude towards tourism. Respondents average score of 4.00 (SD = .74) on the Butler's TALC(BUTALC) scale showed that the participants' designated the destination at the development and consolidation stage of Butler's (1980) TALC. Similarly, for the Doxey's Irridex (DOXIRR) scale, participants on average score was 3.24 (SD = .83) showing ambivalence towards tourism. This can be likened to the apathy stage of Doxey's (1975) Irridex theory. All of this information is shown in Table 14.

Table 14

Descriptives for Scales

Summary Statistics	Quality of Life Scale	Perception of Tourism Scale	Perceived Benefits of Tourism Scale	Butler's TALC Scale	Doxey's Irridex Scale	Tolerance of Tourism Scale
n	405	423	426	431	426	432
Mean	2.8239	2.1309	3.0348	3.9969	3.2471	2.9549
Median	2.8125	2.0000	3.0000	4.0000	3.5000	3.0000
Mode	3.13	2.00	3.00	4.00	3.50	3.00
Std. Deviation	.71669	.73113	.76970	.73733	.82755	1.01596
Skewness	.077	.685	.177	-.818	-.390	-.149
Std. Error of Skewness	.121	.119	.118	.118	.118	.117
Kurtosis	-.576	.375	-.296	.871	-.114	-.712
Std. Error of Kurtosis	.242	.237	.236	.235	.236	.234
Range	3.63	3.75	4.00	4.00	4.00	4.00
Minimum	1.19	1.00	1.00	1.00	1.00	1.00
Maximum	4.81	4.75	5.00	5.00	5.00	5.00

Social Carrying Capacity Scale

The social carrying capacity (SCC) scale was based on the conceptual reasoning presented in Chapters I and II of this study. The scale was used to approximate the social carrying capacity threshold of residents. The social carrying capacity scale was computed using two items from the instrument. For one item participants were asked if they supported tourism in Ocho Rios. The second item sought to find out from the participants if the benefits from tourism outweighed the costs. Affirmative responses reflected the social carrying capacity (SCC) threshold was not breached while negative responses may mean the social carrying capacity threshold is breached (SCC). The questions used were:

- Do you support tourism in Ocho Rios?
- Generally, for the residents, the benefits from tourism are more than the costs?

The questions used to develop the social carrying capacity (SCC) scale was recoded where “yes” was assigned a value of 1 and “no a value of 0. This was done to ensure the higher value reflected positive responses.

Dependency on Tourism Scale

The dependency on tourism (DEPTOUR) scale was computed from the following two questions:

- Are you employed in the tourism industry? (self), and
- Do other persons in your household work in the tourism industry? (household).

Responses to these questions were ‘yes’ and ‘no’. This scale was used as an indicator of residents’ economic dependency on the tourism (DEPTOUR) industry and was constructed with the following three categories:

- Independent – self = no and household = no
- Partially dependent – self = yes and household = no OR self = no and household = yes
- Fully dependent – self = yes and household = yes.

In examining the relationship between the residents' perceived quality of life (QOL) and tolerance of tourism (TOUTOL) controlling for dependence on tourism (DEPTOUR), the quality of life and tolerance of tourism scales were recoded as ordinal variables to conduct the analysis. The hypotheses in this study were used to test the predictability of the variables of interest.

Hypotheses Testing

The hypotheses were formulated based on previous literature and theory. The research questions were addressed by testing the related hypotheses. The results of the tests are presented and discussed.

Research Question One

In addressing research question one: "How does the quality of life affect the residents' the social carrying capacity of Ocho Rios, Jamaica?" The following hypotheses were tested:

H2: There is a positive relationship between the residents' perceived benefits from tourism and their perception of tourism.

H5a: There is a positive relationship between residents' perception of tourism impacts and education level on their perceived quality of life.

H6a: There is a positive relationship between residents' perception of tourism impacts and income level on their perceived quality of life.

H9a: There is a positive relationship between the residents' dependency on tourism and their perceived quality of life.

In testing the first hypothesis a Pearson's product-moment correlational coefficient analysis was conducted to examine the relationship between perceived benefits (PERBEN) and perception of tourism (PERTOUR). Preliminary analysis showed both variables to be normally distributed. The Pearson's r coefficient disclosed a significant association between perceived benefits (PERBEN) and perception of tourism (PERTOUR) $r(411) = -.143, p < .05$. There was a weak inverse correlation between the two variables. As respondents perceived benefits from tourism more positively there was a subsequent marginal decline in their perception of tourism. The perceived benefits of tourism (PERTOUR) accounted for 2% of the variation in the perception of tourism (PERTOUR). The next hypothesis posited educational level as a moderator variable between residents' perception of tourism (PERTOUR) and their perceived quality of life (QOL). It is assumed that the educational level of the resident affects their QOL.

A simple linear regression analysis was conducted to determine the moderating effect of education between perception of tourism (PERTOUR), the predictor variable and quality of life (QOL) the criterion variable as shown in Figure 4. The education variable had 3 levels, primary, secondary and tertiary.

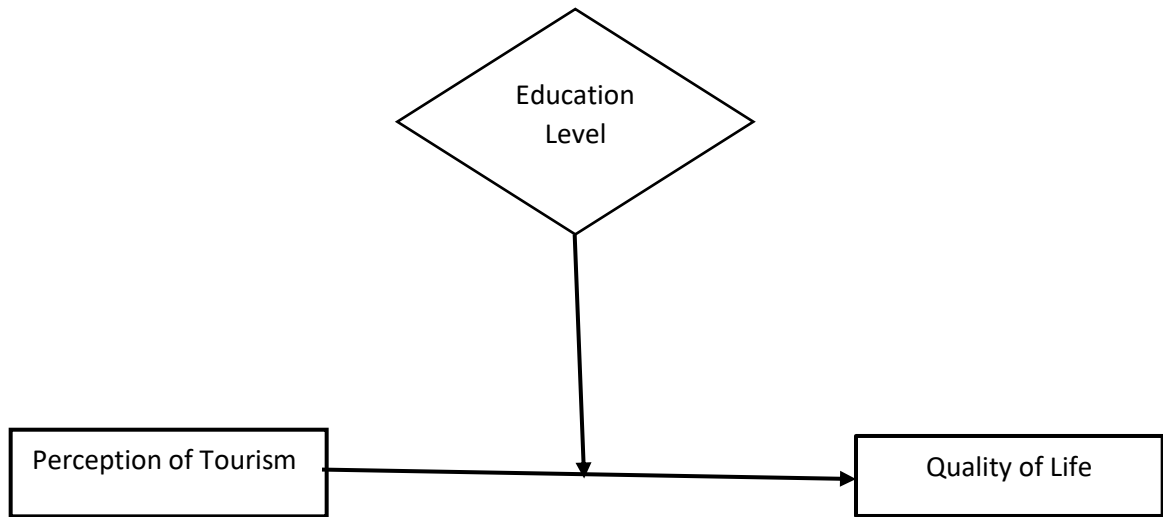


Figure 4. Education level as a moderator variable

Initially, the simple linear regression was used to predict quality of life (QOL) using the perception of tourism (PERTOUR) as the predictor. The regression model was not significantly affected by outliers or influential cases. Standardised residuals with values greater than 2 and 2.5 were within the acceptable limits and Cook's distance and the standardised DFBeta statistics were less than 1. Independence of errors is also assumed as the Durbin-Watson statistic was 1.938 which is within the acceptable limits. The scatterplot (see Figure 5) of the standardised residuals and predicted values supports the assumption of linearity and homoscedasticity as the data points are randomly and evenly dispersed. The normal P-P plot as seen in Figure 6 shows marginal deviations from normality while the Kolmogorov-Smirnov test ($D(393) = .036, p > .05$) was not significant. On this basis, the residuals are assumed to be normally distributed. The model is considered to be a good fit to the data and the findings generalizable beyond the sample.

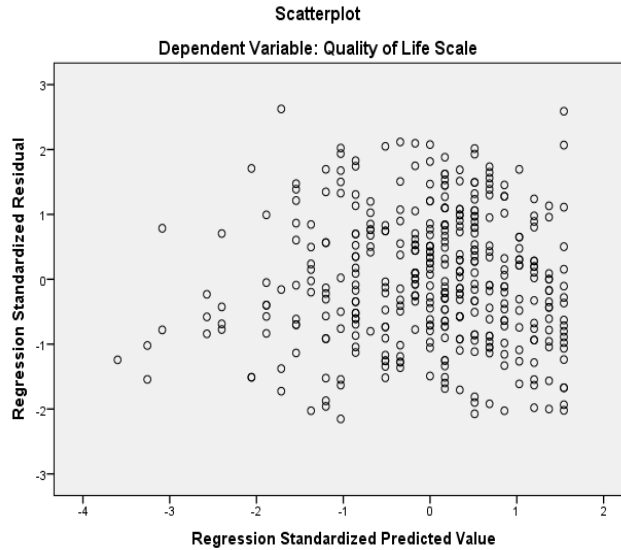


Figure 5. Scatterplot of the standardised residuals and predicted values for QOL

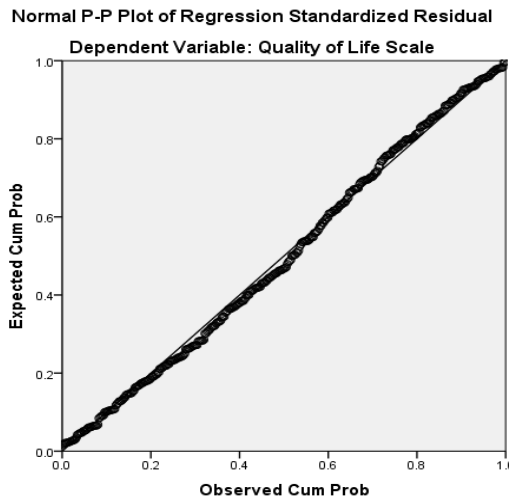


Figure 6. Normal P-P Plot of regression residuals for QOL

Although the regression model was a significant predictor of quality of life (QOL), it accounted for less than 1.4% of variation in the model as seen in Table 15. Contrary to the proposed hypothesis, there was a negative relationship between the perception of tourism (PERTOUR) and quality of life (QOL). For every one unit increase in the perception of tourism (PERTOUR) of the participant, their perceived quality of life (QOL)

scores decreased by .116. The equation for perception of tourism (PERTOUR) and quality of life (QOL) regression model is:

$$Y_i = b_0 + b_1X_{1i}$$

Where $Y_i = \text{QOL}$

$$b_0 = 3.067$$

$$b_1X_{1i} = -.116 \times \text{PERTOUR}$$

Therefore:

$$\text{QOL} = 3.067 + (-.116 \times \text{PERTOUR})$$

Table 15

Linear Regression Model for Quality of Life

	Coefficients				
	B	SE B	β	t	sig
Constant	3.067	.112		27.450	.000
Perception of Tourism Scale	-.116	.050	-.117	-2.327	.020

Notes: * $p < .05$
 $R^2 = .014^*$

This relationship was further examined within the context of the education level variable. The model was a good fit for the data as the standardised residuals in the scatter plot as shown in Figure 7, Cook's distance and standardised DFBeta met the acceptable criteria. The assumptions of independent errors (Durbin Watson = 1.941), homoscedasticity, linearity, and multicollinearity were met. The histogram as presented in Figure 8 and Kolmogorov-Smirnov test ($D(388) = .045, p > .05$) indicated that the residuals were normally distributed.

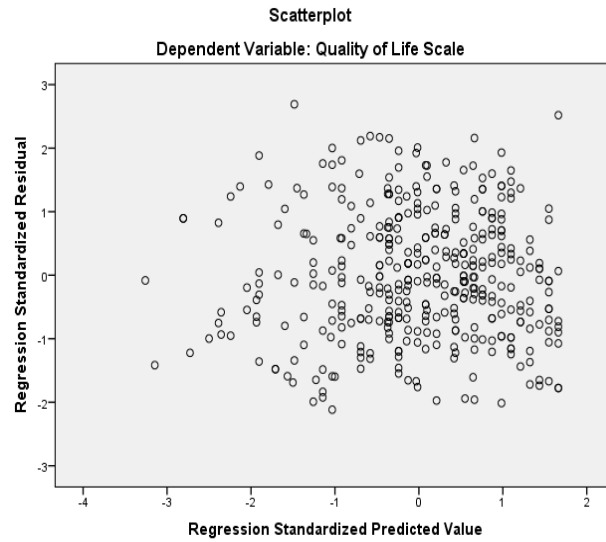


Figure 7. Scatterplot for regression standardized residuals and predicted values of QOL

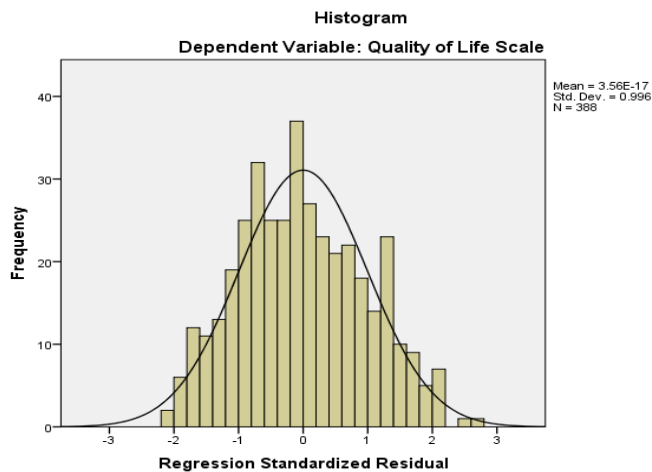


Figure 8. Histogram of frequency and regression standardized residuals for QOL

The moderating effect was tested using Andrew Hayes Process Macro and found that the model was a statistically significant predictor of participant’s quality of life ($F(5, 382) = 3.113, p < .05$) see Table 16. The model explained 3.9% of the variation in participants’ quality of life (QOL) scores as seen in Table 17. Their perception of tourism (PERTOUR) was significant in predicting their quality of life (QOL); for every one unit

increase in the perception of tourism (PERTOUR), residents' quality of life (QOL) declined by .204 points. For respondents with tertiary education, every unit increase in the perception of tourism (PERTOUR) scale, a unit of the quality of life (QOL) scale decreases by .204 points as shown in Table 17. Tertiary level education moderated between the variables perception of tourism (PERTOUR) and quality of life (QOL). However, secondary and primary education had no moderating effect on the relationship between the variables. Level of income was also proposed as a moderator variable.

Table 16

Model Summary

R	R-sq	MSE	F	df 1	df 2	p
.198	.039	.505	3.113	5	382	.009

Table 17

Regression Model for Quality of Life and Perception of Tourism Moderated by Education Level

	Coefficients			
	B	SE B	t	p
Constant	2.786	.052	53.854	.000
Perception of Tourism	-.204*	.067	-3.070	.002
Secondary	.122	.075	1.623	.106
Primary	-.206	.160	-1.288	.199
Perception of tourism x secondary	.221*	.103	2.147	.033
Perception of tourism x primary	.206	.245	.838	.403

Notes: *p < .05
R² = .039

Hayes Process Macro

Tertiary education as reference group

It was further hypothesised that income level had a moderating effect on the relationship between perception of tourism (PERTOUR) and quality of life (QOL) as

shown in Figure 9. The income variable is assumed to affect the participants quality of life.

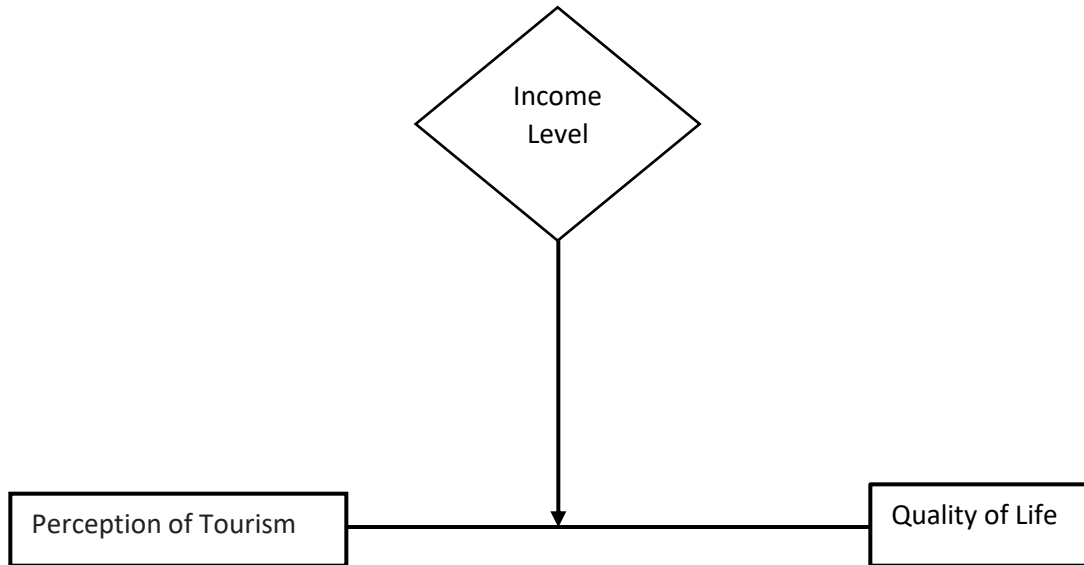


Figure 9. Income level as a moderator variable

The standardised residuals, Cook's distance and standardised DFBeta met the acceptable criteria. The assumptions of independent errors (Durbin Watson = 1.862), homoscedasticity, linearity, multicollinearity and normally distributed residuals Kolmogorov-Smirnov test ($D(303) = .035, p < .05$) were met. The histogram and normal P-P plot indicated that the residuals were normally distributed as seen in Figure 10 and Figure 11. The model was a good fit for the data and the findings can be generalised beyond the sample.

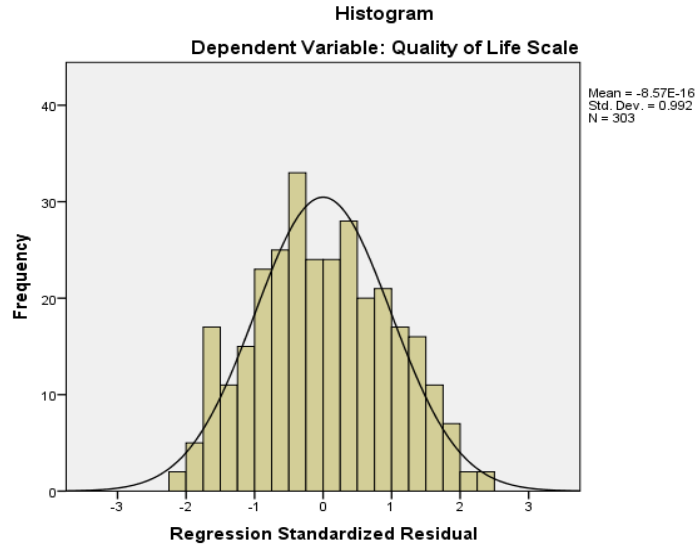


Figure 10. Histogram of regression standardized residuals for QOL

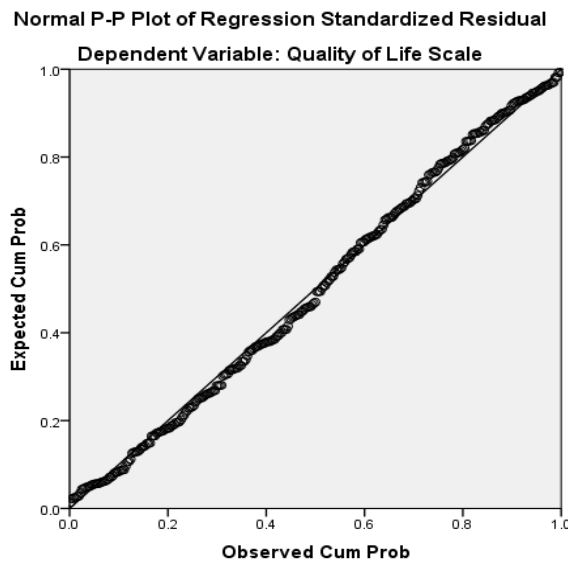


Figure 11. Normal P-P Plot for QOL

The moderating effect of income on the relationship between quality of life (QOL) and perception of tourism (PERTOUR) was assessed using the Andrew Hayes Process Macro. The results revealed that the model was not a significant predictor of quality of life ($F(9, 293) = 1.540, p > .05$) as shown in Table 18 and Table 19. Hence

income level did not moderate the relationship between the variables perception of tourism (PERTOUR) and quality of life (QOL).

Table 18

Model Summary

R	R-sq	MSE	F	df 1	df 2	p
.212	.045	.512	1.540	9	293	.133

Table 19

Regression Model for Perception of Tourism and Quality of Life Moderated by Income Level

	Coefficients			
	B	SE B	t	p
Constant	2.592	.254	10.223	.000
Perception of tourism	-.244	.289	-.844	.399
\$300,000 - \$ 400,000	.355	.389	.913	.362
\$200,000 - \$300,000	.297	.310	.956	.340
\$100,000 - \$200,000	.397	.269	1.480	.140
Less than \$100,000	.241	.258	.933	.351
Perception of tourism x \$300,000 - \$ 400,000	-.373	.600	-.622	.534
Perception of tourism x \$200,000 - \$300,000	.762	.402	1.895	.059
Perception of tourism x \$100,000 - \$200,000	.299	.317	.941	.347
Perception of tourism x less than \$100,000	.097	.297	.327	.744

Notes: *p < .05

R² = .045

Hayes Process Macro

\$ 500,000 or more as reference group

A Kruskal-Wallis H test was performed on the hypothesis 9a to determine whether participants, perceived quality of life (QOL) differed significantly based on different degrees of dependence on the tourism (DEPTOUR) industry. Participants were classified into three groups: Fully dependent (n =85), partially dependent (n=177) and not dependent (n=126). The assumption of equal variance among respondents fully dependent, partially

dependent and not dependent on the tourism industry was not supported by the Levene's test, thus a Kruskal-Wallis H test was conducted. Quality of life (QOL) scores differed significantly according to dependence on tourism (DEPTOUR) ($\chi^2 (2) = 71.295, p < .05$) as seen in Table 20. Pairwise comparisons (see Appendix L) were conducted using Tukey HSD post hoc test. Significant differences were observed between the following groups: fully dependent and not dependent, fully dependent and partially dependent, and partially dependent and not dependent. Participants dependent on tourism (MR = 256.56) enjoyed a higher perceived quality of life than their counterparts who were partially dependent (MR = 177.42) and not dependent (MR = 128.45) on the industry. Further, participants partially dependent on the industry enjoyed a higher perceived quality of life as compared to respondents not dependent on the industry. This was a moderate difference ($\eta = .450$) and participants' dependence on tourism (DEPTOUR) accounted for approximately 20.2% of the variation in their quality of life.

Table 20

Kruskal-Wallis H test for Quality of Life (QOL) by Dependence on Tourism (DEPTOUR), N = 355

		Mean Rank	n	χ^2	df
Dependence on Tourism	Not dependent	128.45	126	71.295*	2
	Partially dependent	177.42	177		
	Fully Dependent	256.56	85		

Notes: * $p < .05$

Research Question Two

In order to address the second research question: "How is the residents' tolerance of tourism affected by the social carrying capacity in Ocho Rios, Jamaica?" the following hypotheses were tested.

H₁: Residents with a positive perception of tourism are more receptive to tourists.

H_{7b}: The residents' tolerance of tourism increases if they reside in close proximity to the tourism center.

H_{8b}: There is a positive correlation between residents' tolerance of tourism and length of residency.

H_{9b}: There is a positive relationship between the residents' tolerance of tourism and their dependency on tourism.

H₁₀: When residents' perceived quality of life is positive, then dependency on tourism heightens their tolerance of tourism.

It was hypothesised that the residents' perception of tourism and reception of tourists (their tolerance) was positively correlated. This hypothesis assumes that if residents are receptive to tourists then they are tolerant of tourism. A Pearson's product moment correlation was run to assess the relationship between the participants' perception of tourism (PERTOUR) and tolerance of tourism (TOLTOU). Preliminary analysis showed both variables were normally distributed. There was no statistically significant association obtained between participants' perception of tourism and their receptiveness (tolerance) of tourism $r(414) = -.02, p > .05$. One-way ANOVA was conducted to test the next two hypotheses.

One-way ANOVA was performed to determine if there was a difference in residents' tolerance of tourism (TOLTOU) based on the three variables proximity to the town of Ocho Rios, length of residency and dependence on tourism. For the test examining the relationship between tolerance of tourism (TOLTOU) and proximity to the town center

equal variances were assumed as the results of the Levene's test was not statistically significant ($F(3, 422) = 1.050, p > .05$). Participants' tolerance of tourism, did not differ significantly based on their proximity to Ocho Rios ($F(3, 422) = 2.384, p > .05$) as shown in Table 21.

Table 21

One-way ANOVA Tolerance of Tourism (TOUTOL) and proximity to town center

ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7.316	3	2.439	2.384	0.69
Within Groups	431.745	422	1.023		
Total	439.061	425			

In testing the hypothesis that a participants' length of residency would have a positive effect on their tolerance of tourism (TOLTOU), equal variances were assumed ($F(3, 423) = .318, p > .05$). The results as shown in Table 22 revealed there was a weak difference in participants' tolerance of tourism (TOLTOU) according to their length of residency in Ocho Rios ($F(3, 423) = 2.843, p < .05, \eta = .159$). After that a pairwise comparison was conducted using Tukey Kramer's HSD to identify significant differences amongst the groups. Statistically significant differences for participants' tolerance of tourism (TOLTOU) were observed only between the respondents residing in the area for 1-3 years and 7-9 years. Participants who lived in the area for 7-9 years ($M = 3.29, SD = .94$) were more tolerant of tourism (TOLTOU) when compared to their counterparts' resident in the area for 1-3 years ($M = 2.77, SD = .98$). Length of residency accounted for 2.5% of the variation in the residents' tolerance for tourism (TOLTOU).

Table 22

One-way ANOVA Tolerance of Tourism (TOLTOU) and Length of Residency

ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8.685	3	2.895	2.84	.038
Within Groups	430.763	42	1.018	3	
Total	439.448	42			
		6			

The analysis was performed to determine whether there was a significant difference in the participants' tolerance of tourism (TOLTOU) according to dependence on tourism (DEPTOUR) as well as households' dependence. The assumption of equal variance among participants' fully dependent, partially dependent and not dependent on the tourism industry was supported by the Levene's test which indicated no statistically significant differences in variance ($F(2, 376) = .012, p > .05$). However, the results of the one-way ANOVA showed no statistically significant difference in the tolerance of tourism (TOLTOU) based on respondents' dependence on tourism (DEPTOUR) ($F(2, 376) = .377, p > .05$) as shown in Table 23.

Table 23

One-way ANOVA Tolerance of Tourism (TOLTOU) and Dependency on Tourism

ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.768	2	.384	.377	.686
Within Groups	382.466	376	1.017		
Total	383.234	378			

The next hypothesis proposed participants' dependency on tourism (DEPTOUR) as a mediating variable between perceived quality of life (QOL) and tolerance of tourism (TOLTOU) depicted by the Figure 12.

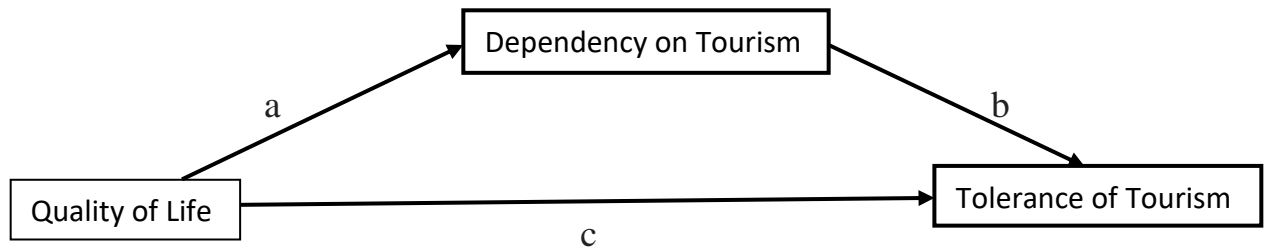


Figure 12. Mediation effect of Dependence on Tourism

A linear regression analysis was conducted to assess the impact of quality of life (QOL) on participants' tolerance of tourism (TOLTOU). The model was considered to be a good fit for the data as it was not influenced by outliers or influential cases. Standardised residuals did not exceed 3, less than 5% and 1% of cases had standardised residual values greater than 2.5 and 2 respectively. Cook's distance and the standardised DFBeta values did not exceed 1 indicative that the model and regression parameters were not influenced by outliers and influential cases. Independence of errors is also assumed as the Durbin-Watson statistic was 1.754 which is within the acceptable limits. The scatterplot of the standardised residuals and predicted values supports the assumption of linearity and homoscedasticity as the data points are randomly and evenly dispersed. The residuals for the model were normally distributed which is supported by the histogram and the normal P-P plot see Figure 13 and Figure 14. The Kolmogorov-Smirnov test ($D(395) = .042, p > .05$). The regression model is therefore considered to be a good fit to the data and the findings generalizable beyond the sample.

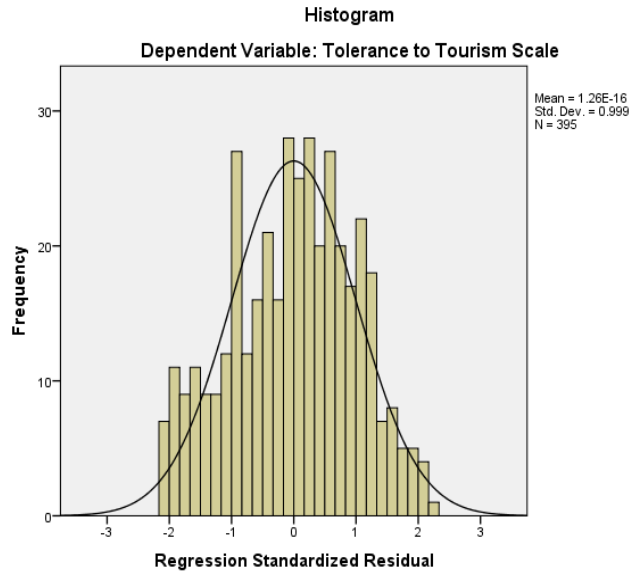


Figure 13. Histogram for frequency and regression standardized residual for tolerance of tourism (TOLTOU)

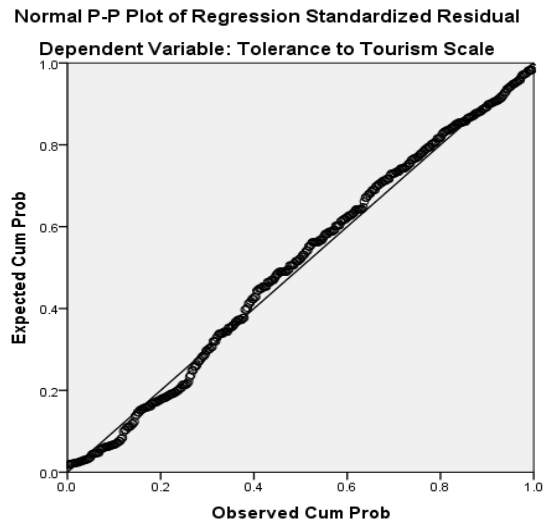


Figure 14. Normal P-P Plot of regression standardized residual for tolerance of tourism (TOLTOU)

The results indicated that the model was a significant predictor of participants' tolerance of tourism (TOLTOU) ($F(1, 393) = 8.733, p < .05$) and explained approximately 2% as shown in Table 24 of the variation within tolerance of tourism (TOLTOU). The quality of life (QOL) scale was a significant predictor of participants' tolerance of tourism

(TOLTOU); for every one unit increase in participants' quality of life score, their tolerance score increased by .210 points as shown in Table 24. The regression equation for the tolerance of tourism (TOLTOU) model is:

$$TOLTOU = 2.371 + (.210 \times QOL)$$

Table 24

Simple Linear Regression Model for Tolerance of Tourism (TOLTOU)

	Coefficients				
	B	SE B	β	t	p
Constant	2.371	.206		11.483	.000
Quality of Life	.210*	.071	.147	2.955	.003

Notes: * $p < .05$
 $R^2 = .022^*$

It was further hypothesised that the relationship between quality of life (QOL) and residents' tolerance of tourism (TOLTOU) changes according to their dependence on tourism (DEPTOUR). Andrew F. Hayes Process Macro was utilised to test whether participants' dependence on tourism (DEPTOUR) mediated between their quality of life's (QOL) and their tolerance of tourism (TOLTOU). The results showed that the model was a significant predictor of participants' tolerance of tourism ($F(5, 341) = 2.747, p < .05$). The model explained approximately 4% of the variation in tolerance of tourism (TOUTOL) as shown in Table 25. Participants fully dependent on tourism for their livelihoods had less tolerance for the industry in comparison to participants not dependent on the industry. However, the interaction terms had no effect on the relationship between the quality of life (QOL) and tolerance of tourism (TOLTOU). Therefore, when respondents perceived their quality of life positively, their dependency on tourism did not increase their tolerance of tourism.

Table 25

Linear Regression Model for Quality of Life (QOL), Tolerance of Tourism (TOLTOU) mediated by Dependence on Tourism (DEPTOUR)

	Coefficients			
	B	SE B	t	p
Constant	2.797	.421	6.641	.000
Quality of Life	0.99	.165	.6002	.549
Partially Dependent	-.637	.533	-1.195	.233
Fully Dependent	-1.509	.793	-1.903	.058
Quality of Life x Partially Dependent	.190	.199	.954	.341
Quality of Life x Fully Dependent	.386	.255	1.513	.131

Notes: *p < .05

*R²=.039

Hayes Process Macro

Research Question Three

To address research question three: “Do the demographic variables influence the resident’s perception of their quality of life and tolerance of tourism?” the following hypotheses were tested.

H3a: There is a relationship between the residents’ age and the perception of their quality of life.

H3b: There is a relationship between the residents’ age and their tolerance of tourism.

H4a: Residents’ perception of their quality of life is influenced by gender.

H4b: Residents’ tolerance of tourism is influenced by gender.

H5b: There is a positive relationship between the education level of the resident and their tolerance of tourism.

H6b: There is a positive relationship between income level of the resident and their tolerance of tourism.

H7a: The residents' perception of their quality of life is positive if they reside in close proximity to the tourism center.

H8a: There is a positive relationship between length of residency and the residents' perception of their quality of life.

The assumption of these two hypotheses is the age of the residents affects both their perception of their quality of life and their tolerance of tourism.

One-way ANOVA was performed to test both hypotheses. For H3a the assumption of equal variances among the age groups was supported by the Levene's test ($F(5, 399) = 1.783, p > .05$). However, the results of the One-way ANOVA revealed no statistically significant difference in residents' quality of life by their age groups ($F(5, 399) = 2.027, p > .05$).

In testing the relationship between participants' age and tolerance of tourism (TOLTOU) the assumption of equal variances was met ($F(5, 426) = .714, p > .05$). The results of the One-way ANOVA revealed a weak significant difference in residents' tolerance of tourism (TOLTOU) based on their age groups ($F(5, 426) = 3.177, p < .05$) as shown in Table 26.

Table 26

One-way ANOVA for Tolerance of Tourism (TOLTOU) and Age

	ANOVA				
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	15.990	5	3.198	3.177	.008
Within Groups	428.879	426	1.007		
Total	444.870	431			

The Tukey Kramer HSD post-hoc test was used to identify significant differences amongst the groups. Significant differences in participants' tolerance of tourism

(TOUTOL) were observed between the following age groups: 18-24 years and 65 years and older; and 45-54 years and 65 years and older. Respondents 65 years and older ($M = 3.89$, $SD = .78$) were more tolerant towards tourism as compared to participants 18-24 years ($M = 2.86$, $SD = 1.02$) and 45-54 years ($M = 2.71$, $SD = 1.02$). Age group accounted for 1.2% of the variation in tolerance of tourism (TOLTOU).

The Independent samples t-test was used to determine if there was a statistically significant difference between participants' perception of their quality of life (QOL) and gender, their tolerance of tourism and their gender. For the test of the relationship between participant's perceived quality of life (QOL) and gender, the assumption that the variance for male and female participants was equal was supported by the Levene's test which indicated no statistically significant differences in variance ($F = 1.748$, $p > .05$). The Independent Samples t-test revealed a weak statistically significant difference by gender for quality of life (QOL) ($t(403) = 2.327$, $p < .05$, $\eta = .115$). Female participants ($M = 2.74$, $SD = .73$) had a lower perceived quality of life (QOL) due to tourism when compared to male participants ($M = 2.91$, $SD = .69$). However, gender of respondents had a limited impact as it accounted for 1.3% of the variation in the quality of life (QOL) scale.

The t-test assumption for homogeneity of variance for male and female participants was supported by the Levene's test which indicated no statistically significant differences in variance ($F = .071$, $p > .05$). The results of the Independent Samples t-test, however, revealed no statistically significant difference for the participants' tolerance of tourism (TOLTOU) based on gender ($t(430) = 1.749$, $p > .05$). Where male $M = 3.05$, $SD = 1.01$, $n = 196$, female $M = 2.88$, $SD = 1.01$, $n = 236$. It was hypothesised that residents with higher levels of education were more tolerant of tourism (TOLTOU) when compared to residents

at a lower level. Levene's test for equality of variance was not statistically significant ($F(2, 424) = .582, p > .05$). The results of the One-way ANOVA, however, revealed that residents' tolerance of tourism (TOLTOU) was not statistically significant based on their level of education ($F(2, 424) = 1.782, p > .05$). The next hypothesis tested income level and tolerance of tourism (TOLTOU).

The analysis performed on the hypothesis revealed a weak statistically significant difference in tolerance of tourism (TOUTOL) based on participants' income level ($F(4, 327) = 4.973, p < .05, \eta = .212$). Tukey Kramer's HSD post-hoc test was used to identify significant differences amongst the groups. Significant differences were observed between the following income groups: less than \$100,000 and \$300,000-\$400,000; \$100,000-\$200,000 and \$300,000-\$400,000; \$300,000-\$400,000 and \$500,000 or more. Respondents' earning \$300,000-\$400,000 ($M = 4.19, SD = .59$) were more tolerant of tourism (TOLTOU) in comparison to participants belonging to the following three categories, less than \$100,000 ($M = 2.84, SD = .99$), \$100,000-\$200,000 ($M = 3.13, SD = .90$), and \$500,000 or more ($M = 2.85, SD = 1.13$) income levels. The next two hypotheses stated a positive correlation between the residents' perception of their quality of life (QOL) and proximity to the town center and their length of residency.

One-way ANOVA analysis was conducted to examine the positive relationships proposed between respondents who reside in close proximity to the town center and their length of residency in Ocho Rios and the perception of their quality of life (QOL). The assumption of equal variances was met for all predictors. The results of the One-way ANOVA as shown in Table 27 and Table 28 did not indicate a statistically significant relationship between the participants' perception of their quality of life (QOL) and

proximity to the town center ($F(3, 396) = .306, p > .05$) nor the length of residency ($F(3, 396) = 0.391, p > .05$).

Table 27

One-way ANOVA for Quality of Life (QOL) and Proximity to Town Center

ANOVA					
	Sum of Squares	df	MS	F	Sig.
Between Groups	.477	3	.159	.306	.821
Within Groups	205.818	396	.520		
Total	206.295	399			

Table 28

One-way ANOVA for Quality of Life (QOL) and Length of Residency

ANOVA					
	Sum of Squares	df	MS	F	Sig.
Between Groups	.603	3	.201	.391	.760
Within Groups	203.776	396	.515		
Total	204.380	399			

Research Question Four

To examine question 4: “Is Doxey’s (1975) Irridex model a reliable measure of the SCC?” the following hypotheses were tested.

H12a: There is a relationship between the 4 levels of irritation and residents’ perception of their quality of life.

H12b: There is a relationship between the 4 levels of irritation and residents’ tolerance of tourism.

H13: There is a relationship between the 4 levels of irritation and the social carrying capacity.

Pearson’s product-moment correlational analysis was used to test the relationship between the 4 levels of irritation based on Doxey’s Irridex (DOXIRR) and the residents’

perceived quality of life (QOL). The analysis revealed no statistically significant association $r(415) = .005, p > .05$. The results of the correlational analysis of the variables Doxey's Irridex (DOXIRR) and tolerance of tourism (TOLTOU) was similar to the finding previously mentioned. It showed no statistically significant relationship $r(389) = .027, p > .05$.

In examining the next hypothesis, the relationship between Doxey's Irridex and the social carrying capacity two items from the instrument was used to approximate the social carrying capacity of participants. A Chi-Square analysis was performed to examine 4 levels of irritation of Doxey's Irridex (DOXIRR) as a significant predictor of residents' social carrying capacity (SCC). The results of the analysis as shown in Table 29 revealed no statistically significant relationship between the variables of interest ($\chi^2(6) = 2.961, p > .05$).

Table 29

Cross-tabulation and Chi-Square Analysis of Social Carrying Capacity by 4 levels of Irritation, N = 417

Social Carrying Capacity (SCC)	4 Levels of Irritation (Doxey's Irridex)				Total
	1 negative	2	3	4 positive	
Low SCC	2 2.1%	1 0.9%	2 1.8%	1 1.0%	6
Moderate SCC	29 30.2%	24 22.2%	32 28.1%	24 24.2%	109
High SCC	65 67.7%	83 76.9%	80 70.2%	74 74.7%	302
Total	96	108	114	99	417

Tourism Area Life Cycle Context

The following hypotheses are useful for classifying Ocho Rios according to Butler's Tourism Area Life Cycle. Hence, contextualising the destination and assist in explaining the results.

H11a: There is a positive correlation between the existing life cycle stage of the destination and the residents' perception of their quality of life.

H11b: There is a positive correlation between the existing life cycle stage of the destination and the residents' tolerance of tourism.

A Pearson's product moment correlation was conducted to examine the relationships proposed by both hypotheses. It was hypothesised that a positive correlation existed between Butler's TALC (BUTALC) and residents' perceived quality of life (QOL). The results of the correlational analysis indicated a moderate positive association between the two scales $r(395) = .353, p < .05$. As participants' scores on Butler's TALC (BUTALC) increased, so too did their scores on the quality of life (QOL). Butler's TALC (BUTALC) accounted for 12.5% of the variation in the respondents' quality of life (QOL). It was further hypothesised that a positive correlation existed between Butler's TALC (BUTALC) and the residents' tolerance of tourism (TOLTOU). However, the results showed no statistically significant correlation ($r(420) = .064, p > .05$) between the variables.

Regression Models

Social Carrying Capacity Model

Multiple linear regression analysis was used to develop a model for predicting Ocho Rios residents' social carrying capacity using the following predictors: quality of life (QOL) scale and tolerance of tourism (TOLTOU) scale. In examining the characteristics

of the model, it was observed that the regression model was not a good fit for the data. Influential cases were present in the model as 2.3% of cases had standardised residual values exceeding 3. However, Cook's distances and the standardised DFBeta statistics for all predictors was less than 1 signifying that no case had an undue influence on the model and regression parameters. Independent errors are assumed as the Durbin-Watson statistic for the model was 1.965. Residuals in the model were not normally distributed. The Kolmogorov-Smirnov test was statistically significant ($D(391) = .272, p < .05$) indicating that the distribution of residuals differed significantly from a normal distribution. The scatterplot of the standardised residuals and predicted values does not support the assumption of homoscedasticity as shown in Figure 15. In addition, the normal P-P plot as shown in Figure 16 shows a deviation from normality. Diagnostic results did not indicate the presence of multicollinearity as the VIF was less than 10 and the tolerance was greater than 0.1 for all predictors. The results of the model, therefore, are not considered to be generalizable beyond the sample.

Although the regression model was statistically significant ($F(2, 388) = 10.222, p < .05$), it was a weak predictor of residents' social carrying capacity accounting for less than 1% of the variation in social carrying capacity. For every one unit increase in the quality of life (QOL) scale, residents' social carrying capacity (SCC) expanded by .157 points as shown in Table 30. The regression equation for the Social Carrying Capacity (SCC) model is:

$$SCC = 1.240 + (.157 \times QOL)$$

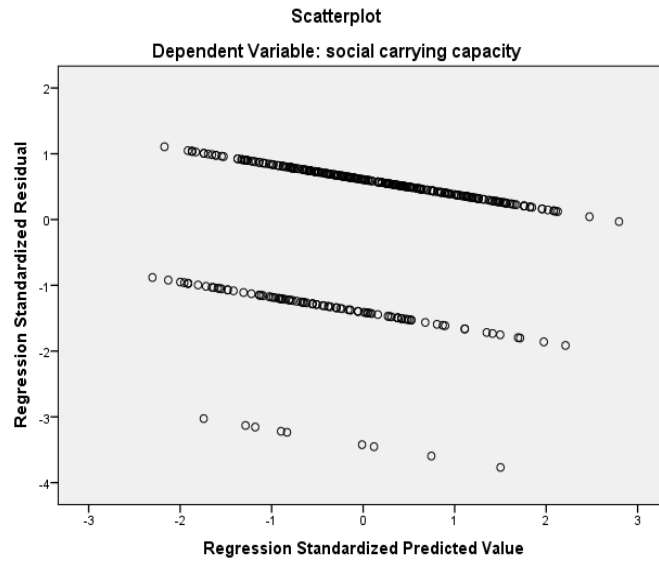


Figure 15. Scatterplot for standardised residuals and predicted values for SCC

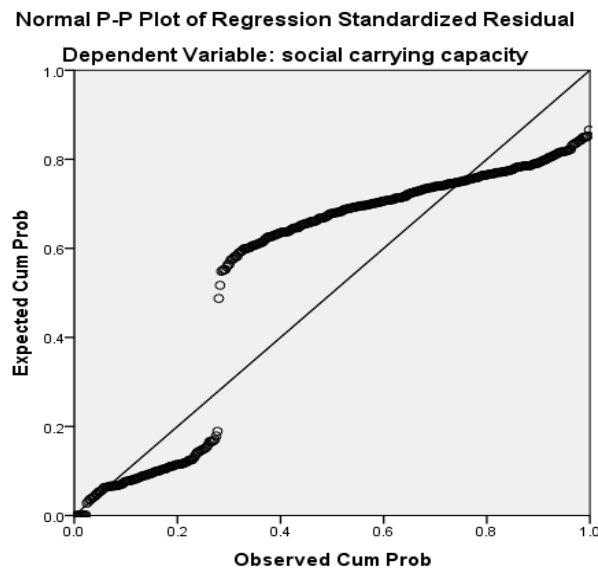


Figure 16. Normal P-Plot of regression standardized residual for SCC

Table 30

Multiple Linear Regression Analysis for Social Carrying Capacity

	Coefficients					Collinearity Statistics	
	B	SE B	β	t	p	Tolerance	VIF
Constant	1.240.118			10.553	.000		
Quality of Life Scale	.157*.035		.222	4.435	.000	.977	1.023
Tolerance to Tourism Scale	.005 .025		.010	0.10	.203	.977	1.023

Notes: *p<.05

R²= .050*

Multiple linear regression analysis was also performed to determine significant predictors for perceived quality of life (QOL) and tolerance of tourism (TOLTOU). The significant relationships from the bivariate analysis indicated their relevance in understanding the outcome variables. The forced entry method which relies on sound theoretical reasons for choosing predictors was used for the regression models. A significance level of $\alpha < .05$ was applied to both regression models. For the regression analyses, the reference group for categorical variables were inputted into the models. Reference groups were coded as zero.

Quality of Life Model

Multiple linear regression analysis was used to develop a model for predicting Ocho Rios residents' quality of life (QOL) scores from the following predictors which were significant in the bivariate analyses: perceived benefits (PERBEN)scale, dependence on tourism (DEPTOUR), Butler's TALC (BUTALC) scale, perception of tourism (PERTOUR) scale, and gender. In assessing model fit, standardised residuals did not exceed values of 3 and less than 5% of cases has standardised residuals exceeding values of 2. However, 1.8% of cases had standardised residuals exceeding values of 2.5 which

does not meet the accepted criteria. Cook's distance and the standardised DFBeta statistics were less than 1 indicating that the model was not unduly influenced. The model is not considered to be a good fit to the data as not all the criteria were met. Independence of errors is assumed as the Durbin-Watson statistic, 1.902, was within the acceptable limits. Diagnostic results did not indicate the presence of multicollinearity as the VIF was less than 10 and the tolerance was greater than 0.1 for all predictors. The scatterplot of the standardised residuals and predicted as shown Figure 17 values supports the assumption of linearity and homoscedasticity as the data points are randomly dispersed. The Kolmogorov-Smirnov test ($D(329) = .028, p > .05$) and the normal P-P plot as in Figure 18 support the assumption that the residuals were normally distributed.

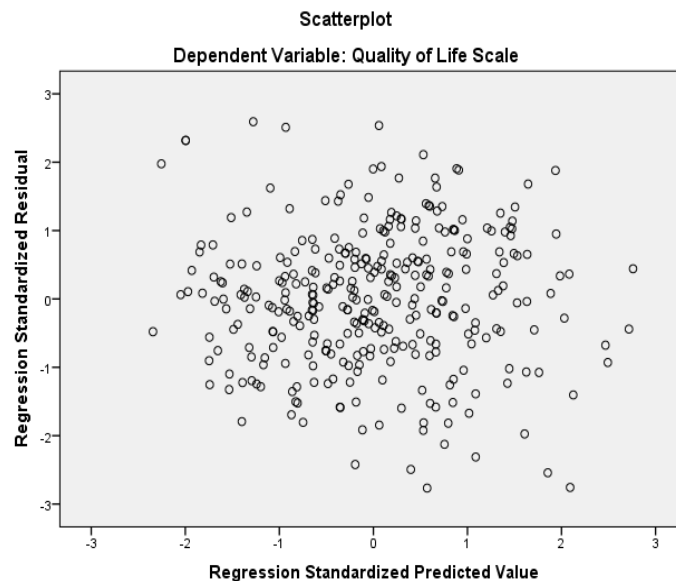


Figure 17. Scatterplot for standardised residuals and predicted values for QOL

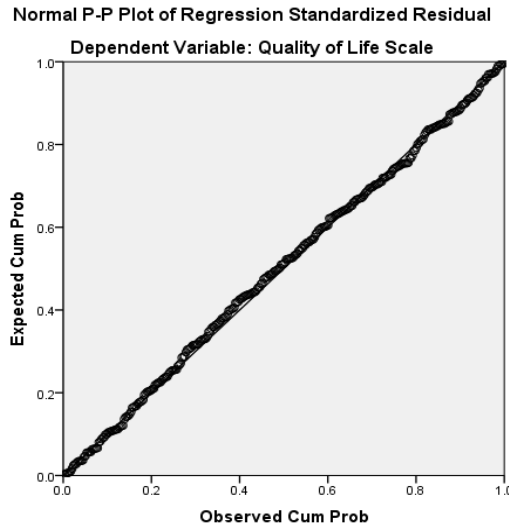


Figure 18. Normal P-Plot of regression standardized residual for QOL

The model was a significant predictor ($F(6, 322) = 44.626, p < .05$) and accounted for 45.4% of the variation in the quality of life (QOL) scale. With the exception of perception of tourism (PERTOUR) scale and gender, all other predictors were statistically significant. In order of importance, fully dependent on tourism (DEPTOUR) (as compared to not dependent) and the perceived benefits of tourism (PERBEN) scale and the stage of Butler’s tourism area life cycle (BUTALC) had the greatest impact on the quality of life (QOL) scale. Participants who were fully dependent on tourism (DEPTOUR) for their livelihood scores on the quality of life (QOL) scale increased significantly more (.721) compared to participants’ not dependent on tourism (DEPTOUR). Quality of life (QOL) scores also increased significantly more for participants’ partially dependent on tourism (DEPTOUR) scores (.329) as compared to participants’ not dependent on the industry. For every unit increase in the perceived benefits of tourism (PERBEN) scale, participants’ quality of life (QOL) score increased by .363. For every unit increase in the Butler’s TALC (BUTALC) scale, there was an increase of .241 points in the quality of life (QOL) scale as shown in Table 31.

The regression equation for the Quality of Life model is:

$$QOL = .541 + (.363 \times PERBEN) + (.329 \times \text{Partial DEPTOUR}) + (.721 \times \text{Fully DEPTOUR}) + (.241 \times BUTALC) + (-.012 \times PERTOUR) + (-.109 \times \text{females})$$

Table 31

Multiple Regression Model for Quality of Life (QOL)

	Coefficients					Collinearity Statistics	
	B	SE B	β	t	p	Tolerance	VIF
Constant	.541	.255		2.124	.034		
PERBEN	.363*	.044	.361	8.302	.000	.895	1.117
Partial DEPTOUR	.329*	.069	.226	4.780	.000	.761	1.313
Fully DEPTOUR	.721*	.086	.408	8.366	.000	.712	1.405
BUTALC	.249*	.044	.254	5.616	.000	.832	1.203
PERTOUR	-.012	.045	-.012	-.271	.787	.863	1.159
Females	-.109	.061	-.075	-1.796	.073	.982	1.018

Notes:

* $p < .05$

$R^2 = .454^*$

Tolerance of Tourism Model

Multiple linear regression analysis was also used to develop a model for predicting Ocho Rios residents' tolerance of tourism from the following predictors which were significant in the bivariate analyses: gross monthly income, length of residency, quality of life (QOL) scale, age and perceived benefits (PERBEN) scale. The model was not unduly influenced by any subset of cases. Examination of the standardised residuals showed no residuals exceeding 3, less than 5% of cases had standardised residuals greater than 2, and less than 1% of cases had standardised residuals greater than 2.5.

Furthermore, Cook's distance was less than 1 and the standardised DFBeta statistics for all predictors was less than 1 indicating that no case had an undue influence on the model and regression parameters respectively. The assumption of independent errors is assumed as the Durbin-Watson statistic of 1.552 was close to the acceptable criteria of 2

as recommended by Fields (2009). Multicollinearity was observed among the dummy variables for age group. The scatterplot of the standardised residuals and predicted values as shown in Figure 19 supports the assumption of homoscedasticity. Residuals in the model were normally distributed. The Kolmogorov-Smirnov test was statistically significant ($D(295) = .069, p < .05$) indicating that the distribution of residuals differed significantly from a normal distribution. In addition, the normal P-P plot as presented in Figure 20 shows a slight deviation from normality. While the regression model is considered to be a good fit to the data, the findings are not generalizable beyond the sample.

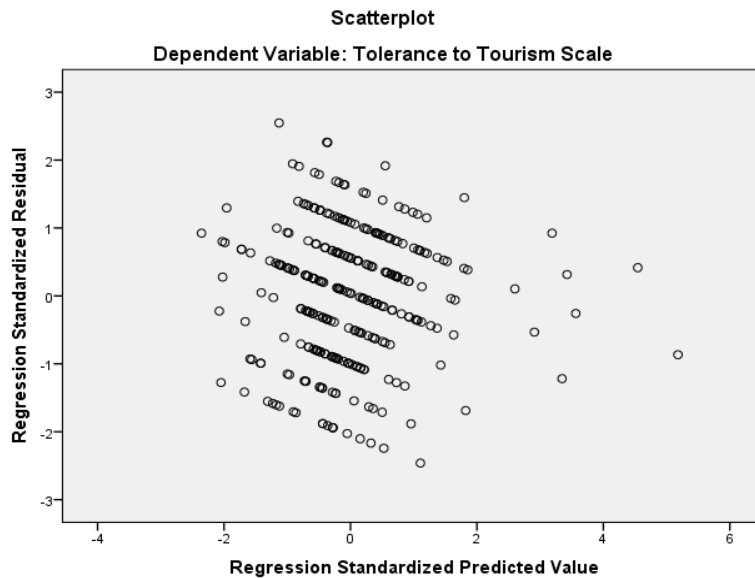


Figure 19. Scatterplot for regression residuals and predicted values for TOLTOU

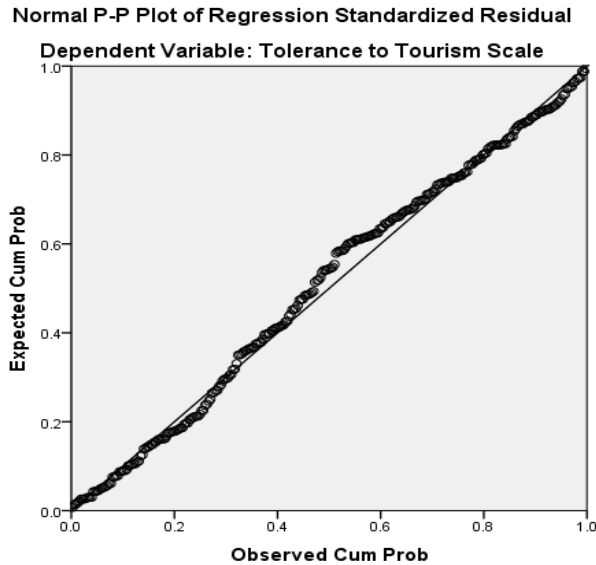


Figure 20. Normal P-Plot for regression and standardized residual for TOLTOU

The results revealed that the model was a significant predictor of participants' scores on the tolerance of tourism (TOLTOU) scale ($F(14, 280) = 2.964, p < .05$) as shown in Table 32 and accounted for 12.9% of the variation in the scale. Scores on the tolerance of tourism (TOLTOU) scale increased significantly more for participants earning gross monthly incomes of \$300,000 - \$400,000 (1.465) when compared to residents earning \$500,000 or more for their gross monthly income. Tolerance scores increased by .4 points more for participants living in Ocho Rios for 7 to 9 years in comparison to their counterparts who had resided in the area for 10 or more years. Tolerance of tourism scores increased by .152 points for participants who rated their QOL positively, while participants who positively perceived benefits from tourism tolerance of tourism score increased by .039. Participants 55-65 years old tolerance levels increased by .438 in comparison to those in the age group 18-25 yrs whose tolerance levels decreased by -.205. The participants 45-54 years had the largest decrease in their tolerance levels (-.713). The regression equation for the Tolerance of Tourism (TOLTOU) model is:

$TOLTOU = 2.302 (.198 \times \text{earning income of less than } \$100,000) + (.483 \times \text{earning income } \$100,000 - \$200,000) + (.449 \times \text{earning income } \$200,000 - \$300,000) + (1.465 \times \text{earning income } \$300,000 - \$400,000) + (.062 \times \text{1-3 yrs of residency}) + (.220 \times \text{4-6yrs of residency}) + (.400 \times \text{7-9yrs of residency}) + (.152 \times \text{QOL}) + (-.205 \times \text{18-24yrs}) + (-.267 \times \text{25-34years}) + (-.310 \times \text{35-44yrs}) + (-.713 \times \text{45-54yrs}) + (.438 \times \text{55-64yrs}) + (.039 \times \text{PERBEN})$

Table 32

Multiple Linear Regression Model for Tolerance of Tourism (TOLTOU)

	Coefficients					Collinearity Statistics	
	B	SE B	β	t	p	Tolerance	VIF
Constant	2.302	.621		3.710	.000		
Under \$100,000	.198	.352	.093	.562	.574	.115	8.702
\$100,000 - < \$200,000	.483	.369	.202	1.310	.191	.131	7.642
\$200,000 - < \$300,000	.449	.429	.098	1.045	.297	.351	2.850
\$300,000 - < \$400,000	1.465*	.549	.206	2.666	.008	.519	1.927
1-3 years residency	.062	.166	.023	.371	.711	.820	1.220
4-6 years residency	.220	.197	.066	1.117	.265	.881	1.136
7-9 years residency*	.400*	.173	.135	2.312	.022	.908	1.102
QOL	.152	.093	.109	1.641	.102	.711	1.407
18-24 years	-.205	.481	-.092	-.426	.671	.067	14.965
25-34 years	-.267	.472	-.129	-.566	.572	.060	16.599
35-44 years	-.310	.482	-.124	-.643	.521	.083	12.033
45-54 years	-.713	.497	-.212	-1.435	.153	.143	7.005
55-64 years	.438	.554	.075	.791	.430	.343	2.912
PERBEN	.039	.092	.028	.427	.670	.731	1.367

Notes:

* p < .05
R² = .127*

Conclusion

This chapter examined the hypotheses based on the research questions. A thorough description of the demographic profile of the participants was provided. An exploratory factor analysis was carried out to assign the large data set to six factors predetermined by theory or a theoretical foundation. Following that, relevant statistical analyses were conducted on the proposed hypotheses to answer the research questions of this study. To sum up, the main significant findings of the study was where the predictors of quality of life included gender, dependency on tourism, Butlers' existing life cycle stage according to Butlers' TALC, perceived benefits and perception of tourism. The significant predictors of tolerance of tourism were income level, length of residency, age, quality of life and perceived benefits. In addition, educational level moderated the relationship between the participants' perception of tourism and their quality of life. Further, the results showed dependency on tourism mediated between the participants, quality of life (QOL) and tolerance of tourism (TOLTOU). Another significant finding was that the perceived benefits of tourism is a predictor of the participants' perception of tourism. The discussion, conclusion and recommendations are presented in the next chapter.

CHAPTER V

CONCLUSION

Introduction

In Chapter V the summary of findings is presented thereafter the theoretical and managerial implications of this research is discussed. In addition, the limitations of this study are presented and proposed recommendations for future research. Finally, useful recommendations that could impact policies and practices were suggested to destination managers based on the findings of this study.

Summary of Findings

The purpose of the study as stated in Chapter I was to empirically test a diagnostic model that assesses the social carrying capacity (SCC) in small island developing states (SIDS) within the social aspect of a sustainable framework. The model was tested in Ocho Rios, Jamaica, a small island developing state. For most SIDS tourism is their main economic support, based on this, it is imperative that the industry remains vibrant for future generations. One of the challenges of SIDS is their “small” size, which means there is limited space for the residents and the tourists to cohabit. The cohabitation not only relates to numbers but also for tourism development to coexist with the residents’ way of life. The assumption then is that the residents’ quality of life is affected whether positively or negatively by the tourism industry. Further to this, how they perceive the

impact of tourism also affects their tolerance for the industry. If the residents perceive the industry adversely and their tolerance level is low, then the SCC threshold is breached, and consequently the industry is no longer sustainable. Hence, the main strategic predictor variables of the study are the residents' perceived quality of life (QOL) and their tolerance of tourism.

In order to test the diagnostic model, the relationship between the main predictor variables, the perceived of the quality of life (QOL), tolerance of tourism (TOLTOU) and the outcome variable social carrying capacity (SCC) was examined. Other relationships based on the literature were also explored. The other variables included perception of tourism (PERTOUR), perceived benefits of tourism (PERBEN), Butler's TALC (BUTALC), and Doxey's Irridex (DOXIRR). The effect of the socio-demographic variables age, gender, proximity to tourism center, length of residency, education and income level on the predictor were also investigated. Further the mediating effect of the socio-economic variable, dependence on tourism was assessed. Table 33 shows a summary of the results of the hypotheses tested and Figure 21 shows the coefficient of each. Forty six percent of the alternative hypotheses were supported, while the results of the statistical test failed to reject 56% of the null hypotheses. As previously stated in Chapter III the analysis of the results will be guided by Doxey's (1975) irritation theory, Butler's (1980) tourism area life cycle (TALC) and Ap's (1992) social exchange theory.

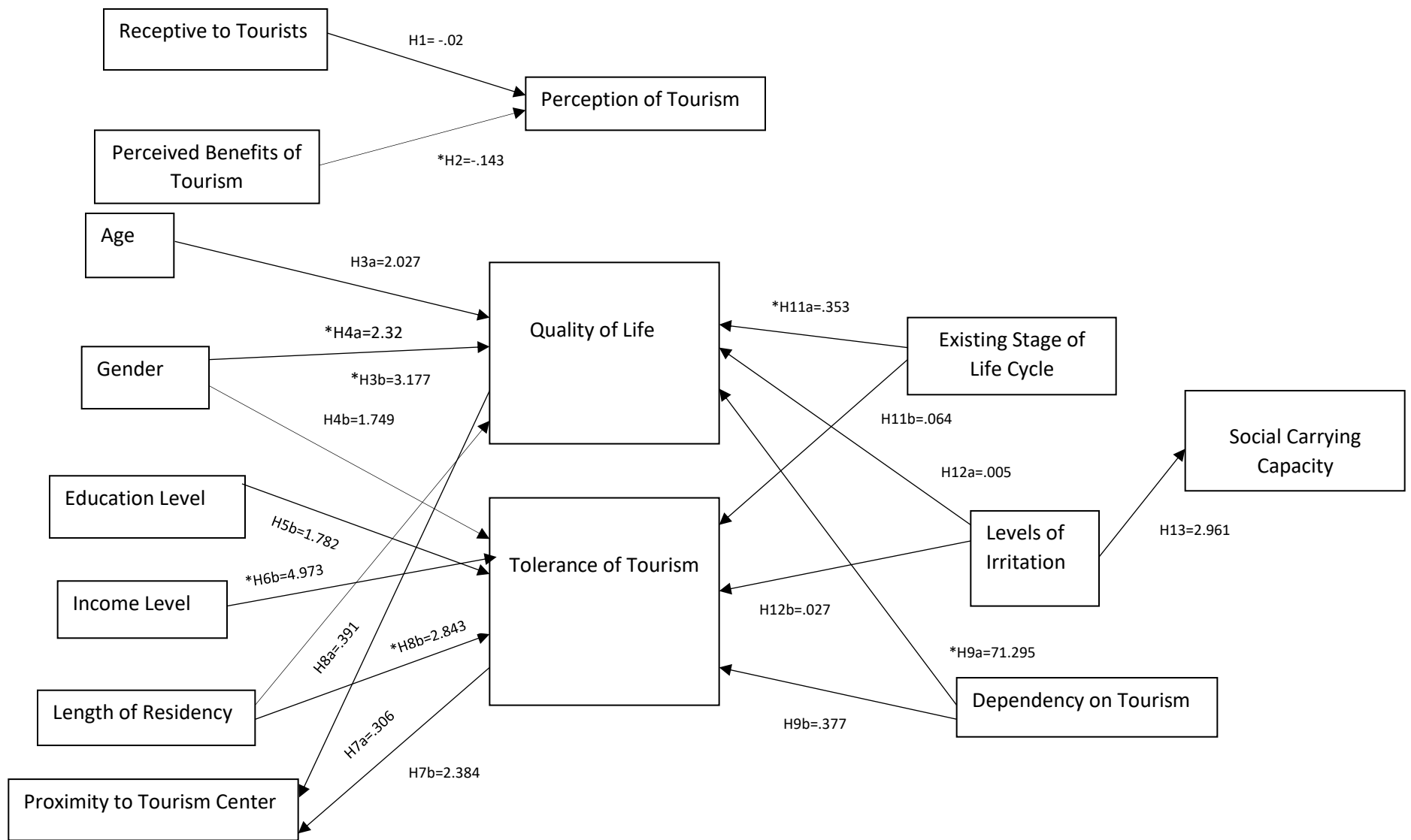
Table 33

Summary of Hypotheses Results

Hypotheses	Results
H1: Residents with a positive perception of tourism are more receptive to tourists.	Not supported
*H2: There is a positive relationship between the residents' perceived benefits from tourism and their perception of tourism.	Supported
H3a: There is a relationship between the residents' age and the perception of their quality of life.	Not Supported
*H3b: There is a relationship between the residents' age and their tolerance of tourism.	Supported
*H4a: Residents' perception of their quality of life is influenced by gender.	Supported
H4b: Residents' tolerance of tourism is influenced by gender.	Not supported
*H5a: There is a positive relationship between residents' perception of tourism impacts and education level on their perceived quality of life.	Supported
H5b: There is a positive relationship between the education level of the resident and their tolerance of tourism.	Not supported
H6a: There is a positive relationship between residents' perception of tourism impacts and income level on their perceived quality of life.	Not supported
*H6b: There is a positive relationship between income level of the resident and their tolerance of tourism.	Supported
H7a: The residents' perception of their quality of life is positive if they reside in close proximity to the tourism center.	Not supported
H7b: The residents' tolerance of tourism increases if they reside in close proximity to the tourism center.	Not supported
H8a: There is a positive relationship between length of residency and the residents' perception of their quality of life.	Not supported

*H8b: There is a positive relationship between residents' length of residency and tolerance of tourism.	Supported
*H9a: There is a positive relationship between the residents' dependency on tourism and their perceived quality of life.	Supported
H9b: There is a positive relationship between the residents' tolerance of tourism and their dependency on tourism.	Not supported
*H10: When residents' perceived quality of life is positive, then dependency on tourism heightens their tolerance of tourism.	Partially Supported
*H11a: There is a positive relationship between the existing life cycle stage of the destination and the residents' quality of life.	Supported
H11b: There is a positive relationship between the existing life cycle stage of the destination and the residents' tolerance of tourism.	Not Supported
H12a: There is a positive relationship between the 4 levels of irritation and residents' perception of their quality of life.	Not supported
H12b: There is a positive relationship between the 4 levels of irritation and residents' tolerance of tourism.	Not supported
H13: There is a positive relationship between 4 levels of irritation and the social carrying capacity.	Not supported

*Hypotheses with significant statistical results



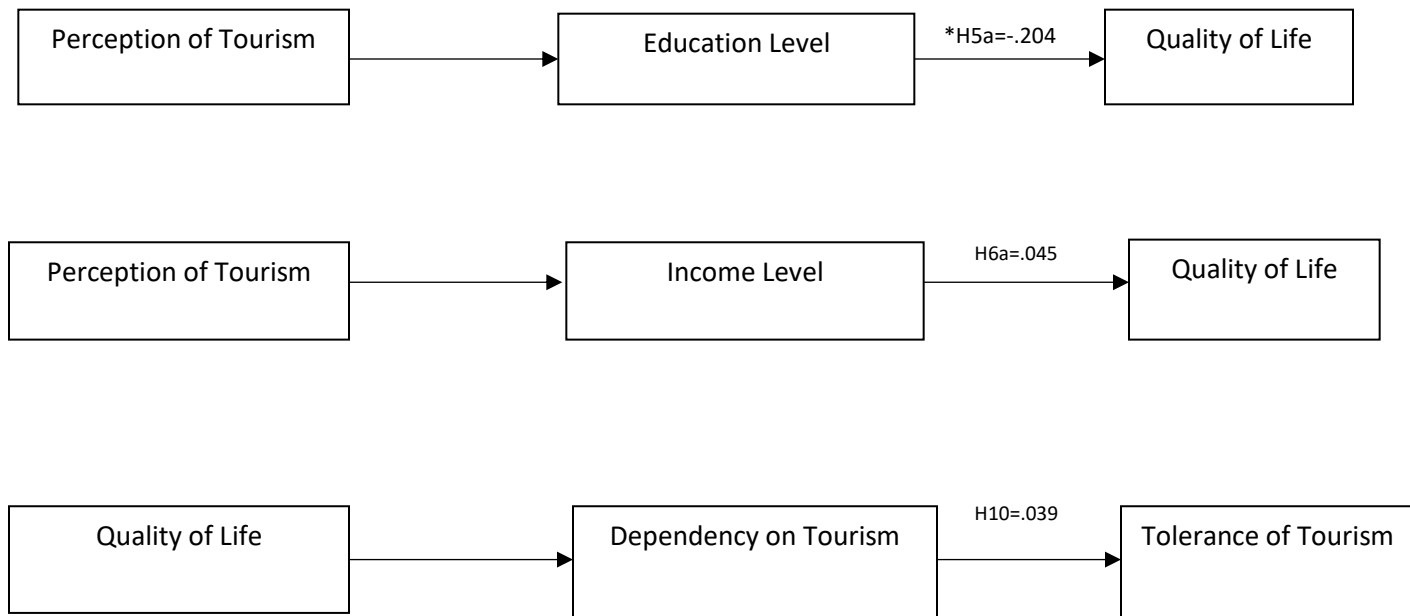


Figure 21. Results of Hypotheses with coefficients

In Chapter IV, a maximum likelihood analysis with varimax rotation was conducted on the item responses of the questionnaire to develop scales. These scales were used to test the hypotheses and the various models in this study. The varimax rotation produced items that loaded fairly well on the six factors, namely quality of life (QOL), tolerance of tourism (TOLTOU), perception of tourism (PERTOUR), perceived benefits of tourism (PERBEN), Doxey's Irridex (DOXIRR) and Butler's TALC (BUTALC). As stated in Chapter IV the dependence on tourism (DEPTOUR) scale was developed using the two items in the questionnaire related to whether or not the respondent and/or their family members are employed in the tourism industry. The social carrying capacity (SCC) scale was based on two items relating to the respondents support for tourism and their opinion on the benefits and costs of tourism.

The cross-tabulation of the demographic variables with selected items provided preliminary evidence and theoretical support for Aps' social exchange theory and is worth noting for discussion. The preliminary results are indicative of findings of previous research as discussed.

Residents of Ocho Rios, Jamaica who lived in the area for 10 years or more were the largest group to agree that the benefits of tourism outweighed the costs and further more supported tourism. This finding is endorsed by Jackson and Inbarakan (2006) where residents in Regional Victoria Australia who lived in the community for over 20 years supported tourism. The reasoning behind the support is that they have been around long enough to see the positive changes tourism has brought to the physical and economic landscape of the town and residents' quality of life (Jackson & Inbarakan; 2006).

Similarly, the findings are consistent with previous results regarding the residents' support for tourism based on their proximity to the tourism center. The greater number of residents who lived closest (1-5km, 11 miles) to the town of Ocho Rios supported tourism. This finding is validated in previous research (Belisle & Hoy, 1980; Hutassin, 2008). While those who supported tourism the least, lived the farthest (6-10km, 21 miles) from the tourism center. In other studies, this was attributed to the fact that residents did not benefit immediately or directly from services and facilities brought about as a result of tourism and hence do not support tourism (Ritchie & Inkari, 2006; Tovar & Lockwood, 2008). As with other related studies residents who lived closest to the tourism center thought that the benefits of tourism outweighed the costs. This view could be attributed to the residents benefitting directly from better shopping, roads and other recreational activities (Gursoy et al., 2002).

The preliminary data provided convincing evidence to authenticate the assumption that residents in resort area who depend on tourism fully support tourism and thought the benefits outweighed the costs (Andriotis, 2005; Snyman, 2014). Further, the majority of the residents who were not dependent on tourism for their livelihood also supported tourism. The support of residents not dependent on tourism could be attributed to the community's dependence on tourism as postulated in the related literature (Kuvan & Akan, 2005). Interestingly, the majority of the residents not dependent on tourism felt that the costs outweighed the benefits. This finding is consistent with the conclusion of several studies (Kuvan & Akan, 2005; Milman & Pizam, 1988). There is then the possibility the social carrying capacity threshold for these residents have been breached. It has been suggested by other researchers there may be several SCC thresholds in the

same resort area (Marzetti & Mossetti, 2005; McCool & Lime, 2000). It may mean each group of persons with similar characteristics SCC should be researched. Destination Managers need to be aware of these “group of persons” with different levels of SCC when planning and in creating policies for the sustainability of the tourism industry.

In all three levels of contact with tourists, the majority of residents within each group, that is, the frequent, some and no contact supported tourism. It worth noting, the residents that had frequent contact with tourists were the greatest supporters of tourism. This finding is similar to other studies that indicated residents that had more contact with tourists had a positive attitude towards tourism (Akis, et. al., 1996). Again, this could be attributed to the benefits gained from the contacts with tourists as postulated by Aps’ (1992) social exchange theory. The assumption of this theory is once the resident is benefiting from the exchange and the exchange is deemed fair and positive then the resident will have a positive perception of the tourism industry in the destination (Wang & Pfister, 2008).

Another finding of the study was the majority of the residents who supported tourism felt the benefits outweighed the costs. Not surprisingly, the participants who did not support tourism were of the opinion the costs of tourism were more than the benefits. These results are consistent with findings from other key studies in the extant literature as discussed in Chapter II (Jurowski & Gursoy, 2004; Saveriades, 2000). According to Jurowski and Gursoy (2004) the SET suggest individuals will engage in exchanges if the resulting rewards are valued, the exchange is likely to produce appreciated rewards as long as the perceived costs do not exceed perceived rewards. So theoretically residents who view tourism as potentially or actually valuable and believe the costs do not exceed the

benefits will more likely favor the exchange and will consequently be supportive of tourism.

The majority of residents who had frequent contact with tourists, expressed that the benefits from tourism were greater than the costs. While the residents who had some contact with the tourists thought the costs of tourism were more than the benefits. SET assumes, if the contact or exchanges with the tourists were not perceived as fair by the residents it can result in a negative attitude towards tourism (Ap, 1992). It could also mean the SCC limit of this group is exceeded and warrants further investigation into the other variables that may determine whether or not this is so. In the next section the results of the proposed hypotheses as shown in Table 33 is discussed in light of the findings and discussion in the extant literature.

Contextualising the Destination

Hypotheses H11a and H11b examined Butler's Tourism Area Life Cycle in relation to the residents' perception of their quality of life and their tolerance of tourism. The results of these hypotheses are deliberately presented at the beginning of the discussion section of Chapter V. This was done so that the results can be used to contextualise the tourism destination Ocho Rios, Jamaica according to Butler's Tourism Area Life Cycle (Hovinen, 2002). Furthermore, as done in previous studies it is used to contextualise, provide perspective to the destination and assist in explaining the results. As stated in Chapter II, Butler's TALC theory suggests the stage of the destination impacts the perception of the resident (Androit, 2001; Pappas, 2008). Additionally, Woo et. al., 2012 suggests the characteristics of each stage affects the QOL of the residents in both negative and positive ways.

The hypothesis testing the relationship between Butler's TALC (BUTALC) and the perceived quality of life (QOL) of the residents' results indicated a moderate positive relationship. In effect the stage at which the tourism area is at currently, the residents' perception of their quality of life is favourable. Based on the items used to measure Butler's TALC to determine what stage of the cycle the destination is as stated in Chapter IV, Ocho Rios, Jamaica is close to the end of the development stage and at the beginning of the consolidation stage of Butler's TALC. At the development stage the tourism area is constantly being improved to accommodate the tourists, while at the consolidation stage the tourist area has become more of a business district with a number of well-known international franchises (Butler, 1980). Additionally, at this stage the tourist numbers bypass the locals as is the situation as highlighted in Chapter I. This results in negative impacts of tourism including traffic congestion, overcrowding and pollution. Generally, the residents' positive perception of their quality of life, clearly shows the residents are still highly tolerant of tourism, even though they may be cognisant of the costs of tourism. These findings are similar to the results of previous studies (Mansfeld & Jonas, 2006; Saveriades, 2000;). Doxey (1975) contends, the development stage is a critical stage in the life cycle of a destination. As stated in Chapter II it is at this stage tourism expands at a rapid pace. It is likely at this point for the costs of tourism to outweigh the benefits, at the same time residents exhibit annoyance or antagonism towards tourism (Doxey, 1975). Thus, resulting in a breach of the SCC threshold and threatens the sustainability of the destination (Butler, 2011; Castellani & Sala, 2012; Deidrich & Garcia-Buades, 2009). Therefore, it is recommended for destination managers to recognise the warning signs and make strategic adjustments to prevent the downward movement of the destination along

the life cycle. It was further hypothesised that a positive correlation existed between Butler's TALC (BUTALC) and the tolerance of tourism (TOLTOU) variable.

The findings of this test showed there was no significant relationship found between Butler's TALC (BUTALC) and tolerance of tourism (TOLTOU), that is the life cycle stage of the destination has no bearing on the residents' tolerance levels. Past research findings indicated once an area becomes a tourism destination adverse effects of tourism are experienced simultaneously with the positive effects, notwithstanding residents are inclined to tolerate these inconveniences (Hutassin, 2008; Jurowski, 1997; Tovar & Lockwood, 2008) This result is supported by the SET (Ap, 1992). Although it has been argued that the stage of the destination can affect the attitude of the residents towards tourism. The result suggests Butler's (1999) life cycle theory may not be suitable to measure behavioural concepts, but mainly to show the status of a destination in relation to the stage of its physical landscape and characteristics.

In numerous studies cited in Chapter II, the residents' perceived quality of life is believed to be a critical factor in the sustainability of tourism in communities, islands and entire countries (Akis, et al., 1996; Andereck & Nyaupane, 2011; Ap, 1992; Aref, 2011; Da Cruz Vareiro, et al., 2013; Diedrich & Garcia-Buades, 2011; Guo, et al., 2014; McDowall & Choi, 2010). The next set of hypotheses examining the perceived QOL of residents in relation to other variables will be discussed.

Quality of Life

To address the issue of whether or not the residents' perceived quality of life is a social predictor in the proposed model for measuring the social carrying capacity of Ocho Rios, Jamaica specifically and generally of a small island developing state. The following

research question was asked as well as related hypotheses proposed “How does the residents’ quality of life affect the social carrying capacity of Ocho Rios, Jamaica?”. The results of the hypotheses are discussed.

Based on the findings of previous studies there is the assumption that there is a positive association between residents’ perception of benefits from tourism and perception of tourism (Jurowski & Gursoy, 2004). Hence, it was hypothesized if residents perceive more positive impacts of tourism, then their perception of tourism ought to be positive. The results showed a significant relationship; however, the correlation was not positive. There was a weak inverse correlation between the two variables, that is, as residents perceived benefits from tourism more positively there was a subsequent marginal decline in their perception of tourism. Hence, as in previous studies, the results confirm findings contrary to the aforementioned hypothesis. While residents appreciate the benefits tourism brings to the area but are also cognisant of the ills that comes along with the tourism industry (King et. al., 1993; Saveriades, 2000). The next hypothesis relating to the research question considered the moderating effect of a resident’s education level on the relationship between their perception of tourism impacts and their perceived quality of life.

Previous research has supported the assumption that residents with a higher education are more aware of the value tourism brings to the area than the less educated residents. In addition, the residents with a higher education benefit more from tourism than the less educated hence have a more positive perception of tourism (McCool & Martin, 1994; Pizam 1978; Snyman, 2014; Teye, Sirakaya, & Sonmez, 2002).

In previous studies there have been mixed findings, where is education has been found to affect the residents’ perception of their quality of life and their perception of

tourism impacts (Teye et.al., 2002). While some results revealed no association between the variables (Sinclair-Maragh, 2016; Snyman, 2014). In this study it was found that the regression model was a significant predictor of QOL. Converse to the positive relationship proposed by the hypothesis, the results revealed a negative relationship between the residents' perception of tourism and their perceived QOL. In other words, the more positive the residents' perception of tourism impacts, the more negative their perceived quality of life. The results of this study revealed tertiary education as moderating the relationship between the variables. To put this another way, when residents with tertiary education perception of tourism increased their perceived QOL decreased. Tertiary educated residents are more satisfied with tourism overall than they are satisfied with their QOL. Residents at a higher education level as in previous studies had a more positive attitude towards tourism than their counterparts with low education level (McCool & Martin, 1994; Pizam, 1978). The positive perception of tourism could be attributed to their exposure to information relating to the benefits of tourism to the community (Teye, et.al., 2002). Personally, however they are negatively impacted by the increase in the cost of living, difficulty in accessing entertainment and other services.

Secondary and primary level education did not moderate the relationship between perception of tourism and their perceived QOL. In effect residents with secondary and primary education perception of tourism impacts had no influence on the perception of their quality of life. This result confirms the conclusion in prior studies where residents' education had a no effect on residents' perception of their QOL (Sinclair-Maragh, 2016; Snyman, 2014). The results of this hypotheses are generalizable beyond the sample.

It was further hypothesised income level had a moderating effect on the relationship between residents' perception of tourism impacts and their perceived QOL. The results highlighted income level of residents did not intervene between their perception of tourism and their perceived QOL. In other words, the residents earning a high of \$500,000 or more perception of tourism on their perceived quality of life was no different from those earning less than \$100,000 the lowest income level. The findings are generalisable beyond the sample. Again, the findings of previous studies concur with this study's results that income was not a reliable predictor of residents' attitudes (Sinclair-Maragh, 2016). The next hypotheses assumed the relationship between residents' perception of their quality of life is positive if they reside in close proximity to the tourism center.

In testing this hypothesis residents were classified into three groups, those that were fully dependent, partially dependent and not dependent on the tourism industry for their livelihood as was done in a previous study (Marzetti & Mossetti, 2005). The results highlighted a statistically significant relationship between the variables. Significant differences existed between the groups fully dependent and not dependent, fully dependent and partially dependent, and partially dependent and not dependent. Residents fully dependent on tourism perceived a better quality of life than the residents who were partially dependent. Similarly, residents partially dependent on tourism perceived a better QOL than the residents who were not dependent on the tourism industry for their livelihood. Residents dependence on tourism caused a moderate variation in their QOL. The result is in keeping with the findings of similar studies in related literature (Andereck, et.al., 2005; Harrill, 2004; Pizam, 1978). In the related a literature it was found that a positive

relationship existed between residents' economic gains from tourism and their perception of the industry, that is, residents fully dependent and partially dependent are more likely to perceive tourism contributes to their improved QOL than residents who are not dependent (Almeida-Garcia, et. al., 2015; Andereck, et. al., 2005, Choi & Sirakaya, 2005).

Tolerance of Tourism

The main purpose of the next research question was to ascertain whether the tolerance of tourism is a likely predictor of the social carrying capacity in the proposed model. It was anticipated that the question would allow for residents' tolerance levels to be examined. The next research question is "How is the residents' tolerance of tourism affected by the social carrying capacity in Ocho Rios, Jamaica?". A discussion of the results of the hypotheses is presented in the next section.

The assumption underlying this hypothesis is if residents have a positive perception of tourism then they should be highly tolerant of tourists and of tourism (Wang & Pfister, 2008). There was no statistically significant relationship between the variables. Hence, residents' perception of tourism does not predict their receptiveness of tourists nor their tolerance of tourism. It may very well mean that residents' perceptions whether negative or positive are still receptive to tourists as well as they may not. Endorsing the findings of a number of studies, residents may be at the apathy level of Doxey's (1975) Irridex where there is a lack of interest or indifference to the tourists as well as the tourism industry (Diedrich & Garcia-Buades, 2009; Mansfeld & Jonas, 2006).

The results did not show a significant relationship between tolerance of tourism and proximity to tourism center as hypothesised. Thus, failing to reject the null hypotheses, that is, resident's tolerance of tourism does not increase if they live in close

proximity to tourism center. Therefore, the residents who live in close proximity (1-5km/at least 11miles) to the tourism center are not more tolerant of tourism than those who live further away (6-10k at least 21miles).

Some studies have results contrary to this study's findings (Harrill & Potts, 2004; Raymond & Brown, 2007; Sheldon & Var, 1984). Notwithstanding, other related research revealed similar findings (Weaver & Lawton, 2001). The explanation for the residents' tolerance of tourism put forward in previous studies is that residents will tolerate the inconveniences that comes with living close to the tourism center, because they benefit from employment, the amenities and services which come with tourism development (Jackson & Inbakaran, 2006). Even though the residents are fully aware of the costs, like traffic congestion, noise and the high cost of goods and services (Ritchie & Inkari, 2006). On the other hand, other studies disclosed residents who lived in closer proximity to the tourism center were less tolerant of tourism (Haley, et. al., 2005). Again, the SET theory was used to explain the residents' responses (Ritchie & Inkari, 2006). It also leaves one to further surmise that the residents may be at the apathy stage of Doxey's (1975) Irridex model.

After testing the hypothesis, the results revealed a weak correlation existed between residents' tolerance of tourism and how long they lived in Ocho Rios and its environs. Significant differences between the means for participants' tolerance of tourism were observed only between the respondents residing in the area for 1 – 3 years and 7 – 9 years. Participants who lived in the area for 7 – 9 years were more tolerant of tourism when compared to their counterparts' resident in the area for 1 – 3 years. As pointed out in Chapter III there are various conclusions on the matter. Where some scholars

concluded the longer a resident lived in the tourism center, the more predisposed they were to tolerating tourism (Gursoy, et. al. 2002; McCool & Martin, 1994). While other studies results were contrary, in that the longer a resident lived in the tourism center the less tolerant they were of tourism. This was attributed to the fact that they are more aware of the negative impacts because they witnessed it over time (McGehee & Andereck, 2004; Sharma, et. al., 2008; Sheldon & Var, 1984). Residents living in the area for a shorter time were less tolerant of tourism than residents living for a longer time (Jackson & Inbarakan, 2006). It has been suggested for persons living a shorter period in the area have not been around long enough to appreciate the positive changes tourism has brought to the community (McGehee & Andereck, 2004).

The next hypothesis focussed on whether there is a positive relationship between the residents' tolerance of tourism and their dependence on tourism either fully dependent, partially dependent or not dependent. Surprisingly, no statistical significance was found between residents' dependency on tourism and their tolerance of tourism. Hence in support of the null hypothesis residents' tolerance of tourism is not influenced by their dependence on tourism. Therefore, dependency on tourism was not found to be a good predictor of the residents' tolerance of tourism in this study.

However, the dependence on tourism variable has been found in the literature to be the variable that is most likely to affect residents' attitude and perceptions about tourism (Andereck & Nyaupane, 2011; Harrill, 2004; Long et al., 1990; Pizam, 1978). Hence for this study it was proposed as a mediating variable between quality of life and tolerance of tourism. The assumption is residents who have a positive perception of their quality of life and are dependent on tourism are more likely to have a high tolerance of

tourism. The relationship between residents' perceived quality of life and their tolerance of tourism was initially tested. The model was a significant predictor of the residents' tolerance of tourism, that is, when residents' perceived quality of life increased their tolerance of tourism also increased. The results are generalisable beyond the sample. The Andrew F. Hayes Process Macro was used to test the mediating effect of dependency of tourism. Dependency on tourism was found to be a reliable predictor of residents' tolerance of tourism. This is similar to the findings of other studies (Choi & Sirakaya, 2005; Fredline, 2002; Williams & Lawson, 2001). Interestingly, residents fully dependent on tourism for their livelihoods had less tolerance for the industry in comparison to participants not dependent on the industry. Again, this was found to be so in other studies (Ritchie & Inkari, 2006; Teye et. al. 2002). This may be explained by a conclusion drawn by Rothman (1978) where it was stated communities having a vested interest in tourism due to the extended period the industry is a part of the community, develop the means to tolerate the annoyances, which may pose a problem in gauging residents' perceptions generally and specifically based on the 4 levels of Doxey's (1975) Irridex. The tourism dependent residents who are less tolerant than those who are not dependent may be explained where the tourists are viewed only as an opportunity for profit. Further, residents may be at the apathy stage of Doxey's (1975) Irridex (Reisinger, 2009). The interaction term, dependence on tourism was not significant and did not mediate the relationship between the quality of life (QOL) and tolerance of tourism (TOLTOU).

Therefore, when residents positively perceive their quality of life, whether or not they are dependent on tourism for their livelihood had no significant effect on their tolerance of tourism. The results of this analysis supported the null hypothesis. The next

research question examined the influence of the socio-demographics of the residents on their perception of their QOL and tolerance of tourism.

Socio-demographic Variables

In order to address research question three “Do the demographic variables influence the resident’s perception of their quality of life and tolerance of tourism?” five hypotheses were proposed and tested. In the related literature it has long been debated whether the demographic variables of the residents’ in a tourism destination has a significant impact on their perceptions. The studies have shown diverse findings.

The results of the analysis revealed no statistically significant relationship between a residents’ age and the perception of their QOL. This finding is similar to that of other studies, where it revealed age is not a good predictor of the residents’ perception of their quality of life (Bagri & Kala, 2016; Kuvan & Akan, 2005). Although other studies have shown where age is a significant predictor of residents’ attitude as revealed in the next hypothesis. Interestingly, a significant statistical relationship existed between age and tolerance of tourism.

Significant differences in the means of the participants’ tolerance of tourism were observed between the following age groups: 18-24 years and 65 years and older; and 45-54 years and 65 years and older. Respondents 65 years and older were more tolerant towards tourism as compared to residents 18- 24 years and 45-54 years. This finding is similar to previous studies. The argument used to explain this is where older residents may be more tolerant of tourism because they have benefitted personally from tourism (Tomljenovic & Faulkner, 2000). Another explanation for this finding is that the positive impacts of tourism are more obvious to the older residents, than are the younger residents

(McGhee & Anderck, 2004). This supports the claim by Huh & Vogt (2008) where the perceptions change over time as the population ages.

The next hypothesis tested revealed a weak statistically significant difference between the residents' gender and the perception of their quality of life. Put another way the residents' gender influenced the residents' perception of their QOL. The findings revealed female residents had a lower perceived quality of life (QOL) due to tourism when compared to male residents. This finding was similar to that of previous studies. In earlier studies it was stated gender was a reliable indicator of residents' attitudes towards tourism. The findings of the study showed female residents were less supportive of tourism due to the negative impacts experienced (Nunkoo & Gursoy, 2012; Mason & Cheyne, 2000). It does not negate the fact that the female residents are cognisant of the positive impacts of tourism (Mason & Cheyne, 2000; Saveriades, 2000).

It was suggested that due to the female's caring nature, they tend to view tourism more negatively if they do not see where they and their families and the community are benefitting from the industry (Fischer & Arnold, 1994). It was found in other studies that males and females had similar views of tourism (Khizindar, 2012, Mansfeld & Jonas, 2006; Sharpley, 2004).

In testing the relationship between gender and tolerance for tourism no statistically significant difference was found. Hence, gender had no influence on the tolerance level of residents. This result is similar to the findings of previous studies. It was found there was no difference in the residents' attitudes based on gender (Khizindar, 2012; Mansfeld & Jonas, 2006; Sharpley, 2014; Tosun, 2002). The next hypothesis examined the effect of the education level of the residents on their tolerance of tourism.

However, there was no statistically significant relationship found between residents' education level and their tolerance of tourism. Therefore, the residents' educational level does not impact their tolerance of tourism. This finding is similar to other studies where education was not found to be a reliable predictor of residents' attitude (Sinclair-Maragh, 2016).

In previous research, it was postulated the higher the residents' income the more tolerant they are of tourism, tourism activities, tourism development and tourists, more so if the residents are fully or partially dependent on tourism. Therefore, a positive relationship was hypothesised relationship between income level of the resident and their tolerance of tourism. Unlike education the results revealed a weak statistically significant relationship between the income level of the residents and their tolerance of tourism. Significant differences were found between residents earning less than \$100,000 and \$300,000 - \$400,000; those earning between \$100,000 - \$200,000 and \$300,000 - \$400,000 and some earning between \$300,000 - \$400,000 and \$500,000 or more. The results revealed residents earning between \$300,000 - \$400,000 monthly were more tolerant of tourism in comparison to participants belonging to the other three categories. The results of income as a predictor of residents' attitude are in line with results of previous studies as highlighted in Chapter II where residents from the higher income groups were found to be more tolerant of tourism (Haralambopoulos & Pizam, 1996; Ritchie & Inkari, 2006). These residents weighed the benefits of tourism more heavily than the costs. Again, this can be explained by the social exchange theory according to Ritchie and Inkari (2006).

The assumption here was based on prior studies as mentioned in Chapter II. The closer residents reside to the tourism center it is likely for them to have a positive perception of their quality of life (Hutassin, 2008; Weaver & Lawton, 2001). As mentioned in Chapter II this is can be attributed to benefitting from access to readily available services and recreational activities not normally available but are afforded by tourism development (Haley et. al., 2005; Sheldon & Var, 1984). The results however showed no statistically significant relationship between the variables, hence residents who live in close proximity to the tourism center do not feel that they have a better quality of life than those who live further away. Therefore, the proximity to the tourism center has no effect on the residents perceived QOL. This can be attributed to several reasons, for example, residents' feeling they are not benefitting from tourism development, difficulty in accessing the goods, services and recreational services meant for the tourist, due mainly to unaffordability (Weaver & Lawton, 2001). The next hypotheses tested for a positive correlation between length of residency and the residents' perception of their quality of life.

It is assumed in some studies the longer a resident lives in the tourism area they are more likely to perceive they have a better quality of life and a positive perception of tourism (McGehee & Andereck, 2004). Contrary to this assumption, other studies have found the longer residents live in the tourism area the more likely they feel their quality of life has declined due to tourism (Haley, et. al., 2005). Further in other studies the length of time living in and around the tourism resort was not a good predictor of residents' perception on their QOL (Gursoy et. al. 2002; Liu & Var, 1986). This study had similar findings, that is, whether the resident lived in Ocho Rios for one year or over 10 years did not influence

their perception of their quality of life (Hutassin, 2008). This could be interpreted to mean the residents are predisposed to thinking they have not experienced any improvement in their QOL whether having resided for as little as one year or as much as over 10 years. Otherwise the residents may be ambivalent to tourism. The following hypotheses tested for a positive relationship between the residents' dependency on tourism and their perceived quality of life.

The four levels of Doxey's (1975) Irridex has been useful in interpreting the residents' perception of tourism from differing perspectives. This demonstrates the bearing of Doxey's (1975) theory in assessing the SCC.

Levels of Irritation

Consequently, the final research question examined the 4 levels of irritation based on Doxey's (1975) Irridex as a reliable measure of the SCC. The hypotheses examining the relationship between the items used to measure the levels based on Doxey's (1975) Irridex and quality of life, tolerance of tourism and social carrying capacity revealed no statistically significant association. In support of the null hypotheses the results of the analysis of the variables, the items used to measure the 4 levels of irritation based on Doxey's (1975) Irridex (DOXIRR), had no significant impact on the residents' perception of their quality of life, tolerance of tourism nor the social carrying capacity of Ocho Rios, Jamaica. No other study has tested the 4 levels of irritation based on Doxey's (1975) Irridex as a predictor of the SCC of a destination. Although the results have not been significant in this location, there is the possibility its significance in other SIDS. As Tosun (2002) claimed the uniqueness of a destination can influence the residents' perception of tourism impacts.

Social Carrying Capacity Model

The aim of testing a diagnostic model for measuring the SCC was to provide a pre-emptive approach to managing sustainability of the tourism industry, specifically in SIDS. The results of the diagnostic model proposed in the study was not generalizable beyond the sample. Nevertheless, the quality of life was found to be a reliable predictor of social carrying capacity. Hence, when the residents who participated in this study felt their quality of life improved, subsequently the SCC expanded. This result is supported by the SET theory, in that, if residents are satisfied with their quality of life, then they are more accepting of tourism. Findings of previous studies also support this result, residents who have a positive view of the personal and community benefits of tourism are more likely to support tourism (Choi & Sirakaya, 2006; Hutassin, 2008). However, tolerance of tourism was not found to be a good predictor of SCC. This may be a reflection of limited items used to measure the tolerance of tourism variable.

Quality of Life Model

Multiple linear regression analysis was used to develop a model for predicting Ocho Rios residents' quality of life (QOL) from the following explanatory variables which were statistically significant. The variables were perceived benefits, dependence on tourism, Butler's (1980) TALC, perception of tourism, and gender. The model was a significant predictor and explained 45.4% of the variation in the residents' perception of their quality of life (QOL). However, the variables perception of tourism and gender were not statistically significant. The variables in order of significance to the model were being fully dependent on tourism (as compared to not dependent), the perceived benefits of tourism and the stage determined by Butler's (1980) TALC had a positive impact on the

residents' perceived quality of life (QOL). A resident's full dependency on tourism has the largest influence on their perceived quality of life. The next explanatory variable which affects the residents perceived quality of life is their perceived benefits of tourism, then a resident's partial dependence and lastly the stage of Butler's (1980) tourism area life cycle. Hence, residents' who are fully dependent on tourism had a better perception of their quality of life than those who were not dependent. This was also the situation for those partially dependent as against those not dependent. Further, when residents perceived greater benefits than costs, their perceived quality of life also increased. Interestingly, when the effects of Butler's (1980) TALC stage progressed the residents perceived quality of life increased. The effects based on the items included more places to shop, more restaurants and more entertainment, that is where tourist areas are improved and more attractions added in addition to the tourist destination is becoming more of a business district and most of the major franchises and chains are represented indicating it is between the development stage and the consolidation stage. One researcher argued there is difficulty in empirically defining the various stages of the life cycle, due to the possibility of several stages existing in the same area (McElroy, 2003). This supports the possibility of the area straddling between two stages of the life cycle. Nonetheless, it has been suggested by several researchers the residents' perceptions of tourism is impacted by the stage of Butler's (1999) TALC (Pappas, 2008; Uysal et. al. 2012; Yu-Hua, 1997).

Tolerance of Tourism Model

Multiple linear regression analysis was also used to develop a model for predicting Ocho Rios residents' tolerance of tourism, the outcome variable. The significant

explanatory variables which make up the model were gross monthly income, length of residency, quality of life (QOL), age and perceived benefits of tourism. The results revealed that the model was a significant predictor of residents' tolerance of tourism.

The model was a good fit to the data however, the results are not generalizable beyond the sample. The model explained 12.9% of the variation in residents' tolerance of tourism.

Residents' tolerance of tourism increased significantly more for those earning gross monthly incomes of \$300,000 - \$400,000 when compared to residents earning \$500,000 or more. Residents living in Ocho Rios for 7 to 9 years were more tolerant of tourism when compared to residents living in the area 10 or more years. Residents who perceived their quality of life more positively had a greater tolerance of tourism. While residents who perceived more benefits from tourism had a higher tolerance level. This finding was substantiated by an earlier study, where the perceived benefits were greater than the costs resulting in the residents having a higher tolerance of tourism (Qi et. al., 2015). Based on these results it can be surmised that a number of the residents SCC threshold has not been breached. As their tolerance levels increased based on their earnings, their length of residency and their perceived quality of life. According to Ap's SET theory these set of residents are satisfied with the exchange and therefore are more tolerant of tourism (Mansfeld & Jonas, 2006).

Implications of the Study

Theoretical Implications

The significant contribution of this study was testing a diagnostic model that could reliably predict the SCC in SIDS in a sustainable framework. SIDS are more vulnerable to the negative impacts of tourism impacts of tourism than other types of destinations (Moyle,

Croy & Weiler, 2010). Additionally, with the issue of scarce resources, destination managers of SIDS take a longer time to respond to the negative effects of tourism (Holloway & Humphreys, 2012). Based on the results of the study only the residents perceived QOL was found to be predictor of the residents' SCC threshold in the context of SIDS. There are not many studies which have explicitly examined tolerance of tourism as a variable for assessing residents' attitude towards tourism (Ryan & Aiken, 2010).

The findings showed in order of significance residents' full dependency on tourism, perceived benefits of tourism, a residents' partial dependence and the stage of Butler's TALC were good predictors of a residents' quality of life. The fieldwork further brought to light residents fully dependent on tourism were likely to have a better perception of their quality of life, this was a similar finding for those partially dependent on tourism as against residents not dependent. In addition, when residents perceived greater benefits from tourism than costs their perceived QOL increased. An interesting finding was as Ocho Rios moved along the stages of Butler's TALC the residents' perception of their QOL increased. Furthermore, the results revealed age, income, length of residency, QOL and perceived benefits, dependency on tourism as reliable predictors of the residents' tolerance of tourism. Hence residents' tolerance of tourism increased for residents in the middle-income bracket when compared to residents at the high end of the scale, while residents who lived in the area for 7-9 years were more tolerant than those residing for 10 or more years. Additionally, residents who had a more positive perception of their QOL were more tolerant of tourism. Similarly, residents who perceived more benefits also had a higher tolerance of tourism.

The study theoretically extended the literature in the field of tourism by authenticating the usefulness of the 4 levels of Doxey's (1975) Irritation model, Butler's (1980) tourism area life cycle theory and Ap's (1992) social exchange theory. The theories were useful for explaining in the context of a SIDS the residents' perception of their QOL and their tolerance of tourism. Further, the 4 levels of irritation based Doxey's (1975) Irridex model was also tested as a reliable measure for SCC. This was an additional attempt to offer an alternative measure to the "number of tourists" that is frequently used in the related literature. A method that is continuously criticized as a non-pragmatic measure of the SCC of a destination (Lopez-Bonilla & Lopez-Bonilla, 2008; Manente & Pelchaner, 2006; McCool & Lime, 2001). It has long been concluded that the number of tourists does not provide destination managers with early warning signs to prevent the breach of the SCC. Moreover, politics and economics play a critical role in the numbers that visit an area (Castellani & Sala, 2012; Sharpley & Ussi, 2014; Seidl & Tisdell, 1999). The use of Doxey's 4 levels of irritation as an alternative measure for the SCC was proposed to address that gap and to provide a more reliable, practical, robust and an affordable measure. The findings showed that Doxey's (1975) Irridex was not a reliable measure of the SCC.

Butler's (1980) TALC was used to contextualize the destination to be able to explain the findings of the study. The findings of the study classified the Ocho Rios close to the end of the development stage and at the beginning of the consolidation stage. This in-between stage of the destination does account for the results relating to the residents perceived QOL and their tolerance of tourism.

The study further advanced the theoretical value of Ap's (1992) Social exchange theory in explaining resident perceptions of tourism. It explained the findings of the study that were contrary to the assumptions derived from previous studies. For example, residents who perceived benefits from tourism more positively experienced a subsequent marginal decline in their perception of tourism. In order to explain this Fredline and Faulkner (2000) based on the SET theory suggested that the residents of the host community who have a vested interest in the tourism industry whether business or employment interests will be generally more positively disposed to tourism because they trade off benefits with costs.

The study also contributes to the body of knowledge by adding to the limited empirical studies relating to the SCC of SIDS in a sustainable framework. Assessing the SCC of small island developing states was especially critical as they are predisposed to exceeding their social carrying capacity due to their small size. In addition to how heavily dependent on their economies are on the tourism industry.

Finally, the diagnostic model proposed may be useful in directing future research. One must carefully examine the components of the model and how each contributes to its veracity. After this is done other components may be added or deleted to improve the structure of the model and the strength and predictability of the model.

Managerial Implications

The implications of this research are dependent on the those who may benefit from the results of the study, namely the residents, and all other stakeholders involved in managing the destination as mentioned in Chapter I. According to the UNWTO, SIDS are a leading destination for millions of tourists each year. Notwithstanding this vast number

of tourists do negatively impact the residents' way of life which can be a threat to sustainability of the islands' tourism industry (Zelenka & Kaceti, 2014). Therefore, the assessment of the social carrying capacity of tourism destinations within small island developing states becomes critical to the sustainability of the industry. Moreover, as previously stated tourism is the main economic and development driver for many SIDS (UNWTO, 2014).

Findings of this study may provide vital empirical data to inform destination managers and other stakeholders of small island developing states of the SCC and its implications for the sustainability of the destination. Further, the results revealed the residents' perception of their QOL and tolerance of tourism and the impact it can have on the sustainability of the tourism industry. The use of these variables as indicators can provide early warning signs to the destination managers and other stakeholders to of issues affecting the residents that could jeopardize the sustainability of the destination.

The destination managers should implement policies that would maintain residents support for tourism while at the same time, enhance the residents QOL in an effort to prevent the decline of the destination according to Butler's (1980) TALC. It is important that residents are supportive of tourism in the area.

Tourism managers then, have to closely monitor the increased development of the tourism industry and its effect on the residents' QOL as was subsequently revealed. The findings showed that as residents perceived the benefits of tourism more positively there was a decline in their overall perception of tourism. It may mean the residents believe the costs are more than the benefits, that may result in a breach of the SCC. These results were further substantiated where it was revealed that the more positive tertiary educated

residents were about the perception of tourism was the more negative the perception of their quality of life.

Destination managers must seek to provide more employment in the industry and better compensation for residents who live in the tourism area. The findings revealed that residents who are fully dependent on tourism perceived that they had a better quality of life than those who were not dependent. Interestingly, residents who were fully dependent on tourism had less tolerance of tourism. Related to this is where the results revealed residents in the higher income groups were more tolerant of tourism.

The results also showed residents who resided in the area for a shorter time were less tolerant of tourism than the ones who resided in the area for a much longer period. To address this issue managers of the destination, need to conduct more public relations activities and public education activities. Residents need to be more informed of the benefits from tourism. Additionally, residents must accrue more benefits from tourism that will impact their QOL. Because, the findings of the study revealed when residents' perception of their quality of life increased so did their tolerance of tourism.

According to Sinclair-Maragh (2016) the destination planners and managers need to be cognizant of the influence of the demographic profile of the residents on their support for tourism. In the case of this study they need to be aware of the effect of the demographic profile on the SCC of the destination. The results showed that older residents were more tolerant of tourism than the younger residents and males had a better perception of their quality of life than females. In a previous study it was suggested that age may indicate the change in residents' perception of tourism over time (Huh & Vogt, 2008). The results of this study substantiated the earlier claim, that is, age was a good

indicator of the residents' tolerance of tourism. Consequently, the findings highlighted that the younger the resident the less tolerant they were of tourism. The implication of this is that the SCC threshold of the younger persons may be breached much earlier than that of the older persons. This could result in the younger persons having a negative attitude towards tourism, which according to Doxey's (1975) Irridex could be at the annoyance or antagonism level. The antagonistic level is the extreme negative attitude towards tourists, tourism development and activities. Destination managers need to further examine the younger persons adverse attitudes and to put measures in place that will positively affect the residents' tolerance levels. This can be achieved by inviting community participation at policy level as well as implement activities to benefit residents. In an effort to ensure the sustainability of the tourism industry.

Limitations of the Study

The study is limited to one resort area in Ocho Rios, Jamaica, a SIDS, the results may not be entirely representative of SIDS generally even though the findings are significant. Notwithstanding, the results may be typical of residents' perception of their quality of life and tolerance of tourism.

There was also time and monetary constraints in conducting the research. It impacted the length of time that could be spent in the field gathering data. In addition to not being able to conduct a follow up pilot study on the questionnaire after revision based on the recommendations and feedback from the academic experts as well as the pilot study participants.

Future Research

Several findings of this study warrant further discussion. Future research warrants a more qualitative approach to understand the reasons behind the responses given to items in the survey (Mason & Cheyne, 2000; Uysal, 2015). Namely their perceived quality of life, tolerance of tourism, perception of tourism, perceived benefits of tourism, support for tourism and what the residents consider are the benefits and costs of tourism. The answers to which would be beneficial to destination managers and other stakeholders in garnering the residents support for tourism while at the same time ensuring that the way of life of the residents is not compromised by tourism development. The research design would include focus groups, interviews and observation of key stakeholders within the industry to ensure obtaining rich data.

It is stated in the literature that most of the studies conducted on residents' quality of life have been done at a point in time. Several researchers have recommended conducting longitudinal research (Getz, 1994; Saveriades, 2000). It is important to conduct longitudinal studies where data can be generated at different points in time. Such research should be augmented by the qualitative studies depending on the goal, context and unit of analysis (Getz, 1994; Uysal, 2015). Longitudinal studies of residents' perceptions could confirm the findings of studies and contribute significantly to theory and literature related to resident perceptions in general towards aspects of tourism and specifically to their quality of life (Getz, 1994).

Interestingly, the results brought to light residents perceived that the benefits outweighed the costs of tourism. Yet there were others with the opposite perception. Hence, there is the possibility that the social carrying capacity threshold for these

residents have been breached. After all it has been suggested by other researchers the existence of several SCC thresholds in the same resort area (Marzetti & Mossetti, 2005; McCool & Lime, 2000). It therefore necessitates that each group of persons SCC should be studied by destination managers to inform planning and creation of policies through local governance for the sustainability of the tourism industry (Raymond & Brown, 2007). The possibility of varying thresholds among residents is further suggests that residents develop coping mechanisms to deal with the negative tourism impacts, however not all residents are willing to do this (Harrill, 2004).

The likelihood of several SCC existing at the same time lends itself to conducting cluster analysis on the residents' perceptions. Cluster analysis provides a qualitative and a more in-depth study so that the issues and concerns of the residents are known and may be addressed. Because knowing the attitudes of the residents is not sufficient to ensure a sustainable destination. It is also important to understand the differences, similarities, numbers associated with the attitudes, issues and concerns of the residents. In order to garner their support for tourism as it is necessary for a sustainable tourism product (Sinclair-Maragh et. al. 2014; Weaver & Lawton, 2000). Cluster analysis can be linked to investigating the extent of the breach residents' SCC.

There are residents who perceived the cost of tourism outweighed the benefits, it can be assumed then that their SCC threshold is breached. The extent of this breach needs to be investigated further. In addition, since the SCC is suggested to be a psychological threshold then the latent feelings of the residents ought to be investigated to ascertain the true status of the SCC of the residents by (Chadenas, et.al, 2013). It is prudent because it is these latent feeling or attitudes that eventually manifest itself in the hostility of the

residents towards the tourists (Doxey, 1975). Moreover, resulting in a subsequent decline of tourist arrivals and the industry (Butler, 1980).

Further research needs to be conducted to investigate the tolerance levels of the residents towards tourism (Ryan & Aicken, 2012). Since there are few studies presently in the literature that study this critical variable that may determine the residents SCC. For future research the scale used to measure tolerance of tourism needs to be revised and pilot tested several times to ensure the participants fully understand the items of the that will result in a more reliable and valid instrument and results. Additionally, to further explore a link between the 4 levels of irritation of Doxey's (1975) Irridex and tolerance of tourism. The aim of this is heighten the awareness of destination managers to the levels of irritation that may exist in the community and the possible threats to the sustainability of the tourism industry within the destination.

Finally, the measurement instrument in this study can be further refined and tested, then administered intermittently to garner data in regards to the residents' perception of tourism, their quality of life and tolerance of tourism. This way the SCC of the destination is continuously monitored to bring to light early warning signs of a waning of the tourism industry. In order to put measures in place where necessary to maintain the viability of the industry. It is important to note that the findings, implications and conclusions may not be applicable to all tourism destinations in SIDS, but can be useful to some SIDS. It has been well established that residents in certain types of tourism communities might perceive a certain type of tourism impact unacceptable, while in other communities, the same impact type may be more acceptable (Saveriades, 2000). Therefore, research on SCC should be expanded to other resort areas in Jamaica and

other SIDS especially in the Caribbean since this area is lacking in empirically based research.

Conclusion

The results of the study can be used to equip destination managers of SIDS with useful data to assess the condition of the tourism industry and introduce changes to policies and practices where necessary to secure its sustainability. The study highlights the need for other indicators of the social carrying capacity and is further justified by Aps (1992) social exchange theory. The results of the study showed even though residents acknowledged the benefits from tourism, at the same time their perception of tourism in Ocho Rios was undesirable. Therefore, the indicators have to be more objective, able to measure the latent attitudes of the resident towards tourism.

This study has demonstrated the pragmatic utility of the 4 levels of Doxey's (1975) Irridex, Butler's (1980) TALC and Ap's (1992) Social exchange theory. The theories are relevant to understanding residents' perception of their quality of life and tolerance of tourism and its impact on sustainable tourism in SIDS and this is a considerable advancement in the study of tourism (Juardo, et.al. 2013). The study explicitly shows very little is known about the residents' perceptions towards tourism or the SCC of Ocho Rios, Jamaica and may hold true for other SIDS.

Destination managers of Ocho Rios, Jamaica, a small island developing state need to be aware residents' attitudes towards tourism. It appears from the results of the study their attitudes are trending towards the annoyance level of Doxey's (1975) Irridex Model. The annoyance level is where resentment and displeasure are directed towards the tourist and the industry. The destination managers are to be proactive in implementing

policies and programmes to ensure residents are personally benefitting from tourism and thus remain enthused about tourism. This can be accomplished by including the residents in the planning of tourism. Additionally, enhance community tourism projects so residents can contribute to realise both community and personal benefits of tourism and reduce the personal costs accruing to them. Hence, maintaining the sustainability of the industry.

Further, there needs to be a reduction in the emphasis on mass tourism. To accomplish this, new managerial policies are needed to move away from traditional strategies of aiming for a qualitative development rather than a quantitative one. Qualitative tourism would involve a developing various forms of special interest tourism with established community linkages.

It is clear there is a lack of systematic monitoring of residents' perception and tolerance levels by destination managers may prove detrimental to the destination's sustainability. Since this is so systematic monitoring is needed to provide valid data that will reliably inform policy decisions regarding but not limited to investigating community participation both at the local as well as central level. In order to determine where investments should be made to improve the residents' quality of life and tolerance of tourism and avoid breaching the areas' SCC (Butler, 1999; Doxey, 1975; Manente, 2008). Consequently, the SCC is important to the planning and development of tourism and the activities associated with it. Identifying and managing the impact of the exceeding the tolerance threshold is critical to creating strategies to control the development of the destination. The identification, knowledge and interpretation of the effects of overrunning the tolerance threshold constitute vital factors for designing a

policy and strategy for destination development with a focus on introduction of control mechanisms. Destination managers ought to be aware that tourism areas do have limits regarding how much tourism it can accommodate. Exceeding the limits can impact the sustainability of tourism in the destination.

Lastly, it has been noted in the literature related to residents' attitude towards tourism that the majority of the research was conducted in the USA. The irony of this is there is a lack of studies based on the Caribbean and the Mediterranean where tourism is the main stay of the economy (Almeida Garcia et al., 2015; Sharpley, 2014). This study represents progress in filling this gap in the literature.

REFERENCES

- Agarwal, S. (1994). The resort cycle revisited: Implications for resorts. In C. P. Cooper & A. Lockwood (Eds.), *Progress in Tourism, Recreation and Hospitality Management* (Vol. 5, pp. 191-208). Guildford, United Kingdom: University of Surrey.
- Aiyar, S. S. A. (2008). Small states: Not handicapped and under-aided, but advantaged and over-aided. *Cato Journal*, 28(3), 449-478. Retrieved from <https://object.cato.org/sites/cato.org/files/serials/files/cato-journal/2008/11/cj28n3-5.pdf>
- Ajagunna, I. (2006). Crime and harassment in Jamaica: Consequences for sustainability of the tourism industry. *International Journal of Contemporary Hospitality Management*, 18(3), 253-259. doi:10.1108/09596110610658652
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice Hall.
- Akis, S., Peristianis, N., & Warner, J. (1996). Residents' attitudes to tourism development: The case of Cyprus. *Tourism Management*, 17(7), 481-494. doi:10.1016/S0261-5177(96)00066-0
- Ali, V., Cullen, R., & Toland, J. (2015). ICTs and tourism in small island developing states: The case of the Maldives. *Journal of Global Information Technology Management*, 18(4), 250-270. doi:10.1080/1097198X.2015.1108095
- Alipour, H., Altinay, M., Hussain, K., & Sheikhan, N. (2006). Perceptions of the beach users: A case study of the coastal areas of North Cyprus towards establishment of a "carrying capacity". *Hospitality Review*, 24(2), 28-48. Retrieved from <http://digitalcommons.fiu.edu/cgi/viewcontent.cgi?article=1423&context=hospitalityreview>
- Allahar, H. (2015). Small island visitor attractions: A development process framework. *Sage Open*, 5(1), 1-14. doi:10.1177/2158244015577113
- Allison, P. D. (1999). *Multiple regression: A primer*. Thousand Oaks, CA: Pine Forge Press.

- Altinay, M., & Hussain, K. (2005). Sustainable tourism development: A case of North Cyprus. *International Journal of Contemporary Hospitality Management*, 17(3), 272-280. doi:10.1108/09596110510591963
- Almeida-García, F., Peláez-Fernández, M.A., Balbuena-Vázquez, A., & Cortés-Macias, R. (2016). Residents' perceptions of tourism development in Benalmádena (Spain). *Tourism Management*, 54, 259-274. doi:10.1016/j.tourman.2015.11.007
- Andereck, K., & Jurowski, C. (2006). Tourism and quality of life. In G. Jennings & N. P. Nickerson (Eds.), *Quality tourism experiences* (pp. 136-154). Oxford, United Kingdom: Elsevier Butterworth-Heinemann.
- Andereck, K. L. (1995). Environmental consequences of tourism: A review of recent research. In S. F. McCool & A. E. Watson (Eds.), *Linking tourism, the environment, and sustainability* (pp. 77-81). Annual Meeting of the National Recreation and Park Association (General Technical Report No. INT-GTR-323). Ogden, UT: Intermountain Research Station, USDA Forest Service.
- Andereck, K. L., & Nyaupane, G. P. (2011). Exploring the nature of tourism and quality of life perceptions among residents. *Journal of Travel Research*, 50(3), 248-260. doi:10.1177/0047287510362918
- Andereck, K. L., Valentine, K. M., Knopf, R. C., & Vogt, C. A. (2005). Residents' perceptions of community tourism impacts. *Annals of Tourism Research*, 32(4), 1056-1076. doi:10.1016/j.annals.2005.03.001
- Andrews, F. M., & Withey, S. B. (1976). *Social indicators of well-being: Americans' perceptions of life quality*. New York, NY: Plenum Press.
- Andriotis, K. (2001). Strategies on resort areas and their lifecycle stages. *Tourism Review*, 56(1/2), 40-43. doi:10.1108/eb058355
- Andriotis, K. (2005). Community groups' perceptions of and preferences for tourism development: Evidence from Crete. *Journal of Hospitality & Tourism Research*, 29(1), 67-90. doi:10.1177/1096348004268196
- Andriotis, K., & Vaughan, R. D. (2003). Urban residents' attitudes toward tourism development: The case of Crete. *Journal of Travel Research*, 42(2), 172-185. doi:10.1177/0047287503257488
- Ap, J., & Crompton, J. L. (1993). Residents' strategies for responding to tourism impacts. *Journal of Travel Research*, 32 (1), 47-50. doi:10.1177/004728759303200108
- Ap, J. (1992). Residents' perceptions on tourism impacts. *Annals of Tourism Research*, 19(4), 665-690. doi:10.1016/0160-7383(92)90060-3

- Arawak.net. (n.d.). *Digest of comments on Ocho Rios by cruise ship travelers*. Retrieved from http://www.arawak.net/pages/ocho_rios_review.html
- Aref, F. (2011). The effects of tourism on quality of life: A case study of Shiraz, Iran. *Life Science Journal*, 8(2), 26-30. Retrieved from http://www.lifesciencesite.com/ljsj/life0802/05_4594life0802_26_30.pdf
- Assante, L. M., Wen, H. I., & Lottig, K. (2012). An empirical assessment of residents' attitudes for sustainable tourism development: A case of O'ahu, Hawaii. *Journal of Sustainability and Green Business*, 1, 1-27. Retrieved from <http://www.aabri.com/manuscripts/10602.pdf>
- Bagri, S. C., & Kala, D. (2016). Residents' attitudes toward tourism development and impacts in Koti-Kanasar, Indroli, Pattayur Tourism Circuit of Uttarakhand State, India. *Revista de Turismo y Patrimonio Cultural*, 14(1), 23-39. doi: 10.25145/j.pasos.2016.14.002
- Bailey, C., Baines, P. R., Wilson, H., & Clark, M. (2009). Segmentation and customer insight in contemporary services marketing practice: Why grouping customers is no longer enough. *Journal of Marketing Management*, 25(3/4), 227-252. doi:10.1362/026725709X429737
- Baldacchino, G. (2000). An exceptional success: The case of an export-oriented, locally-owned, small-scale manufacturing firm in a small island country. *The Journal of Pacific Studies*, 23(1), 27-47. Retrieved from <https://pdfs.semanticscholar.org/fa07/72c50949f3fb6c94c1414742ccd52c849654.pdf>
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182. doi:10.1037/0022-3514.51.6.1173
- Baum, T. (1999). Seasonality in tourism: Understanding the challenges. *Tourism Economics* 5(1), 5-8. doi:10.1177/135481669900500101
- Belisle, F. J., & Hoy, D. R. (1980). The perceived impact of tourism by residents a case study in Santa Marta, Colombia. *Annals of Tourism Research*, 7(1), 83-101. doi:10.1016/S0160-7383(80)80008-9
- Besculides, A., Lee, M.E., & McCormick, P.J. (2002). Residents' perception of the cultural benefits of tourism. *Annals of Tourism Research*, 29(2), 303-319.
- Best, J. W. & Kahn, J. V. (2006). *Research in education* (10th ed.). Boston, MA: Pearson Education.

- Bestard, A. B., & Nadal, J. R. (2007). Modelling environmental attitudes toward tourism. *Tourism Management*, 28(3), 688-695. doi: 10.1016/j.tourman.2006.04.004
- Bhola-Paul, H. M. (2015). Tourism challenges and the opportunities for sustainability: A case study of Grenada, Barbados and Tobago. *Journal of Tourism and Hospitality Management*, 3(9/10), 204-213. doi:10.17265/2328-2169/2015.10.004
- Bianchi, R. V. (2002). Towards a new political economy of global tourism. In R. Sharpley & D. J. Telfer (Eds.), *Tourism and development: Concepts and issues* (pp. 265-299). Bristol, United Kingdom: Channel View.
- Biderman, A. D. (1974). Social Indicators. In R. L. Clewett & J. C. Olson (Eds.), *Whence and whither in social indicators and marketing* (pp. 27-44). Chicago, IL: American Marketing Association.
- Bishop, M. L. (2010). Tourism as a small-state development strategy: Pier pressure in the Eastern Caribbean? *Progress in Development Studies*, 10(2), 99-114. doi: 10.1177/146499340901000201
- Black, J. A., & Champion, D. J. (1976). *Methods and issues in social research*. New York, NY: John Wiley & Sons.
- Blau, P. M. (1964). *Exchange and power in social life*. New York, NY: John Wiley & Sons.
- Bojanic, D. C., & Lo, M. (2016). A comparison of the moderating effect of tourism reliance on the economic development for islands and other countries. *Tourism Management*, 53, 207-214. doi:10.1016/j.tourman.2015.10.006
- Bowen, H. R. (1943). The interpretation of voting in the allocation of economic resources. *The Quarterly Journal of Economics*, 58(1), 27-48. doi: 10.2307/1885754
- Boxhill, I. (2004). Towards an alternative tourism for Jamaica. *International Journal of Contemporary Hospitality Management*, 16(4), 269-272. doi: 10.1108/09596110410537432
- Bramwell, B., Henry, I., Jackson, G., & Van Der Straaten, J. (1996). A framework for understanding sustainable tourism management. In W. Bramwell, I. Henry, G. Jackson, A. G. Prat, G. Richards, & J. van der Straaten (Eds.), *Sustainable tourism management: Principles and practice*, (pp. 23-72). Tilburg, Netherlands: Tilburg University Press.
- Briguglio, L. (1995). Small island developing states and their economic vulnerabilities. *World Development*, 23(9), 1615-1632. doi:10.1016/0305-750X(95)00065-K

- Briguglio, L., & Briguglio, M. (1996). Sustainable tourism in small islands: The case of Malta. In L. Briguglio, R. Butler, D. Harrison, & F. W. Leal (Eds.), *Sustainable tourism in islands and small states: Case studies* (pp. 162-179), London, United Kingdom: Cassell/Pinter. Retrieved from <https://pdfs.semanticscholar.org/8807/5377890dda7858aaea6a10478e504e85b0c7.pdf>
- Britton, S. G. (1982). The political economy of tourism in the third world. *Annals of Tourism Research*, 9(3), 331-358. doi:10.1016/0160-7383(82)90018-4
- Brougham, J. E., & Butler, R. W. (1981). A segmentation analysis of resident attitudes to the social impact of tourism. *Annals of Tourism Research*, 8(4), 569-590. doi:10.1016/0160-7383(81)90042-6
- Burns, N. & Grove, S. K. (1997). *The practice of nursing research: Conduct, critique, & utilization* (3rd ed.). Philadelphia, PA: W. B. Saunders.
- Burns, W. C. G. (2001). The possible impacts of climate change on Pacific island state ecosystems. *International Journal of Global Environmental Issues*, 1(1), 56-72.
- Butler, R. W. (1974). Social implications of tourist developments. *Annals of Tourism Research*, 2(2), 100-111. doi:10.1016/0160-7383(74)90025-5
- Butler, R. W. (1980). The concept of a tourist area cycle of evolution: Implications for management of resources. *The Canadian Geographer*, 24(1), 5-12. doi:10.1111/j.1541-0064.1980.tb00970.x
- Butler, R. W. (1993). Tourism—An evolutionary perspective. *Tourism and sustainable development: Monitoring, planning, managing* (Department of Geography Publication Series, No. 37), (pp. 27-44). Waterloo, Canada: University of Waterloo.
- Butler, R. W. (1999). Sustainable tourism: A state-of-the-art review. *Tourism Geographies*, 1(1), 7-25. doi:10.1080/14616689908721291
- Butler, R. W. (2011). Tourism area life cycle. In C. Cooper (Ed.), *Contemporary Tourism Reviews* (Vol. 1, pp. 193-226). Woodeaton, United Kingdom: Goodfellow. Retrieved from http://www.goodfellowpublishers.com/free_files/fileTALC.pdf
- Calder, B. J., & Ross. M. (1973). *Attitudes and behavior*. Morristown, NJ: General Learning Press.
- Cavus, S. & Tanrisevdi, A. (2002). Residents attitudes towards tourism: A case study of Kusadasi, Turkey. *Tourism Analysis*, 7(3-4), 259-68.

- Capenerhurst, J. (1994). Community Tourism, In L. Haywood (Ed.) *Community Leisure and Recreation*, (pp.144-171). Oxford, United Kingdom: Butterworth-Heinemann.
- Castellani, V. & Sala, S. (2012). Carrying capacity of tourism system: Assessment of environmental and management constraints towards sustainability. In M. Kasimoglu (Ed.), *Visions for Global Tourism Industry: Creating and Sustaining Competitive Strategies*. doi:10.5772/38750
- Ceron, J.-P., & Dubois, G. (2003). Tourism and sustainable development indicators: The gap between theoretical demands and practical achievements. *Current Issues in Tourism*, 6(1), 54-75. doi:10.1080/13683500308667944
- Chadenas, C., Pouillaude, A., & Pottier, P. (2008). Assessing carrying capacities of coastal areas in France. *Journal of Coastal Conservation*, 12(1), 27-34. doi: 10.1007/s11852-008-0018-7
- Chen, S., & Raab, C. (2012). Predicting resident intention to support community tourism: Toward an integration of two theories. *Journal of Hospitality Marketing & Management*, 21(3), 270-294. doi:10.1080/19368623.2011.584268
- Cheng, J. R. (1980). Tourism: How much is too much? Lessons for Canmore from Banff. *The Canadian Geographer*, 24(1), 72-80. doi:10.1111/j.1541-0064.1980.tb00977.x
- Cheong, S.-M., & Miller, M. L. (2000). Power and tourism: A Foucauldian observation. *Annals of Tourism Research*, 27(2), 371-390. doi:10.1016/S0160-7383(99)00065-1
- Choi, H. C., & Murray, I. (2010). Resident attitudes toward sustainable community tourism. *Journal of Sustainable Tourism*, 28(4), 575-594. doi:10.1080/09669580903524852
- Choi, H. C., & Sirakaya, E. (2006). Sustainability indicators for managing community tourism. *Tourism Management*, 27(6), 1274-1289. doi:10.1016/j.tourman.2005.05.018
- Christou, L. (2012). Is it possible to combine mass tourism with alternative forms of tourism: the case of Spain, Greece, Slovenia and Croatia. *Journal of Business Administration Online*. Retrieved from https://www.atu.edu/jbao/spring2012/is_it_possible_to_combine.pdf

- Coccosis, H. (2002). Island tourism development and carrying capacity. In Y. Apostolopoulos & D. J. Gayle (Eds.), *Island tourism and sustainable development: Caribbean, Pacific and Mediterranean experiences* (pp. 131-144). Westport, CT: Praeger.
- Coccosis, H. (2008). Cultural heritage, local resources and sustainable tourism. *International Journal of Services Technology and Management*, 1(1), 8-14. doi:10.1504/IJSTM.2008.020340
- Coccosis, H., Mexa, A., Collovini, A., Parpairis, A., & Konstandoglou, M. (2001). Defining, measuring and evaluating carrying capacity in European tourism destinations. European Commission (Contract No. B4-3040/2000/294577/MAR/D2). Retrieved from http://ec.europa.eu/environment/iczm/pdf/tcca_en.pdf
- Coccosis, H., & Mexa, A. (Eds.). (2004). *The challenge of tourism carrying capacity assessment: Theory and practice*. Farnham, United Kingdom: Ashgate.
- Cohen, E. (1972). Toward a sociology of international tourism. *Social Research*, 39(1), 164-182. Retrieved from <http://www.csus.edu/indiv/s/shawg/courses/182/articles/cohen/cohen.pdf>
- Cohen, E. (1988). Authenticity and commoditization in tourism. *Annals of Tourism Research*, 15(3), 371-386. doi:10.1016/0160-7383(88)90028-X
- Cohen, J. (1997). Population, economics, environment and culture: An introduction to human carrying capacity. *Journal of Applied Ecology*, 34(6), 1325-1333. doi:10.2307/2405250
- Cochran, W. G. (1963). *Sampling techniques*, (2nd ed.), NY, New York: John Wiley and Sons, Inc. p63.
- Cone, J. D., & Foster, S. L. (2006). *Dissertations and theses "from start to finish": Psychology and related fields* (2nd ed.). Washington, DC: American Psychological Association.
- Cooper, C., Fletcher, J., Gilbert, D., & Wanhill, S. (1993). *Tourism principles and practices*. Harlow, United Kingdom: Longman.
- Crandall, L. (1994). The social impact of tourism on developing regions and its measurement. In J. R. B. Ritchie & C. R. Goeldner (Eds.), *Travel, tourism, and hospitality research: A handbook for managers and researchers* (2nd ed., pp. 413-423). New York, NY: John Wiley & Sons.
- Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (4th ed.). Thousand Oaks, CA: Sage.

- Crick, B. (1973). *Political theory and practice*. New York: Basic Books.
- Croes, R. R. (2006). A paradigm shift to a new strategy for small island economies: Embracing demand side economics for value enhancement and long term economic stability. *Tourism Management*, 27(3), 453-465. doi:10.1016/j.tourman.2004.12.003
- Croes, R., & Semrad, K. J. (2015). The relevance of cultural tourism as the next frontier for small island destinations. *Journal of Hospitality & Tourism Research*, 39(4), 469-491. doi:10.1177/1096348013491599
- Cumberbatch, J., & Moses, J. (2011). Social carrying capacity in beach management in Barbados. *Journal of Coastal Research*, 61, 14-23. doi:10.2112/SI61-001.7
- Cummins, R. A. (1997). Self-rated quality of life scales for people with an intellectual disability: A review. *Journal of Applied Research in Intellectual Disabilities*, 10(3), 199-216. doi:10.1111/j.1468-3148.1997.tb00017.x
- Da Cruz Vareiro, L. M., Remoaldo, P. C., & Ribeiro, J. A. C. (2013). Residents' perceptions of tourism impacts in Guimarães (Portugal): A cluster analysis. *Current Issues in Tourism*, 16(6), 535-551. doi:10.1080/13683500.2012.707175
- Damonte, L. T., Collins, M. D., & Megehee, C. M. (2012). Segmenting tourists by direct tourism expenditures at new festivals. *International Journal of Culture, Tourism and Hospitality Research*, 6(3), 279-286. doi:10.1108/17506181211250613
- Davis, D., Allen, J., & Cosenza, R. M. (1988). Segmenting local residents by their attitudes, interests, and opinions toward tourism. *Journal of Travel Research*, 27(2), 2-8. doi:10.1177/004728758802700201
- De Albuquerque, K. (1981, July). *Tourism and crime in the Caribbean: Some lessons from the United States Virgin Islands*. Paper presented at the 3rd Annual Meeting of the Association of Caribbean Studies, Port-au-Prince, Haiti.
- De Albuquerque, K., & McElroy, J. L. (1992). Caribbean small-island tourism styles and sustainable strategies. *Environmental Management*, 16(5), 619-632. doi:10.1007/BF02589017
- Deery, M., Jago, L. & Fredline, L. (2012). Rethinking social impacts of tourism research: A new research agenda. *Tourism Management*, 33(1), 64-73. doi:10.1016/j.tourman.2011.01.026
- Demas, W. G. (1965). *The economics of development for small countries with special reference to the Caribbean*. Montreal, Canada: McGill University Press.

- De Miguel-Molina, B., De Miguel-Molina, M., & Rumiche-Sosa, M. E. (2014). Luxury sustainable tourism in small island developing states surrounded by coral reefs. *Ocean & Coastal Management*, 98, 86-94. doi:10.1016/j.ocecoaman.2014.06.017
- Deng, J., Arbogast, D., & Selin, S. (2011). Community-based tourism planning: An application of the APPA approach to Anstead, West Virginia. *Tourism Analysis*, 16(5), 601-605. doi.org/10.3727/108354211x13202764960780
- Diedrich, A., & García-Buades, E. (2009). Local perceptions of tourism as indicators of destination decline. *Tourism Management*, 30(4), 512-521. doi: 10.1016/j.tourman.2008.10.009
- Diener, E., & Suh, E. (1997). Measuring quality of life: Economic, social, and subjective indicators. *Social Indicators Research*, 40(1/2), 189-216. doi:10.1023/A:1006859511756
- Dissart, J. C., & Deller, S. C. (2000). Quality of Life in the Planning Literature. *Journal of Planning Literature* 15, 135-161. doi:10.1177/08854120022092962
- Dogan, H. Z. (1989). Forms of adjustment: Sociocultural impacts of tourism. *Annals of Tourism Research*, 16(2), 216-236. doi:10.1016/0160-7383(89)90069-8
- Dos Santos, T. (1970). The structure of dependence. *American Economic Review*, 60(2), 231-236. Retrieved from <http://www.jstor.org/stable/1815811>
- Doxey, G. V. (1975). A causation theory of visitor-resident irritants: Methodology and research inferences. In *Proceedings of the 6th Annual Conference of the Travel Research Association* (pp. 195-198).
- Dyer, P., Gursoy, D., Sharma, B. & Carter, J. (2007). Structural modelling of resident perceptions of tourism and associated development on the Sunshine Coast, Australia. *Tourism Management*, 28, 409-422. <https://doi.org/10.1016/j.tourman.2006.04.002>
- Edwards, F. N. (1988). *Environmentally sound tourism in the Caribbean/Barbados 1987*. Calgary, Canada: University of Calgary Press.
- Emerson, R. M. (1987). Toward a theory of value in social exchange. In K. S. Cook (Ed.), *Social exchange theory* (pp. 11-46). Newbury Park, CA: Sage.
- Erismann, H. M. (1983). Tourism and cultural dependency in the West Indies. *Annals of Tourism Research*, 10(3), 337-361. doi:10.1016/0160-7383(83)90061-0

- Eugenio-Martin, J. L. (2011). Assessing social carrying capacity of tourism destinations with random utility models. *Estudios De Economia Aplicada*, 29(3), 881-902. Retrieved from [http://personales.ulpgc.es/jeugenio.daea/Eugenio-Martin%20\(2011\).pdf](http://personales.ulpgc.es/jeugenio.daea/Eugenio-Martin%20(2011).pdf)
- Ferreira, S. L. A., & Harmse, A. C. (1999). The social carrying capacity of Kruger National Park, South Africa: Policy and practice. *Tourism Geographies*, 1(3), 325-342. doi:10.1080/14616689908721325
- Fischer, E., & Arnold, S. J. (1994). Sex, gender identity, gender role attitudes, and consumer behavior. *Psychology & Marketing*, 11(2), 163-182. doi:10.1002/mar.4220110206
- Fisher, A. C., & Krutilla, J. V. (1972). Determination of optimal capacity of resource-based recreational facilities. *Natural Resources Journal*, 12(3), 417- 444. Retrieved from <http://digitalrepository.unm.edu/nrj/vol12/iss3/8/>
- Formica, S., & Sun, Y.-H. C. (1998). Taiwan and the tourist life cycle. *The Tourist Review*, 53(1), 10-22. doi:10.1108/eb058264
- Fredline, E., & Faulkner, B. (2000). Host community reactions: A cluster analysis. *Annals of Tourism Research*, 27(3), 763-784. doi:10.1016/S0160-7383(99)00103-6
- Fredline, L. (2002). *Social impacts of tourism on the Gold Coast. Gold Coast Visioning Project 3.3*. Altona, Australia: Common Ground.
- Frissell, S.S., Jr., & Stankey, G. H. (1972, October). Wilderness environmental quality: Search for social and ecological harmony. In: *Proceedings of Society of American Foresters Annual Meeting*, 170-183. Hot Springs, Arkansas.
- Fyall, A., & Thomas, R. (1999). Quantitative data analysis. In B. Brotherton (Ed.), *The Handbook of Contemporary Hospitality Management Research* (pp. 263-286). New York, NY: John Wiley & Sons.
- Gallopín, G. C. (1997). Indicators and their use: Information for decision-making. In B. Moldan & S. Billhartz (Eds.), *Sustainability indicators: Report on the project on indicators of sustainable development* (pp. 13-27). Chichester, United Kingdom: John Wiley & Sons.
- Galvan, J.L. (2009). *Writing literature review. A guide for students of the social and behavioural Sciences* (4th ed.). Glendale, CA: Pycszak Publishing.
- Garcia, F. A., Vazquez, A. B., & Macias, R. C. (2015). Resident's attitudes towards the impacts of tourism. *Tourism Management Perspectives*, 13, 33-40. doi: 10.1016/j.tmp.2014.11.002

- Getz, D. (1983). Capacity to absorb tourism: Concepts and implications for strategic planning. *Annals of Tourism Research*, 10(2), 239-263. doi:10.1016/0160-7383(83)90028-2
- Getz, D. (1987, November). Tourism planning and research: traditions, models and futures. In *Proceedings of Australian Travel Research Workshop*, Australian Tourism Research Committee, Bunbury, Western Australia, 5(6), 2-43.
- Getz, D. (1992). Tourism planning and destination life cycle. *Annals of Tourism Research*, 19(4), 752-770. doi:10.1016/0160-7383(92)90065-W
- Getz, D. (1994). Residents' attitudes towards tourism: A longitudinal study in Spey Valley, Scotland. *Tourism Management*, 15(4), 247-258. doi:10.1016/0261-5177(94)90041-8
- Ghina, F. (2003). Sustainable development in small island developing states: The case of Maldives. *Environment, Development and Sustainability*, 5(1/2), 139-165. doi:10.1023/A:1025300804112
- Gilbert, D., & Clark, M. (1997). An exploratory examination of urban tourism impact, with reference to residents' attitudes, in the cities of Canterbury and Guildford. *Cities*, 14(6), 343-352. doi:10.1016/S0264-2751(97)00025-5
- Gilchrist, C. (2011, April 4). Ocho Rios grows as St. Ann's Bay slows. *The Gleaner*. Retrieved from: <http://jamaica-gleaner.com/gleaner/20110404/lead/lead4.html>
- Goeldner, C. R., Ritchie J. R. B., & McIntosh, R. W. (2000). *Tourism: Principles, Practices, Philosophies* (8th ed.). New York, NY: John Wiley & Sons.
- Graefe, A. R., Vaske, J. J., & Kuss, F. R. (1984). Social carrying capacity: An integration and synthesis of twenty years of research. *Leisure Sciences*, 6(4), 395-431. doi:10.1080/01490408409513046
- Griffith, W. H. (2002). A tale of four CARICOM countries. *Journal of Economic Issues*, 36(1), 79-106. doi:10.1080/00213624.2002.11506444
- Guler, E. G. (2006). Sustainable tourism in Mediterranean islands. *Journal of Environmental Protection and Ecology*, 7(4), 880-885. Retrieved from <https://docs.google.com/a/jepe-journal.info/viewer?a=v&pid=sites&srcid=amVwZS1qb3VybmFsLmluZm98amVwZS1qb3VybmFsGd4OmM3ZWMyOGMwMzJmM2ZmNQ>
- Gunn, C. A. (1994). A perspective on the purpose and nature of tourism research methods. In J. R. B. Ritchie & C. R. Goeldner (Eds.), *Travel, tourism, and hospitality research: A handbook for managers and researchers* (2nd ed., pp. 3-9). New York, NY: John Wiley & Sons.

- Guo, Y., Kim, S., & Chen, Y. (2014). Shanghai residents' perceptions of tourism impacts and quality of life. *Journal of China Tourism Research*, 10(2), 142-164. doi:10.1080/19388160.2013.849639
- Gursoy, D., Jurowski, C., & Uysal, M. (2002). Resident attitudes: A structural modeling approach. *Annals of Tourism Research*, 29(1), 79-105. doi:10.1016/S0160-7383(01)00028-7
- Hair, J. F., Jr., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Upper Saddle River, NJ: Pearson Prentice Hall.
- Haley, A. J., Snaith, T., & Miller, G. (2005). The social impacts of tourism a case study of Bath, UK. *Annals of Tourism Research*, 32(3), 647-668. doi: 10.1016/j.annals.2004.10.009
- Hall, C. M. (2011). Climate change and its impacts on tourism: Regional assessments, knowledge gaps and issues. In A. Jones & M. Phillips (Eds.), *Disappearing destinations: Climate change and future challenges for coastal tourism* (pp. 10-29). Wallingford, United Kingdom: CAB International.
- Hall, C. M., & Page, S. J. (2014). *The geography of tourism and recreation: Environment, place and space* (4th ed.). New York, NY: Routledge.
- Hampton, M. P., & Jeyacheya, J. (2015). Power, ownership and tourism in small islands: Evidence from Indonesia. *World Development*, 70, 481-495. doi: 10.1016/j.worlddev.2014.12.007
- Han, H., Hsu, L.-T., & Sheu, C. (2010). Application of the theory of planned behavior to green hotel choice: Testing the effect of environmental friendly activities. *Tourism Management*, 31(3), 325-334. doi:10.1016/j.tourman.2009.03.013
- Haralambopoulos, N., & Pizam, A. (1996). Perceived impacts of tourism: The case of Samos. *Annals of Tourism Research*, 23(3), 503-526. doi:10.1016/0160-7383(95)00075-5
- Harrill, R. (2004). Residents' attitudes toward tourism development: A literature review with implications for tourism planning. *Journal of Planning Literature*, 18(3), 251-256. doi:10.1177/0885412203260306
- Harrill, R., & Potts, T. D. (2003). Tourism planning in historic districts: Attitudes toward tourism development in Charleston. *Journal of American Planning Association*, 69(3), 233-244. doi:10.1080/01944360308978017
- Hart, S. L. (1997). Beyond greening: Strategies for a sustainable world. *Harvard Business Review*, 75(1), 66-77. Retrieved from <https://hbr.org/1997/01/beyond-greening-strategies-for-a-sustainable-world>

- Haukeland, J. V., Veisten, K., Grue, B., & Vistad, O. I. (2013). Visitors' acceptance of negative ecological impacts in national parks: Comparing the explanatory power of psychographic scales in a Norwegian mountain setting. *Journal of Sustainable Tourism, 21*(2), 291-313. doi:10.1080/09669582.2012.692685
- Huang, H. Y. B., Wall, G., & Mitchell, C. J. A. (2007). Creative destruction, Zhu Jia Jiao, China. *Annals of Tourism Research, 34*(4), 1033-1055. doi:10.1016/j.annals.2007.06.005
- Hein, P. (2004). Small island developing states: Origin of the category and definition issues. In *Is a special treatment of small island developing states possible?* (Report No. UNCTAD/LDC/2004/1) (pp. 1-22). Retrieved from United Nations Conference on Trade and Development (UNCTAD) website: http://unctad.org/en/Docs/ldc20041_en.pdf
- Hernandez, S. A., Cohen, J., & Garcia, H. L. (1996). Residents' attitudes towards an instant resort enclave. *Annals of Tourism Research, 23*(4), 755-779. doi:10.1016/0160-7383(95)00114-X
- Holder, J. S. (1988). Pattern and impact of the tourism on the environment of the Caribbean. *Tourism Management, 9*(2), 119-127. doi:10.1016/0261-5177(88)90021-0
- Holloway, J. C. (1994). *The business of tourism* (4th ed.). Essex, United Kingdom: Addison Wesley Longman.
- Holloway, J. C., & Humphreys, C. (2012). *The business of tourism* (9th ed.). Edinburgh Gate, United Kingdom. Pearson Education.
- Homans, G. C. (1958). Social behavior as exchange. *American Journal of Sociology, 63*(6), 597-606. doi:10.1086/222355
- Homans, G. C. (1961). *Social behavior: Its elementary forms*. New York, NY: Harcourt, Brace Jovanovich.
- Hovinen, G. R. (2002). Revisiting the destination lifecycle model. *Annals of Tourism Research, 29*(1), 209-230. doi:10.1016/S0160-7383(01)00036-6
- Huang, H. Y. B., Wall, G., & Mitchell, C. J. A. (2007). Creative destruction, Zhu Jia Jiao, China. *Annals of Tourism Research, 34*(4), 1033-1055. doi:10.1016/j.annals.2007.06.005
- Huh, C., & Vogt, C. A. (2008). Changes in residents' attitudes toward tourism over time: A cohort analytical approach. *Journal of Travel Research, 46*(4), 446-455. doi:10.1177/0047287507308327

- Huttasin, N. (2008). Perceived social impacts of tourism by residents in OTOP Tourism Village, Thailand. *Asia Pacific Journal of Tourism Research*, 13(2), 175- 191. doi:10.1080/10941660802048498
- Iliopoulou-Georgudaki, J., Kalogeras, A., Konstantinopoulos, P., & Theodoropoulos, C. (2016). Sustainable tourism management and development of a Greek coastal municipality. *International Journal of Sustainable Development & World Ecology*, 23(2), 143-153. doi:10.1080/13504509.2015.1102780
- Inskeep, E. (1991). *Tourism planning: An integrated and sustainable development approach*. New York, NY: Van Nostrand Reinhold.
- International Union for Conservation of Nature and Natural Resources (IUCN). (1980). *World conservation strategy: Living resource conservation for sustainable development*. Retrieved from <https://portals.iucn.org/library/efiles/documents/wcs-004.pdf>
- Irandu, E. M. (2004). The role of tourism in the conservation of cultural heritage in Kenya. *Asia Pacific Journal of Tourism Research*, 9(2), 133-150. doi:10.1080/1094166042000233658
- Isaac, S., & Michael, W. B. (1981). *Handbook in research and evaluation: A collection of principles, methods and strategies useful in the planning, design, and evaluation of studies in education and the behavioral sciences* (2nd ed.). San Diego, CA: Edits.
- Ivanov, S. H., & Ivanova, M. G. (2013). Mass tourism vs eco mass tourism. In *Proceedings of the Sixth Black Sea Tourism Forum* (pp. 78-90).
- Jackson, M. S., & Inbakaran, R. J. (2006). Evaluating residents' attitudes and intentions to act towards tourism development in regional Victoria, Australia. *International Journal of Tourism Research*, 8(5), 355-366. doi:10.1002/jtr.584
- Jamaica Tourist Board (JTB). (2015). *Annual Travel Statistics 2014*. Retrieved from <http://www.jtbonline.org/report-and-statistics/>
- Jamaica Tourist Board (JTB). (2016). *Annual Travel Statistics 2015*. Retrieved from <http://www.jtbonline.org/report-and-statistics/>
- Jamaica Tourist Board (JTB). (2017). *Annual Travel Statistics 2016*. Retrieved from <http://www.Jtb.online.org/report-and-statistics>
- Jeon, M. M., Kang, M. & Desmarais, E. (2016). Residents' perceived quality of life in a cultural-heritage tourism destination. *Applied Research in Quality of Life*, 11(1), 105-123. doi:10.1007/s11482-014-9357-8

- Jovicic, D., & Dragin, A. (2008). The assessment of carrying capacity: A crucial tool for managing tourism effects in tourist destinations. *Turizam*, *12*, 4-11. doi: 10.5937/Turizam0812004J
- Jovicic, D., & Ivanovic, V. (2007). The role of carrying capacity within conceptual framework of contemporary tourism. *Tourism and Hospitality Management*, *13*(3), 607-614. Retrieved from <https://hrcak.srce.hr/181082>
- Jurado, E. N., Damian, I. M., & Fernandez-Morales, A. (2013). Carrying capacity model applied in coastal destinations. *Annals of Tourism Research*, *43*, 1-19. doi:10.1016/j.annals.2013.03.005
- Jurowski, C., & Gursoy, D. (2004). Distance effects on residents' attitudes toward tourism. *Annals of Tourism Research*, *31*(2), 296-312. doi: 10.1016/j.annals.2003.12.005
- Jurowski, C., Uysal, M., & Williams, D. R. (1997). A theoretical analysis of host community resident reactions to tourism. *Journal of Travel Research*, *36*(2), 3-11. doi:10.1177/004728759703600202
- Kakazu, H. (2008). Social carrying capacity for sustainable island tourism: The case of Okinawa. *Journal of Island Studies*, *7*, 53-85. doi:10.5995/jis.2008.53
- Kelman, H. C. (1974). Attitudes are alive and well and gainfully employed in the sphere of action. *American Psychologist*, *29*(5), 310-324. doi:10.1037/h0037623
- Kerlinger, F. N. (1979). *Behavioral research: A conceptual approach*. New York, NY: Holt, Rinehart & Winston.
- Khan, M. M. (1997). Tourism development and dependency theory: Mass tourism vs ecotourism. *Annals of Tourism Research*, *24*(4), 988-991. doi:10.1016/S0160-7383(97)00033-9
- Khizindar, T. M. (2012). Effects of tourism on residents' quality of life in Saudi Arabia: An empirical study. *Journal of Hospitality Marketing & Management*, *21*(6), 617-637. doi:10.1080/19368623.2012.627226
- Kim, K. (2002). *The effects of tourism impacts upon quality of life of residents in the community* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (Publication No. 3144378)
- Kim, K., Uysal, M., & Sirgy, M. J. (2013). How does tourism in a community impact the quality of life of community residents? *Tourism Management*, *36*, 527-540. doi:10.1016/j.tourman.2012.09.005

- King, B., Pizam, A., & Milman, A. (1993). Social impacts of tourism: Host perceptions. *Annals of Tourism Research*, 20(4), 650-665. doi:10.1016/0160-7383(93)90089-L
- Kuvan, Y., & Akan, P. (2005). Residents' attitudes toward general and forest-related impacts of tourism: The case of Belek, Antalya. *Tourism Management*, 26(5), 691-706. doi:10.1016/j.tourman.2004.02.019
- Lankford, S. V. (1994). Attitudes and perceptions toward tourism and rural regional development. *Journal of Travel Research*, 32(3), 35-43. doi:10.1177/004728759403200306
- Lankford, S. V., & Howard, D. R. (1994). Developing a tourism impact attitude scale. *Annals of Tourism Research*, 21(1), 121-139. doi:10.1016/0160-7383(94)90008-6
- Lawton, L. J., & Weaver, D. B. (2015). Using residents' perceptions research to inform planning and management for sustainable tourism: A study of the Gold Coast Schoolies Week, a contentious tourism event. *Journal of Sustainable Tourism*, 23(5), 660-682. doi:10.1080/09669582.2014.991398
- Lee, H., & Graefe, A. R. (2003). Crowding at an arts festival: Extending crowding models to the frontcountry. *Tourism Management*, 24(1), 1-11. doi: 10.1016/S0261-5177(02)00036-5
- Leedy, P. D., & Ormrod, J. E. (2005). *Practical research: Planning and design* (8th ed.). Upper Saddle River, NJ: Pearson Education.
- Lime, D. W. (1970). Research for determining use capacities of the Boundary Waters Canoe Area. *Naturalist* 21(4), 9-13.
- Lime, D. W., & Stankey, G. H. (1971,). Carrying capacity: Maintaining outdoor recreational quality. In E. vH. Larson (Ed.), *Recreation Symposium Proceedings* (pp. 174-184). Upper Darby, PA: USDA Forest Service, Northeastern Forest Experiment Station.
- Lindberg, K., McCool, S., & Stankey, G. (1997). Rethinking carrying capacity. *Annals of Tourism Research*, 24(2), 461-465. doi:10.1016/S0160-7383(97)80018-7
- Liu, J. C., Sheldon, P. J., & Var, T. (1987). Resident perception of the environmental impacts of tourism. *Annals of Tourism Research*, 14(1), 17-37. doi:10.1016/0160-7383(87)90045-4
- Liu, J. C., & Var, T. (1986). Resident attitudes toward tourism impacts in Hawaii. *Annals of Tourism Research*, 13(2), 193-214. doi:10.1016/0160-7383(86)90037-X

- Long, P. T., Perdue, R. R., & Allen, L. (1990). Rural resident tourism perceptions and attitudes by community level of tourism. *Journal of Travel Research*, 28(3), 3-9. doi:10.1177/004728759002800301
- López-Bonilla, J. M., & López-Bonilla, L. M. (2008). Measuring social carrying capacity: An exploratory study. *Tourismos: An International Multidisciplinary Journal of Tourism*, 3(1), 116-134. Retrieved from <http://www.chios.aegean.gr/tourism/journal/vol3no1.pdf>
- Lucas, R. (1999). Survey research. In B. Brotherton (Ed.), *The handbook of contemporary hospitality management research* (pp. 77-95). New York, NY: John Wiley & Sons.
- MacLellan, L. R., & Strang, D. (2004). Sustainable tourism in Scotland's National Parks: The search for effective frameworks for planning, action and evaluation. In F. D. Pineda, C. A. Brebbia, & M. Mugica (Eds.), *Sustainable tourism* (pp. 250-260). Ashurst, United Kingdom: WIT Press. Retrieved from <https://www.witpress.com/Secure/elibrary/papers/ST04/ST04023FU.pdf>
- Madigral, R. (1993). A tale of tourism in two cities. *Annals of Tourism Research*, 20(2), 336-353. doi:10.1016/0160-7383(93)90059-C
- Magas, D. (2010). Why the destination management organization? In *Proceedings of the 20th Biennial International Congress Tourism & Hospitality Industry in Opatija* (pp. 1041-1047). Rijeka, Croatia: University of Rijeka.
- Maggi, E., & Fredella, F. L. (2010, August). *The carrying capacity of a tourist destination: The case of a coastal Italian city*. Paper presented at the 50th International Congress of the European Regional Science Association (ERSA), Jonkoping, Sweden. Retrieved from <http://www-sre.wu.ac.at/ersa/ersaconfs/ersa10/ERSA2010finalpaper576.pdf>
- Maggi, E., Stupino, F., & Fredella, F. L. (2011, August). *A multi-agent simulation approach to sustainability in tourism development*. Paper presented at the 51st International Congress of the European Regional Science Association (ERSA), Barcelona, Spain. Retrieved from https://www.researchgate.net/publication/228445912_A_multi-agent_simulation_approach_to_sustainability_in_tourism_development
- Manente, M. (2008, October). *Destination management and economic background: Defining and monitoring local tourist destinations*. Paper presented at the International Conference on Measuring Tourism Economic Contribution at Subnational Levels, Málaga, Spain. Retrieved from http://statistics.unwto.org/sites/all/files/pdf/manente_eng_0.pdf

- Manente, M., & Pechlaner, H. (2006). How to define, identify and monitor the decline of tourist destinations: Towards an early warning system. In R. W. Butler (Ed.), *The tourism area life cycle Vol. 2: Conceptual and theoretical issues*, (pp. 235-253). Clevedon, United Kingdom: Channel View.
- Mansfeld, Y. (1992). Group-differentiated perceptions of social impacts related to tourism development. *The Professional Geographer*, 44(4), 377-392. doi: 10.1111/j.0033-0124.1992.00377.x
- Mansfeld, Y., & Jonas, A. (2006). Evaluating the sociocultural carrying capacity of rural tourism communities: A 'value stretch' approach. *Tijdschrift voor Economische en Sociale Geografie (Journal of Economic and Social Geography)*, 97(5), 583-601. doi:10.1111/j.1467-9663.2006.00365.x
- Marcus, G. E., Pierson, J., & Sullivan, J. (1980). Rural-urban differences in tolerance: Confounding problems of conceptualization and measurement. *Rural Sociology*, 45(4), 731-737.
- Martin, B. S., & Uysal, M. (1990). An examination of the relationship between carrying capacity and the tourism life cycle: Management and policy implications. *Journal of Environmental Management*, 31(4), 327-333. doi: 10.1016/S0301-4797(05)80061-1
- Marzetti, S., & Mosetti, R. (2004). Sustainable tourism development and social carrying capacity: A case-study on the North-Western Adriatic Sea. In F. D. Pineda, C. A. Brebbia, & M. Mugica (Eds.), *Sustainable Tourism* (pp.). New York, NY: WIT Press.
- Marzetti, S., & Mosetti, R. (2005). Social carrying capacity of mass tourist sites: Theoretical and practical issues about its measurement (FEEM Working Paper No.144.05). doi:10.2139/ssrn.856024
- Mason, P., & Cheyne, J. (2000). Resident's attitudes to proposed tourism development. *Annals of Tourism Research*, 27(2), 391-411. doi:10.1016/S0160-7383(99)00084-5
- Mathieson, A., & Wall, G. (1982). *Tourism: Economic, physical and social impacts*. New York, NY: Longman.
- McCool, S. F., & Lime, D. W. (2001). Tourism carrying capacity: Tempting fantasy or useful reality? *Journal of Sustainable Tourism*, 9(5), 372-388. doi:10.1080/09669580108667409
- McCool, S. F., & Martin, S. R. (1994). Community attachment and attitudes toward tourism development. *Journal of Travel Research*, 32(3), 29-34. doi:10.1177/004728759403200305

- McDowall, S., & Choi, Y. (2010). A comparative analysis of Thailand residents' perception of tourism's impacts. *Journal of Quality Assurance in Hospitality & Tourism, 11*(1), 36-55. doi:10.1080/15280080903520576
- McElroy, J. L. (1975). Tourist economy and island environment: An overview of structural disequilibrium. *Caribbean Educational Bulletin, 2*(1), 40-58.
- McElroy, J. L. (2003). Tourism development in small islands across the world. *Geografiska Annaler: Series B, Human Geography, 85*(4), 231-242. doi:10.1111/j.0435-3684.2003.00145.x
- McElroy, J. L. (2006). Small island tourist economies across the life cycle. *Asia Pacific Viewpoint, 47*(1), 61-77. doi:10.1111/j.1467-8373.2006.00303.x
- McGehee, N. G., & Andereck, K. L. (2004). Factors predicting rural residents' support of tourism. *Journal of Travel Research, 43*(2), 131-140. doi:10.1177/0047287504268234
- Meng, X., Siriwardana, M., & Pham, T. (2013). A CGE assessment of Singapore's tourism policies. *Tourism Management, 34*, 25-36. doi:10.1016/j.tourman.2012.03.006
- Michalos, A. C. (2003). *Essays on the quality of life*. Dordrecht, Netherlands: Kluwer Academic.
- Miller, G. (2001). The development of indicators for sustainable tourism: Results of a Delphi survey of tourism researchers. *Tourism Management, 22*(4), 351-362. doi:10.1016/S0261-5177(00)00067-4
- Milman, A., & Pizam, A. (1988). Social impacts of tourism on central Florida. *Annals of Tourism Research, 15*(2), 191-204. doi:10.1016/0160-7383(88)90082-5
- Mo C.-M., Havitz, M. E., & Howard, D. R. (1994). Segmenting travel markets with the international tourism role (ITR) scale. *Journal of Travel Research, 33*(1), 24-31. doi:10.1177/004728759403300103
- Morgan, D. J., & Lok, L. (2000). Assessment of a comfort indicator for natural tourist attractions: The case of visitors to Hanging Rock, Victoria. *Journal of Sustainable Tourism, 8*(5), 393-409. doi:10.1080/09669580008667375
- Morris, M. (1995). *Tour Jamaica*. (3rd ed.). Kingston, Jamaica: The Gleaner Company of Jamaica.
- Moscardo, G. (2009). Tourism and quality of life: Towards a more critical approach. *Tourism and Hospitality Research, 9*(2), 159-170. doi:10.1057/thr.2009.6

- Moyle, B., Croy, G., & Weiler, B. (2010). Tourism interaction on islands: The community and visitor social exchange. *International Journal of Culture, Tourism and Hospitality Research*, 4(2), 96-107. doi:10.1108/17506181011045172
- Murphy, P. E., & Murphy, A. E. (2004). *Strategic management for tourism communities: Bridging the gaps*. Clevedon, United Kingdom: Channel View.
- Mycoo, M. (2014). Sustainable tourism, climate change and sea level rise adaptation policies in Barbados. *Natural Resources Forum*, 38(1), 47-57. doi:10.1111/1477-8947.12033
- Needham, M. D., Szuster, B. W. & Bell, C. M. (2011). Encounter norms, social carrying capacity indicators, and standards of quality at a marine protected area. *Ocean & Coastal Management*, 54(8), 633-641. doi:10.1016/j.ocecoaman.2011.06.004
- Neto, F. (2003). A new approach to sustainable tourism development: Moving beyond environmental protection. *Natural Resources Forum*, 27(3), 212-222. doi:10.1111/1477-8947.00056
- Neuts, B., & NijKamp, P. (2012). Tourist crowding perception and acceptability in cities: An applied modelling study on Bruges. *Annals of Tourism Research*, 39(4), 2133-2153. doi:10.1016/j.annals.2012.07.016
- Nunkoo, R., & Gursoy, D. (2012). Residents' support for tourism: An identity perspective. *Annals of Tourism Research*, 39(1), 243-268. doi:10.1016/j.annals.2011.05.006
- O'Reilly, A. M. (1986). Tourism carrying capacity: Concept and issues. *Tourism Management*, 7(4), 254-258. doi:10.1016/0261-5177(86)90035-X
- Page, S. J., Brunt, P., Busby, G., & Connell, J. (2001). *Tourism: A modern synthesis*. London, United Kingdom: Thomson Learning.
- Pappas, N. V. (2008). City of Rhodes: Residents' attitudes toward tourism impacts and development. *Anatolia*, 19(1), 51-70. doi:10.1080/13032917.2008.9687053
- Park, D.-B., & Yoon, Y.-S. (2011). Developing sustainable rural tourism evaluation indicators. *International Journal of Tourism Research*, 13(5), 401-415. doi:10.1002/jtr.804
- Parke, R., & Sheldon, E. B. (1974). Social indicator one year later: An overview. In R. L. Clewett & J. C. Olson (Eds.), *Whence and whither in social indicators and marketing* (pp. 9-26). Chicago, IL: American Marketing Association.

- Paskova, M. (2008). *Udržitelnost rozvoje cestovního ruchu* (Tourism Development Sustainability). Hradec Králové: Gaudeamus.
- Pearce, D. G. (2015). Destination management in New Zealand: Structures and functions. *Journal of Destination Marketing & Management*, 4(1), 1-12. doi: 10.1016/j.jdmm.2014.12.001
- Pearce, P. L., Moscardo, G., & Ross, G. F. (1996). *Tourism community relationships*. Oxford, United Kingdom: Pergamon Press.
- Perdue, R. R., Long, P. T., & Allen, L. (1987). Rural resident tourism perceptions and attitudes. *Annals of Tourism Research*, 14(3), 420-429. doi:10.1016/0160-7383(87)90112-5
- Perdue, R. R., Long, P. T., & Allen, L. (1990). Resident support for tourism development. *Annals of Tourism Research*, 17(4), 586-599. doi: 10.1016/0160-7383(90)90029-Q
- Perdue, R. R., Long, P. T., & Gustke, L. D. (1991, June). The effects of tourism development on objective indicators of local quality of life. In *Tourism: building credibility for a credible industry. Proceedings of the 22nd annual conference of the Travel and Tourism Research Association* (pp. 191-201).
- Pizam, A. (1978). Tourism's impacts: The social costs to the destination community as perceived by its residents. *Journal of Travel Research*, 16(4), 8-12. doi: 10.1177/004728757801600402
- Plog, S. C. (1974). Why destination areas rise and fall in popularity. *The Cornell Hotel and Restaurant Administration Quarterly*, 14(4), 55-58. doi:10.1177/001088047401400409
- Potter, R. B. (1993). Basic needs and development in the small island states of the Eastern Caribbean. In D. G. Lockhart, D. Drakakis-Smith, & J. Schembri (Eds.), *The development process in small island states* (pp. 92-116). London, United Kingdom: Routledge.
- Pratt, S. (2015). The economic impact of tourism in SIDS. *Annals of Tourism Research*, 52, 148-160. doi:10.1016/j.annals.2015.03.005
- Qi, R., Fung So, K. K., Cardenas, D., Hudson, S., & Meng, F. (2016). *The mediating effects of tolerance on residents' support toward tourism events*. Retrieved from https://scholarworks.umass.edu/ttra/2016/Academic_Papers_Visual/4/
- Rajotte, F. (1980). Tourism in the Pacific. In Rajotte, F. & Crocombe, R. (Eds.), *Pacific tourism: As islanders see it* (pp. 1-14). Suva, Fiji: Institute of Pacific Studies, University of the South Pacific.

- Ramseook-Munhurrun, P., & Naidoo, P. (2011). Residents' attitudes toward perceived tourism benefits. *International Journal of Management & Marketing Research*, 4(3), 45-56. Retrieved from <http://www.theibfr2.com/RePEc/ibf/ijmmre/ijmmr-v4n3-2011/IJMMR-V4N3-2011-4.pdf>
- Rattray, J. & Jones, M. C. (2007). Essential elements of questionnaire design and development. *Journal of Clinical Nursing*, 16(2), 234-243. doi:10.1111/j.1365-2702.2006.01573.x
- Raymond, C., & Brown, G. (2007). A spatial method for assessing resident and visitor attitudes towards tourism growth and development. *Journal of Sustainable Tourism*, 15(5), 520-540. doi:10.2167/jost681.0
- Razovic, M. (2013). Sustainable development and level of satisfaction of tourists with elements of tourist offer of destination. *Tourism in Southern and Eastern Europe*, 371-385. Retrieved from <https://www.ftm.uniri.hr/files/Kongresi/ToSEE/2013/papers/28%20Razovic.pdf>
- Reddy, M. V. (2008). Sustainable tourism rapid indicators for less-developed islands: An economic perspective. *International Journal of Tourism Research*, 10(6), 557-576. doi:10.1002/jtr.700
- Reisinger, Y. (2009). *International Tourism Cultures and Behavior*, ButterworthHeinemann, Oxford:UK.
- Ribeiro, M. A., Oom do Valle, P., & Silva, J. A. (2013). Residents' attitudes towards tourism development in Cape Verde Islands. *Tourism Geographies*, 15(4), 654-679. doi:10.1080/14616688.2013.769022
- Richins, H. (2009). Environmental, cultural, economic and sociocommunity sustainability: A framework for sustainable tourism in resort destinations. *Environment, Development and Sustainability*, 11(4), 785-800. doi:10.1007/s10668-008-9143-6
- Ridderstaat, J., Croes, R., & Nijkamp, P. (2016). The tourism development: Quality of life nexus in a small island destination. *Journal of Travel Research*, 55(1), 79-94. doi:10.1177/0047287514532372
- Ridderstaat, J., Oduber, M., Croes, R., Nijkamp, P., & Martens, P. (2014). Impacts of seasonal patterns of climate on recurrent fluctuations in tourism demand: Evidence from Aruba. *Tourism Management*, 41, 245-256. doi:10.1016/j.tourman.2013.09.005
- Ritchie, B. W., & Inkari, M. (2006). Host community attitudes toward tourism and cultural tourism development: The case of Lewes District, southern England. *International Journal of Tourism Research*, 8(1), 27-44. doi:10.1002/jtr.545

- Roussel, S., Crinquant, N., & Bourdat, E. (2007). In search of coastal zone sustainability by means of social carrying capacity indicators construction: Lessons learned from Thau lagoon case study (Région Languedoc-Roussillon, France). *International Journal Sustainable Development*, 10(1/2), 175-194. doi:10.1504/IJSD.2007.014421
- Ryan, C., & Aicken, M. (2010). The destination image gap—visitors' and residents' perceptions of place: Evidence from Waiheke Island, New Zealand. *Current Issues in Tourism*, 13(6), 541-561. doi:10.1080/13683500903215008
- Saarinen, J. (2003). The regional economics of tourism in northern Finland: The socioeconomic implications of recent tourism development and future possibilities for regional development. *Scandinavian Journal of Hospitality and Tourism*, 3(2), 91-113. doi:10.1080/15022250310001927
- Samli, A. C. (1995). QOL research and measurement: Some parameters and dimensions. In H. L. Meadow, M. J. Sirgy, & D. R. Rahtz (Eds.), *Developments in quality-of-life studies in marketing* (Vol. 5, 173-180). DeKalb, IL: Academy of Marketing Science and the International Society for Quality-of-Life Studies.
- Saveriades, A. (2000). Establishing the social tourism carrying capacity for the tourist resorts of the east coast of the Republic of Cyprus. *Tourism Management*, 21(2), 147-156. doi:10.1016/S0261-5177(99)00044-8
- Scheyvens, R., & Momsen, J. (2008a). Tourism and poverty reduction: Issues for small island states. *Tourism Geographies*, 10(1), 22-41. doi:10.1080/14616680701825115
- Scheyvens, R., & Momsen, J. (2008b). Tourism in small island states: From vulnerability to strengths. *Journal of Sustainable Tourism*, 16(5), 491-510. doi:10.1080/09669580802159586
- Seidl, I., & Tisdell, C. A. (1999). Carrying capacity reconsidered: From Malthus' population theory to cultural carrying capacity. *Ecological Economics*, 31(3), 395-408. doi:10.1016/S0921-8009(99)00063-4
- Sharma, B., Dyer, P., Carter, J., & Gursoy, D. (2008). Exploring residents' perceptions of the social impacts of tourism on the Sunshine Coast, Australia. *International Journal of Hospitality & Tourism Administration*, 9(3), 288-311. doi:10.1080/15256480802096092
- Sharma, B., & Dyer, P. (2009). An investigation of differences in residents' perceptions on the Sunshine Coast: Tourism impacts and demographic variables. *Tourism Geographies*, 11(2), 187-213. doi:10.1080/14616680902827159

- Sharpley, R. (2003). Tourism, modernisation and development on the island of Cyprus: Challenges and policy responses. *Journal of Sustainable Tourism*, 11(2/3), 246-265. doi:10.1080/09669580308667205
- Sharpley, R. (2014). Host perceptions of tourism: A review of the research. *Tourism Management*, 42, 37-49. doi:10.1016/j.tourman.2013.10.007
- Sharpley, R., & Ussi, M. (2014). Tourism and governance in small island developing states (SIDS): The case of Zanzibar. *International Journal of Tourism Research*, 16(1), 87-96. doi:10.1002/jtr.1904
- Shelby, B., & Heberlein, T. A. (1986). *Carrying capacity in recreational settings*. Corvallis, OR: Oregon State University Press.
- Sheldon, P. J., & Abenoja, T. (2001) Resident attitudes in a mature destination: The case of Waikiki. *Tourism Management*, 22(5), 435-443. doi:10.1016/S0261-5177(01)00009-7
- Sheldon, P. J., & Var, T. (1984). Resident attitudes to tourism in North Wales. *Tourism Management*, 5(1), 40-47. doi:10.1016/0261-5177(84)90006-2
- Simón, F. J. G., Narangajavana, Y., & Marqués, D. P. (2004). Carrying capacity in the tourism industry: A case study of Hengistbury. *Tourism Management*, 25(2), 275-283. doi:10.1016/S0261-5177(03)00089-X
- Sinclair-Maragh, G. (2017). Demographic analysis of residents' support for tourism development in Jamaica. *Journal of Destination Marketing & Management*, 6(1), 5-12. doi:10.1016/j.jdmm.2016.03.005
- Sinclair-Maragh, G., Gursoy, D., & Vieregge, E. (2015). Residents' perceptions toward tourism development: A factor-cluster approach. *Journal of Destination Marketing & Management*, 4(1), 36-45. doi:10.1016/j.jdmm.2014.10.001
- Sirakaya, E., Jamal, T. B., & Choi, H.-S. (2001). Developing indicators for destination sustainability. In D. B. Weaver (Ed.), *The encyclopedia of ecotourism* (pp. 411-431). Wallingford, United Kingdom: CABI.
- Smith, V. L. (1990). Alternative/responsible tourism seminar. *Annals of Tourism Research*, 17(3), 479-480. doi:10.1016/0160-7383(90)90015-J
- Snepenger, D., O'Connell, R., & Snepenger, M. (2001). The embrace-withdraw continuum scale: Operationalizing residents' responses toward tourism development. *Journal of Travel Research*, 40(2), 155-161. doi:10.1177/004728750104000206

- Snyman, S. (2014). Assessment of the main factors impacting community members' attitude towards tourism and protected areas in six southern African countries, *Koedoe* 56(2), Art. #1139, 1-12. doi:10.4102/koedoe.v56i2.1139
- Sparks, B., & Pan, G. W. (2009). Chinese outbound tourists: Understanding their attitudes, constraints and use of information sources. *Tourism Management*, 30(4), 483-494. doi:10.1016/j.tourman.2008.10.014
- Stankey, G. H., & Manning, R. E. (1986). *A literature review: Carrying-capacity of recreational settings—The President's Commission on Americans Outdoors* (INT 4901 Publication #166). Washington, DC: Government Printing Office. Retrieved from https://iucn.oscar.ncsu.edu/mediawiki/index.php/PDF:_%E2%80%98Carrying_Capacity_of_Recreation_Settings%E2%80%99._A_Literature_Review:_The_President%E2%80%99s_Commission_on_Americans_Outdoors
- Stankey, G. H., & McCool, S. F. (1984). Carrying capacity in recreational settings: Evolution, appraisal and application. *Leisure Sciences*, 6(4), 453-473. doi:10.1080/01490408409513048
- Stankey, G. H., McCool, S. F., & Stokes, G. L. (1984). Limits of acceptable change: A new framework for managing the Bob Marshall Wilderness Complex. *Western Wildlands*, 10(3), 33-37. Retrieved from https://www.researchgate.net/profile/Stephen_Mccool/publication/237773562_Limits_of_Acceptable_Change_A_New_Framework_for_Managing_the_Bob_Marshall_Wilderness_Complex/links/00b7d53303f8929ffc000000/Limits-of-Acceptable-Change-A-New-Framework-for-Managing-the-Bob-Marshall-Wilderness-Complex.pdf
- Stankey, G. H., & Schreyer, R. (1987). Attitudes toward wilderness and factors affecting visitor behavior: A state-of-knowledge review. In R. C. Lucas (Ed.), *Proceedings of the National Wilderness Research Conference: Issues, state-of-knowledge, future directions* (USDA Forest Service General Technical Report No. INT-220), (pp. 246-293). Ogden, Utah: Intermountain Research Station.
- Statistical Institute of Jamaica (STATIN). 2011. *Population Census*. Retrieved from http://statinja.gov.jm/Demo_SocialStats/newSummaryofPopulationMovements.aspx
- Statistical Institute of Jamaica (STATIN). 2015. *Business statistics: Annual tourist arrivals – 2014*. Retrieved from <http://statinja.gov.jm/BusinessStatistics.aspx>
- Stylidis, D., Biran, A., Sit, J., & Szivas, E.M. (2014). Residents' support for tourism development: the role of residents' place image and perceived tourism impacts. *Tourism Management*, 45(0), 260-274. doi: 10.1016/j.tourman.2014.05.006

- Towle, E. L. (1985). The island microcosm. In J. R. Clark (Ed.), *Coastal resources management: Development case studies* (Coastal Management Publication No. 3, pp. 589-745). Washington, DC: US National Park Service & USAID. Retrieved from http://www.irf.org/wp-content/uploads/2015/10/Island_Microcosm_Towle_1985.pdf
- Tsaur, S.-H., Lin, Y.-C., & Lin, J.-H. (2006). Evaluating ecotourism sustainability from the integrated perspective of resource, community and tourism. *Tourism Management*, 27(4), 640-653. doi:10.1016/j.tourman.2005.02.006
- Tsaur, S.-H. & Wang, C.-H. (2007). The evaluation of sustainable tourism development by analytic hierarchy process and fuzzy set theory: An empirical study on the Green Island in Taiwan. *Asia Pacific Journal of Tourism Research*, 12(2), 127-145. doi: 10.1080/10941660701243356
- Turner, J. R., & Thayer, J. F. (2001). *Introduction to analysis of variance: Design, Analysis, and Interpretation*. Thousand Oaks, CA: Sage.
- Twining-Ward, L., & Butler, R. (2002). Implementing STD on a small island: Development and use of sustainable tourism development indicators in Samoa. *Journal of Sustainable Tourism*, 10(5), 363-387. doi: 10.1080/09669580208667174
- Tyrrell, T. J., & Spaulding, I. A. (1984). A survey of attitudes toward tourism growth in Rhode Island. *Hospitality Education and Research Journal*, 8(2), 22-33. doi:10.1177/109634808400800204
- UN. (2010). *Trends in sustainable development: Small island developing states (SIDS) 2010*. Retrieved from https://sustainabledevelopment.un.org/content/documents/313Trends_in_Sustainable_Development_SIDS.pdf
- UN. (2014). *International year of small island developing states 2014*. Retrieved from <http://www.un.org/en/events/islands2014/didyouknow.shtml>
- UNEP/UNWTO. (2012). *Tourism in the green economy: Background report*. Retrieved from <http://publications.unwto.org/publication/tourism-green-economy-background-report>
- United Nations Conference on Environment & Development (UNCED). (1992). *Agenda 21*. Retrieved from <https://sustainabledevelopment.un.org/content/documents/Agenda21.pdf>

- United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States (UN-OHRLLS). (2011). Small Island Developing States, Small Island Big(ger) Stakes. Retrieved from http://unohrlls.org/UserFiles/File/UN_SIDS_booklet_5x6-5_062811_web.pdf
- United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States (UN-OHRLLS). (2018). *About the Small Island Developing States*. Retrieved from <http://unohrlls.org/about-sids/>
- United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States (UN-OHRLLS). Report of the International Meeting to Review the Implementation of the Programme of Action for the Sustainable Development of Small Island Developing States. Port Louis, Mauritius 10-14 January 2005. (pp1-103) Retrieved from <http://unohrlls.org/UserFiles/File/SIDS%20documents/mauritius.pdf>
- UNWTO (World Tourism Organization). (2014). Tourism in small island developing states (SIDS): Building a more sustainable future for the peoples of islands. Retrieved from <https://www.e-unwto.org/doi/book/10.18111/9789284416257>
- UNWTO (World Tourism Organization). (2018). *Sustainable development of tourism: Tourism and small island developing states (SIDS)*. Retrieved from <http://sdt.unwto.org/content/tourism-and-small-islands-developing-states-sids>
- Urtasun, A., & Gutiérrez, I. (2006). Tourism agglomeration and its impact on social welfare: An empirical approach to the Spanish case. *Tourism Management*, 27(5), 901-912. doi:10.1016/j.tourman.2005.05.004
- Uysal, M., Perdue, R., & Sirgy, M. J. (2012). Prologue: Tourism and quality-of-life (QOL) research: The missing links. In M. Uysal, R. R. Perdue, & M. J. Sirgy (Eds.), *Handbook of tourism and quality-of-life research: Enhancing the lives of tourists and residents of host communities* (pp. 1-8), Dordrecht, Netherlands: Springer.
- Uysal, M., Sirgy, M. J., Woo, E., & Kim, H. (2016). Quality of life (QOL) and well-being research in tourism. *Tourism Management*, 53, 244-261. doi:10.1016/j.tourman.2015.07.013
- Uysal, M., Woo, E., & Singal, M. (2012). The tourist area life cycle (TALC) and its effect on the quality-of-life (QOL) of destination community. In M. Uysal, R. R. Perdue, & M. J. Sirgy (Eds.), *Handbook of tourism and quality-of-life research: Enhancing the lives of tourists and residents of host communities*, (pp. 423-444). Dordrecht, Netherlands: Springer.

- Vogt, C. A., & Jun, S. H. (2004). Residents' attitudes toward tourist market segments and tourism development in Valdez, Alaska: A comparison of residents' perceptions of tourist impacts on the economy and quality of life. *Proceedings of the 2004 Northeastern Recreation Research Symposium* (GTR-NE-326), (pp. 404-411). Retrieved from https://www.fs.fed.us/ne/newtown_square/publications/technical_reports/pdfs/2005/326papers/vogt326.pdf
- Wafik, G. M., Fawzy, N. M., & Ibrahim, O. (2011). Official awareness of tourism carrying capacity dimensions in the Fayoum destination's natural heritage sites (case of the Valley of Whales). *International Journal of Hospitality & Tourism Systems*, 4(1), 87-111. Retrieved from <http://www.publishingindia.com/GetBrochure.aspx?query=UERGQnJvY2h1cmVzfC83OTQucGRmfC83OTQucGRm>
- Wall, G. (1997). Sustainable Tourism—Unsustainable development. In S. Wahab & J. J. Pigram (Eds.), *Tourism development and growth: The challenge of sustainability* (pp. 33-49). New York, NY: Routledge.
- Wang, S. (2013). Predicting effects of demographics and moderating power of engagement on residents' perceptions of tourism development. *European Journal of Tourism Research*, 6(2), 170-182. Retrieved from <http://ejtr.vumk.eu/index.php/volume6/190-v62rp170predictingeffectsofdemographicsandmoderatingpowerofengagementonresidentsperceptionsoftourismdevelopment>
- Wang, Y., & Pfister, R. E. (2008). Residents' attitudes toward tourism and perceived personal benefits in a rural community. *Journal of Travel Research*, 47(1), 84-93. doi:10.1177/0047287507312402
- Wang, Y., Pfister, R. E., & Morais, D. B. (2006). Residents' attitudes toward tourism development: A case study of Washington, NC. In *Proceedings of the 2006 Northeastern Recreation Research Symposium* (GTR-NRS-P-14) (pp. 411-418). Retrieved from <https://pdfs.semanticscholar.org/29fc/a3bc6c8108ca52a36eddd991c4847dc43d5f.pdf>
- Weaver, D. B. (2006). *Sustainable Tourism: Theory and Practice*. Oxford, United Kingdom: Butterworth-Heinemann.
- Weaver, D. B., & Lawton, L. (1999). *Sustainable tourism: A critical analysis*. Gold Coast, Australia: CRC for Sustainable Tourism.
- Weaver, D. B., & Lawton, L. J. (2001). Resident perceptions in the urban-rural fringe. *Annals of Tourism Research*, 28(2), 439-458. doi:10.1016/S0160-7383(00)00052-9

- Weaver, D. B., & Lawton, L. J. (2013). Resident perceptions of a contentious tourism event. *Tourism Management*, 37, 165-175. doi:10.1016/j.tourman.2013.01.017
- Weaver, D., & Oppermann, M. (2000). *Tourism Management*. Brisbane, Australia: John Wiley & Sons.
- Wiersma, W. (2000). *Research methods in education: An introduction*. (7th ed.). Needham Heights, MA: Pearson Education.
- Wikipedia, 2018, January 27). Re: Ocho Rios [Collaborative web encyclopaedia]. Retrieved from https://en.wikipedia.org/wiki/Ocho_Rios
- Wilkinson, P. F. (1989). Strategies for tourism in island microstates. *Annals of Tourism Research*, 16(2), 153-177. doi:10.1016/0160-7383(89)90065-0
- Williams, J., & Lawson, R. (2001). Community issues and resident opinions of tourism. *Annals of Tourism Research*, 28(2), 269-290. doi:10.1016/S0160-7383(00)00030-X
- Winpenny, J. T. (1982). Issues in the identification and appraisal of tourism projects in developing countries. *Tourism Management*, 3(4), 218-221. doi:10.1016/0261-5177(82)90041-3
- World Commission on Environment & Development (WCED). (1987). *Our common future*. Oxford, United Kingdom: Oxford University Press.
- World Tourism Organisation (UNWTO). (2004). *Indicators of sustainable development for tourism destinations: A guidebook*. Retrieved from <https://www.e-unwto.org/doi/book/10.18111/9789284407262>
- World Tourism Organization (UNWTO). (2014). *Tourism in small island developing states (SIDS): Building a more sustainable future for the peoples of islands*. Retrieved from <https://www.e-unwto.org/doi/book/10.18111/9789284416257>
- World Tourism Organisation (UNWTO) (2018). *Tourism statistics: A catalyst for development. 61st Meeting of the UNWTO Commission for Africa*. Retrieved from: <http://www2.unwto.org/press-release/2018-06-05/african-tourism-ministers-stress-importance-correct-tourism-measurement-imp>
- World Travel and Tourism Council (WTTC). (1992). *The WTTC report - 1992 complete edition: Travel & tourism, the world's largest industry*. World Travel and Tourism Council.

- World Travel and Tourism Council (WTTC). 2015. *Travel and tourism economic impact 2015 Jamaica*. Retrieved from [https://www.wttc.org/-/media/files/reports/economic impact research](https://www.wttc.org/-/media/files/reports/economic%20impact%20research)
- World Travel and Tourism Council (WTTC). (2018). *Travel and tourism: Economic impact 2018 Jamaica*. Retrieved from: <https://www.wttc.org/-/media/files/reports/economic-impact-research/countries-2018/jamaica2018.pdf>
- WTTC/UNWTO/Earth Council. (1995). *Agenda 21 for the travel and tourism industry: Towards environmentally sustainable development*. Madrid, Spain: World Tourism Organisation (UNWTO).
- Yagi, C., & Pearce, P. L. (2007). The influence of appearance and the number of people viewed on tourists' preferences for seeing other tourists. *Journal of Sustainable Tourism*, 15(1), 28-43. doi:10.2167/jost528.0
- Young, G. (1973). *Tourism Blessing or Blight?* London, United Kingdom: Penguin Books.
- Zelenka, J., & Kacetl, J. (2014). The concept of carrying capacity in tourism. *Economic Interferences*, 16(36), 641-654. Retrieved from http://www.amfiteatrueconomic.ro/temp/Article_1297.pdf
- Zhang, L., & Chung, S. (2015). Assessing the social carrying capacity of diving sites in Mabul Island, Malaysia. *Environmental Management*, 56(6), 1467-1477. doi:10.1007/s00267-015-0586-x

APPENDICES

APPENDIX A

Table 34

Small Island Developing States Tourism Statistics 2013

(Small Island Developing States (SIDS) ((sub)totals including estimates for countries with missing data), 2013^{abc} – International Tourism)

	Population (1000)	Visitors			Receipts			Int'l Passenger Transport	
		Overnight Visitors (1000)	Per 100 Population	Cruise Passengers (1000)	In Destination			US\$ Million	Int'l Passenger Transport US\$ Million
					US\$ Million	Per Capita US\$	% of Exports		
World	7,162,119	1,086,000	15		1,193,000	167	5.1	216,000	0.9
SIDS according to UN-OHRLLS	67,320	40,838	61	>18Million	53,418	793	8.20	8,019	1.2
- definition DESA	60,050	30,274	50		40,032	667	6.50	6,635	1.1
Caribbean	39,058	13,943	36	-	15,213	389	23.5	813	1.3
Antigua, Barb	90	244	271	534	299	3,318	55.0	-	-
Bahamas	377	1,363	361	4,709	2,162	5,728	61.8	20	0.6

Barbados	285	509	179	570	912	3,203	53.5	19a	101a
Belize	332	294	89	641a	351	1,057	33.2	-	-
Cuba	11,266	2,829	25	3a	2,344	208	13.1	283	1.6
Dominica	72	78	109	231	82	1,138	41.2	-	-
Dominica Rp.	10,404	4,690	45	424	5,065	487	32.0	-	-
Grenada	106	114	108	243a	120	1,135	63.1	-	-
Guyana	800	177a	22a	-	77	96	5.0	-	-
Haiti	10,317	420	4	610a	568	55	36.6	-	-
Jamaica	2,784	2,008	72	1,265	2,074	745	47.60	47b	1.1b
St. Kitts-Nevis	54	107	197	526a	101	1,865	39.50	-	-
Saint Lucia	182	319	175	594	354	1,942	60.00	-	-
St. Vincent, Grenadines	109	72	66	126	92	844	48.10	-	-
Suriname	539	249	46	-	84	156	3.3	8	0.3
Trinidad Tobago	1,341	402b	30b	49a	472b	354b	2.3b	178b	0.9b
AIMS*	10,225	14,834	145	-	23,285	2,277	4.30	5,525	1.0
Cabo Verde	499	503	101	-	462	926	64.30	49	6.8
Comoros	735	19b	3b	-	39a	54a	44.2a	-	-
Guinea-Bissau	1,704	-	-	-	9b	6b	3.2b	0c	-
Maldives	345	1,125	326	2	2,031	5,887	75.00	25a	1.1a
Mauritius	1,244	993	80	9	1,321	1,062	21.00	273	4.3
Sao Tome Pm	193	12b	7b	-	14a	76a	43.9a	-	-
Seychelles	93	230	248	8a	344	3,701	31.7	41a	4.4a
Singapore	5,412	11,899	220	-	19,057	3,521	3.6	-	-
Pacific	-	-	-	-	-	-	-	-	-
Cook Is	-	-	-	-	-	-	-	-	-
Fiji	-	-	-	-	-	-	-	-	-
Kiribati	102	6	6	-	-	-	-	-	-
Marshall Is	53	5a	9a	-	4a	71a	15.1a	-	-
Micronesia (Fed.St.of)	104	42	41	-	23a	219a	41c	-	-

Nauru	10	-	-	-	-	-	-	-	-
Niue	1	7	524	-	2b	1,373b	-	-	-
Palau	21	105	502	-	133a	6,394a	-	-	-
Papau New Guinea	7,321	171	2	-	2a	0.3a	0.03a	0.05a	0.001a
Samoa	190	116	61	-	136	715	54.9a	0.2a	0.1a
Solomon Is	561	24	4	-	69	123	12.1	15b	2.8b
Timor-Lesle	1,133	78	7	-	21a	19a	21a	-	-
Tonga	105	48	46	11a	41a	386a	43.8a	2a	2a
Tuvalu	10	1b	12b	-	-	-	-	-	-
Vanuatu	253	110	44	243	261a	1,056a	69.3a	27a	7.2a

^{abc} Figures for 2013 or for last year with data available: a 2012; b 2011; c 2010

* The AIMS abbreviation refers to the Atlantic, Indian Ocean, Mediterranean and South China Sea, although there are currently no SIDS in the Mediterranean.

APPENDIX B

Ocho Rios Resident Questionnaire

The purpose of this study is to identify residents' feelings towards tourism and the ways it has affected their quality of life and acceptance of tourism in Ocho Rios and further, to measure the current level of tourism in Ocho Rios. There are no right or wrong answers, so please give the answer that most reflect your feelings or opinions. Thank you for your help.

Section 1- Perceived Benefits and Costs of Tourism to the community

The following statements are about the impact of tourism on your community

Directions: Please indicate whether you 1-strongly disagree (SD), 2-disagree (D), 3-somewhat agree (SoA), 4-agree (A) or 5-strongly agree (SA) with the following statements by circling the fitting answer.

	SD	D	SoA	A	SA
1. Tourism improves the look of the community	1	2	3	4	5
2. The water supply is better in Ocho Rios because of tourism	1	2	3	4	5
3. The community has better roads because of tourism	1	2	3	4	5
4. The hospitals and clinics are better because of tourism	1	2	3	4	5
5. There is less crime because of tourism	1	2	3	4	5
6. Garbage collection in my community is better because of tourism.	1	2	3	4	5
7. Tourism attracts ('undesirables)/unwanted' to the area	1	2	3	4	5
8. Tourism causes traffic congestion in Ocho Rios.	1	2	3	4	5
9. Because of tourism there is more noise in Ocho Rios.	1	2	3	4	5
10. Tourism in Ocho Rios causes more garbage and fumes.	1	2	3	4	5
11. Tourism takes away the best beaches from the residents	1	2	3	4	5
12. Tourism causes overcrowding at the beach.	1	2	3	4	5
13. There are more places to shop in Ocho Rios because of tourism.	1	2	3	4	5
14. Tourism brings more restaurants to Ocho Rios.	1	2	3	4	5
15. There is more entertainment in Ocho Rios because of tourism	1	2	3	4	5

16. Tourism makes the cost of entry to places of fun too high for the residents.	1	2	3	4	5
17. The living conditions of the residents is better because of tourism.	1	2	3	4	5
18. The residents have more money to spend because of tourism	1	2	3	4	5
19. The numbers of jobs in Ocho Rios have increased because of tourism	1	2	3	4	5
20. There are more businesses owned by local residents because of tourism.	1	2	3	4	5
21. The price of land, goods and services have increased because of tourism.	1	2	3	4	5
22. The price of services has increased because of tourism	1	2	3	4	5
23. The price of goods has increased because of tourism.	1	2	3	4	5
24. Due to tourism rent is higher in Ocho Rios	1	2	3	4	5
25. Due to tourism the cost of buying a house in Ocho Rios is much more than surrounding area.	1	2	3	4	5

Section 2- Perceived Personal Benefits and Costs of Tourism

	SD	D	So A	A	SA
1. My personal safety is better because of tourism	1	2	3	4	5
2. The health services available to me are better (good) because of tourism	1	2	3	4	5
3. My water supply is better due to tourism	1	2	3	4	5
4. My electricity supply is better because of tourism	1	2	3	4	5
5. I have more spare time because of tourism	1	2	3	4	5
6. I have more fun activities and cultural activities to enjoy because of tourism	1	2	3	4	5
7. As a result of tourism, I have easier access to the internet	1	2	3	4	5
8. I have less private life because of the tourists in the area.	1	2	3	4	5
9. The money I make has increased because of tourism	1	2	3	4	5
10. My relaxation time (personal quality of life) has improved because of tourism	1	2	3	4	5
11. My family's income is secure because of tourism	1	2	3	4	5

12. Generally, tourism has made my personal life better	1	2	3	4	5
13. I have been living more comfortably because of tourism	1	2	3	4	5
14. I can get more education because of tourism	1	2	3	4	5
15. More employment is available to me because of tourism	1	2	3	4	5
16. The cost of renting and buying a house is more expensive in and near to Ocho Rios because of tourism.	1	2	3	4	5
17. The cost of goods and services is higher in Ocho Rios because of tourism	1	2	3	4	5
18. I am satisfied with the improvement tourism has brought to my life personally.	1	2	3	4	5

Section 3- Tolerance of Tourism

The following statements are about your feeling towards aspects of tourism.

Directions: Please indicate by circling the number and term that relates to your feelings about tourism 1-Totally unacceptable (TU), 2-unacceptable (U), 3- slightly acceptable (SA), 4-acceptable (A), 5- perfectly acceptable (PA) about the following statements.

	TA	U	SA	A	PA
1. The government and other tourism stakeholders' treatment of tourists is better than locals (residents).	1	2	3	4	5
2. Residents should be free to talk and hang out with tourists	1	2	3	4	5
3. Residents have difficulty entering hotels	1	2	3	4	5
4. The number of foreign employees in hotels is increasing (growing	1	2	3	4	5
5. The number of tourists in Ocho Rios should continue to increase.	1	2	3	4	5
6. The number of foreign owned hotels is growing	1 1	2 2	3 3	4 4	5 5

Section 4 -Demographic Data

The following are background questions to assist in the understanding of your answers to the previous questions. Please circle the answer that applies to you.

1. What is your gender?
 - a. Male
 - b. Female

2. What is your age range?
 - a. 18-24yrs
 - b. 25-34yrs
 - c. 35-44yrs
 - d. 45-54yrs
 - e. 55-64yrs
 - f. 65yrs and older

3. How long have you been living in the area?
 - a. 1-3years
 - b. 4-6years
 - c. 7-9years
 - d. 10years and over

4. How near do you live to the town of Ocho Rios?
 - a. 1-5km (1-11miles)
 - b. 6-10km (12-21miles)
 - c. 11-15km (22-31 miles)
 - d. Over 16km(32miles)

5. What is your level of education completed?
 - a. Primary
 - b. Secondary
 - c. Tertiary (College/University)

7. What is your employment status?
 - a. Full-Time
 - b. Part-Time
 - c. Self-Employed
 - d. Not Employed at this time (go to question 8)

6. What is your gross monthly income (Jamaican currency)?
 - a. Under \$100,000
 - b. \$100,000-\$200,000
 - c. \$200,000- \$300,000
 - d. \$300,000- \$400,000
 - e. \$500,000 and over

7. Are you employed in the tourism industry?
 - a. Yes
 - b. No

8. Do other persons in your household work in the tourism industry?
 - a. Yes
 - b. No

9. If yes, tick all that apply for self and family

	Self	Family Member/s
a. Hotel	<input type="checkbox"/>	<input type="checkbox"/>
b. Tours	<input type="checkbox"/>	<input type="checkbox"/>
c. Craft	<input type="checkbox"/>	<input type="checkbox"/>
d. Duty free shop	<input type="checkbox"/>	<input type="checkbox"/>
e. Tourist attraction	<input type="checkbox"/>	<input type="checkbox"/>

Other please state _____

10. How often do you come in contact with tourists?

- 1- No contact at all
- 2- Some contact
- 3- Frequent contact

11. Do you support tourism in Ocho Rios?

- a. Yes
- b. No

12. Generally, for the residents, the benefits from tourism are more than the costs?

- a. Yes
- b. No

Thank you for taking the survey

APPENDIX C

Participant Information Sheet

PARTICIPANT INFORMATION OKLAHOMA STATE UNIVERSITY

Title: Residents' perception of their quality of life and tolerance of tourism as a diagnostic model for assessing the social carrying capacity in Small Island developing states: The case of Ocho Rios, Jamaica.

Investigator(s): Norene Brown-Roomes –Oklahoma State University, BSc. Hotel Management, MSc. Tourism and Hospitality Management.

Purpose: The purpose of the research study is to test a diagnostic model that measures the social carrying capacity (SCC) in small island developing states (SIDS) within a sustainable framework. It will be accomplished by examining the relationship between the resident's perception of their QOL, their tolerance level of tourism and the SCC. You must be 18 years or older to participate.

What to Expect: The survey for this research study is to be administered in and within a 15 mile or approximately 31km radius of the town of Ocho Rios, Jamaica. The population of interest is represented by all the residents who currently live in the area. Residents consist of male and female, employed, unemployed, self-employed, owners of large and small hotels, tour companies, taxi operators, craft vendors, attractions and other businesses and are adults 18yrs and older. Participation in this research will involve completion of one questionnaire consisting of four sections. The first section will ask about the benefits and costs of tourism to the community, the second section will ask about the personal benefits and costs of tourism, the third section will ask about your tolerance of tourism and the final section will ask for demographic information. You may skip any question that you do not wish to answer. You will be expected to complete the questionnaire once. It should take you about 20 minutes to complete.

Risks: There are no risks associated with this project which are expected to be greater than those ordinarily encountered in your daily life.

Benefits: There are no direct benefits to you.

Compensation: As an incentive for participating in the survey a drawing will be conducted at the end of the survey period. As a participant you may win a stay for two nights at a hotel in Jamaica. The participants eligible to enter the drawing are those that have completed the survey.

Your Rights and Confidentiality: Your participation in this research is voluntary. There is no penalty for refusal to participate, and you are free to withdraw your consent and participation in this study at any time.

Confidentiality: The records of this study will be kept private. Any written results will discuss group findings and will not include information that will identify you. Only the principal investigator and the advisor responsible for research oversight will have access to the records. Data will be destroyed three years after the study has been completed.

Contacts: You may contact the researcher at the following addresses and phone numbers, should you desire to discuss your participation in the study and/or request information about the results of the study: Principal investigator: Norene Brown-Roomes, Ph.D. candidate, School of Hospitality and Tourism Management, Oklahoma State University, Stillwater, OK 74078, 876-328-0601. Advisor: Catherine Curtis, Ph.D. Associate Professor, School of Hotel and Restaurant Administration, Oklahoma State University, Stillwater, OK 74078, 405-744-8484. If you have questions about your rights as a research volunteer, you may contact the IRB Office at 223 Scott Hall, Stillwater, OK 74078, 405-744-3377 or irb@okstate.edu

If you choose to participate: Please read the questions carefully, there is no right or wrong answer. Circle the answer which most reflects your feeling and/or opinion. The survey consists of 7 pages and 4 sections with questions printed on both sides of the paper. A verbal consent will be requested. Once the consent is given the survey will be administered. The respondent is to be given a participant information form with contact information for the PI and advisor, information about and purpose of the study.

APPENDIX D

Mutual Confidential Disclosure Agreement

This Agreement is dated the _____ and effective upon the date of first disclosure or the date of this Agreement, whichever occurs first, between and among (hereinafter “Client”) andand Company with office located at (hereinafter “Company) (.....and Company each are referred to herein as a “Party” and are collectively referred to herein as the “Parties”)

WHEREAS, has agreed to provide recruiting and administering of survey services to, during the course of which the Parties to this Agreement may wish to disclose to each other in oral and written form or in other medium, certain non-public confidential and proprietary information.

NOW, THEREFORE, in consideration of the mutual covenants and agreements contained herein and intending to be legally bound, the parties hereby agree as follows:

1. In connection with the Services, it may be necessary or desirable for a Party to disclose to the other certain non-public Confidential Information. For purposes of this Agreement, “Confidential Information” shall mean all non-public, confidential and proprietary information relating to the Parties, and the Services, which has been or will be disclosed by a Party orally or as set forth in writing, or contained in some other tangible form.
2. The receiving Party (.....) hereby agrees to hold in strict confidence and to use all reasonable efforts to maintain the secrecy of any all Confidential Information disclosed by the disclosing Party (.....) under the terms of this Agreement and may not disclose Confidential Information without the express, written prior consent of the disclosing Party, with the exception of the following:
 - (a) Information that, at the time of disclosure, is available to the public, or thereafter becomes available to the public by publication or otherwise, other than by breach of this Agreement by the receiving Party (.....)
 - (b) Information that the receiving Party (.....) can establish by prior record was already known to them or was in their possession of the time of disclosure

- (c) and was not acquired, directly or indirectly, from the disclosing Party (.....);
 - (d) Information that the receiving Party (.....) obtains from a third party; provided however, that such information was not obtained by said third party, directly or indirectly, from the disclosing Party (.....) under an obligation or confidentiality toward the disclosing Party (.....);
 - (e) Information that the receiving Party(.....) can establish was independently developed by their employees who had no contact with and were not aware of the content of the Confidential Information.
3. The receiving Party (.....) may disclose Confidential Information if compelled to do so by a court, administrative agency or other tribunal of competent jurisdiction, provided however, that in such case the receiving Party (.....) shall, immediately upon receiving notice that disclosure may be required, give written notice by facsimile and overnight mail to the providing Party so that the providing Party may seek a protective order or other remedy from said court or tribunal. In any event, the receiving Party (.....) shall disclose only that portion of the Confidential Information which, in the opinion of their legal counsel, is legally required to be disclosed and will exercise reasonable efforts to ensure that any such information so disclosed will be accorded confidential treatment by said court or tribunal through protective orders, filings under seal and other appropriate means.
 4. The receiving Party (.....) shall not use the Confidential Information for any purpose other than in connection with the Services. The receiving Party (.....) will only disclose Confidential Information to the advisor and committee members as applicable.
 5. The receiving Party shall take all reasonable steps, including, but not limited to, those steps taken to protect their own information, data or other tangible or intangible property that they regard as proprietary or confidential, to ensure that the Confidential Information is not disclosed or duplicated for any use of any third party, and shall take all reasonable steps to prevent agents (as applicable) who have access to the Confidential Information from disclosing or making unauthorized use of any Confidential Information, or from committing any acts or omissions that may result in a violation of this Agreement.
 6. Title to, and all rights emanating from the ownership of, all Confidential Information disclosed under this Agreement, or any material created with or

derived from the Confidential Information, shall remain vested in the receiving (.....)/ disclosing Party. Nothing herein shall be construed as granting any license or other right to use the Confidential Information other than as specifically agreed upon by the Parties.

7. Upon written request of the disclosing/receiving party, the receiving Party shall return promptly to the disclosing Party all materials and documents, as well as any data or other media (including computer data and electronic information), together with any copies thereof, or destroy same and, upon request of the disclosing Party, provide a certificate of destruction.
8. All obligations established hereunder shall expire six (6) months from the date of disclosure.
9. The receiving Party agrees that the disclosure of Confidential Information without the express consent of the disclosing Party will cause irreparable harm to the disclosing Party, and that any breach or threatened breach of this Agreement by the receiving Party will entitle the disclosing Party to injunctive relief, in addition to any other legal remedies available, in any court or competent jurisdiction.
10. This Agreement shall be construed under and governed by the substantive laws of Jamaica, without giving effect to the conflicts or laws provision thereof. Any disputes arising between the Parties relating to this Agreement shall be subject to the exclusive jurisdiction and venue of the courts located in the City of Kingston, Jamaica, and the Parties hereby waive any objection that they may have now or hereafter to the laying of venue of any proceedings in said courts and to any claim that such proceedings have been brought in an inconvenient forum, and further irrevocable agree that a judgment or order in any such proceedings shall be conclusive and binding upon each of them and may be enforced in the courts of any other jurisdiction.
11. This Agreement constitutes the entire agreement among the Parties as to the subject matter contained herein, shall supersede any other prior or contemporaneous arrangements as to the Confidential Information, whether written or oral, and may be modified in writing only.

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement as of the day and year first above written.

By_____

By_____

Name_____

Name_____

Designation:_____

Designation:_____

APPENDIX E

Recruitment Script

Do you live in Ocho Rios or its environs? Are you 18 yrs or older? We would like to know about your feelings towards tourism, the ways it has affected your quality of life and if you want to see tourism grow in Ocho Rios. This will only require about 20 minutes of your time. There are no right or wrong answers, so please give the answer that most reflects your feelings or opinions.

In addition, I will also request some demographic information. Names and e-mail addresses will be collected only for the purpose of awarding the prize for completing the survey. Your information can only be accessed by the research team and will remain private. All data collected in this study will remain anonymous and only group results will be reported. The risks associated with participating in this study are minimal.

Thank you for your help.



APPENDIX F
IRB Approval Letter

Oklahoma State University Institutional Review Board

Date: Tuesday, November 21, 2017
IRB Application No HE1755
Proposal Title: Residents' perception of their quality of life and tolerance of tourism as a diagnostic model for assessing the social carrying capacity in Small Island Developing States: The Case of Ocho Rios, Jamaica
Reviewed and Processed as: Exempt
Status Recommended by Reviewer(s): Approved Protocol Expires: 11/20/2020
Principal Investigator(s):
Norene Brown-Roomes Catherine Curtis
210 HES
Stillwater, OK 74078 Stillwater, OK 74078

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

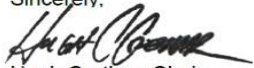
The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

- 1Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval. Protocol modifications requiring approval may include changes to the title, PI advisor, funding status or sponsor, subject population composition or size, recruitment, inclusion/exclusion criteria, research site, research procedures and consent/assent process or forms.
- 2Submit a request for continuation if the study extends beyond the approval period. This continuation must receive IRB review and approval before the research can continue.
- 3Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of the research; and
- 4Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Dawnnett Watkins 219 Scott Hall (phone: 405-744-5700, dawnnett.watkins@okstate.edu).

Sincerely,



Hugh Crethar, Chair
Institutional Review Board

APPENDIX G

Citi Completion Report



Completion Date 31-Aug-2016
Expiration Date 31-Aug-2019
Report ID 19925038

This is to certify that:

Norene Brown-Roomes

Has completed the following CITI Program course:

Human Research (Curriculum Group)
IRB Social, Behavioral, & Educational (SBE) Researchers (Course Learner Group)
2 - Refresher Course (Stage)

Under requirements set by:

Oklahoma State University



Verify at www.citiprogram.org/verify/?w3fb4ecf0-4b74-4b43-bbd6-c7b320d19023-19925038

APPENDIX H

Table 35

Factor Analysis Maximum Likelihood with Varimax Rotation

	Factor					
	1	2	3	4	5	6
pb1 Tourism improves the look of the community			.315	.209		
pb2 The water supply is better in Ocho Rios because of tourism			.520			
pb3 The community has better roads because of tourism			.346	.215		.269
pb5 There is Less crime because of tourism	.306		.232	.217		.227
pb6 Garbage collection in my community is better because of tourism.			.406			
pb7 Tourism attracts 'undesirables/unwanted' to the area						
pb8 Tourism causes traffic congestion in Ocho Rios					.508	
pb9 Because of tourism there is more noise in Ohio Rios					.701	
pb10 Tourism in Ocho Rios causes more garbage and fumes.					.637	
pb11 Tourism takes away the best beaches from residents		.301			.324	-.295
pb12 Tourism causes overcrowding at the beach.					.574	

pb13 There are more places to shop in Ocho Rios because of tourism	.222			.512	
pb14 Tourism brings more restaurants to Ocho Rios				.705	
pb15 There is more entertainment in Ocho Rios because of tourism.				.773	
pb16 Tourism makes the cost of entry to places of fun too high for the residents		.366			.310
pb17 The living conditions of the residents is better because of tourism	.436		.209	.268	.293
pb18 The residents have more money to spend because of tourism	.450				
pb19 The number of jobs in Ocho Rios have increased because of tourism	.401		.203	.263	
pb20 There are more business owned by local residents because of tourism				.222	
pb21 The price of land, goods and services have increased because of tourism.		.632			
pb22 The price of services has increased because of tourism		.794			.391
pb23 The price of goods have increased because of tourism		.808			.385
pb24 Due to tourism rent is higher in Ocho Rios		.690			-.343

pb25 Due to tourism the cost of buying a house in Ocho Rios is much more than surrounding areas	.637				-.396
PPB1 My personal safety is better because of tourism	.390	.291			.283
PPB2 The health services available to me are better (good) because of tourism	.470	.381			.332
PPB3 My water supply is better due to tourism	.345	.832			
PPB4 My electricity supply is better because of tourism	.349	.749			
PPB5 I have more spare time because of tourism	.368	.248			.300
PPB6 I have more fun activities and cultural activities to enjoy because of tourism	.428		.353		
PPB7 As a result of tourism I have easier access to the internet	.592				
PPB8 I have less private life because of the tourists in the area	.282	.212			
PPB9 The money I make has increased because of tourism	.677				
PPB10 My relaxation time (personal quality of life) has improved because of tourism.	.618				
PPB11 My Family's income is secure because of tourism	.740				
PPB12 Generally, tourism has made my personal life better	.855				

PPB13 I have been living more comfortably because of tourism	.813				
PPB14 I can get more education because of tourism	.662				
PPB15 More employment is available to me because of tourism	.444		.209		
PPB16 The cost of renting and buying a house is more expensive in and near to Ocho Rios because of tourism		.570			-.399
PPB17 The cost of goods and services is higher in Ocho Rios because of tourism		.670			
PPB18 I am satisfied with the improvement tourism has brought to my life personally.	.677				
Toleranceoftourismq4 The number of foreign Employees in hotels is increasing(growing)					.310
Toleranceoftourismq6 The number of foreign Owned hotels is growing					.409

Extraction Method: Maximum Likelihood.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 8 iterations.

APPENDIX I

Table 36

Factor Analysis Maximum Likelihood with Promax Rotation

	Factor					
	1	2	3	4	5	6
PPB12 Generally, tourism has made my personal life better	.941					
PPB13 I have been living more comfortably because of tourism	.860			.166		
PPB11 My Family's income is secure because of tourism	.814		-.144	.132		
PPB9 The money I make has increased because of tourism	.749					
PPB14 I can get more education because of tourism	.740			-.158		
PPB18 I am satisfied with the improvement tourism has brought to my life personally.	.727	-.169		-.102		
PPB7 As a result of tourism I have easier access to the internet	.650	.182				
PPB10 My relaxation time (personal quality of life) has improved because of tourism.	.578			.163		

pb18 The residents have more money to spend because of tourism	.463			.135		
PPB15 More employment is available to me because of tourism	.404		.124	-.192	.153	-.161
PPB6 I have more fun activities and cultural activities to enjoy because of tourism	.364	.135			.321	
pb19 The number of jobs in Ocho Rios have increased because of tourism	.350			-.106	.244	
PPB8 I have less private life because of the tourists in the area	.272	.109	.209		-.220	.150
Toleranceoftourismq5 The number of tourist in Ocho Rios should continue to increase	.209		.140	-.129		
pb23 The price of goods have increased because of tourism	-.119	.867		.388		
pb22 The price of services has increased because of tourism		.834	-.110	.356		
PPB17 The cost of goods and services is higher in Oho Rios because of tourism		.675				
pb24 Due to tourism rent is higher in Ocho Rios		.665		-.341		
pb21 The price of land, goods and services have increased because of tourism.		.631				
pb25 Due to tourism the cost of buying a house in Ocho Rios is much more than surrounding areas	.151	.608		-.380		

PPB16 The cost of renting and buying a house is more expensive in and near to Ocho Rios because of tourism		.527	.144	-.357	
pb16 Tourism makes the cost of entry to places of fun too high for the residents		.178			.168
PPB3 My water supply is better due to tourism			.939		-.125
PPB4 My electricity supply is better because of tourism			.850		-.142
pb2 The water supply is better in Ocho Rios because of tourism	-.106		.601		
pb6 Garbage collection in my community is better because of tourism.			.403	.105	
pb3 The community has better roads because of tourism	-.201		.363	.280	.181
pb1 Tourism improves the look of the community		-.138	.290		.214
Toleranceoftourismq6 The number of foreign Owned hotels is growing				.516	
pb4 The Hospital and Clinics are better because of tourism	.157	-.134	.264	.415	
Toleranceoftourismq4 The number of foreign Employees in hotels is increasing(growing)	-.142			.382	
pb17 The living conditions of the residents is better because of tourism	.327			.365	.204
PPB2 The health services available to me are better (good) because of tourism	.301		.334	.350	

pb11 Tourism takes away the best beaches from residents		.230							
Toleranceoftourismq2 Residents should be free to talk and hang out with tourists									
PPB1 My personal safety is better because of tourism	.243	.122	.217	.309					
PPB5 I have more spare time because of tourism	.245		.204	.308					
Toleranceoftourismq1 The government and other tourism stakeholders' treatment of tourists is better than locals(residents)									
pb5 There is Less crime because of tourism	.146		.209	.261	.131				
pb7 Tourism attracts 'undesirables/unwanted' to the area		.108							.215
Toleranceoftourismq3 Residents have difficulty entering hotels				.146	.131				
pb15 There is more entertainment in Ocho Rios because of tourism.	-.108				.809				
pb14 Tourism brings more restaurants to Ocho Rios					.760				
pb13 There are more places to shop in Ocho Rios because of tourism	.147		-.102		.552				
pb20 There are more business owned by local residents because of tourism				.190	.211				
pb9 Because of tourism there is more noise in Ohio Rios									.722

pb10 Tourism in Ocho Rios causes more garbage and fumes.			.109	.618
pb8 Tourism causes traffic congestion in Ocho Rios			-.299	.556
pb12 Tourism causes overcrowding at the beach.	-.115			.551

Extraction Method: Maximum Likelihood.

Rotation Method: Promax with Kaiser Normalization.

a. Rotation converged in 7 iterations.

APPENDIX J

Table 37

Items Removed after Varimax Rotation

Item number	Item removed
pb1	Tourism improves the look of the community
pb7	Tourism attracts “undesirables/unwanted” to the area
pb8	Tourism causes traffic congestion in Ocho Rios
pb10	Tourism in Ocho Rios causes more garbage and fumes
pb20	There are more businesses owned by local residents because of tourism
PPB1	My personal safety is better because of tourism
PPB8	I have less private life because of tourism
T of tourq1	The government and other stakeholders’ treatment of tourist is better than the residents
T of tourq3	Residents have difficulty entering hotels
T of tourq5	The number of tourists in Ocho Rios should continue to increase

APPENDIX K

Table 38

Rotated Structure Matrix for Maximum Likelihood Analysis with Varimax Rotation of a Six Factor Solution

Items	Rotated Factor Coefficients						Communalities
	Factor 1 (QOL)	Factor 2 (PERTOUR)	Factor 3 (PERBEN)	Factor 4 (BUTALC)	Factor 5 (DOXIRR)	Factor 6 (TOLTOU)	
pb1			.315	.209			.199
pb2			.520				.324
pb3			.346	.215		.269	.249
pb5	.306		.232	.217		.227	.247
pb6			.406				.245
pb7							.106
pb8					.508		.304
pb9					.701		.510
pb10					.637		.456
pb11		.301			.324	-.295	.291
pb12					.574		.385
pb13	.222			.512			.358
pb14				.705			.593
pb15				.773			.669

pb16		.366		.310		.285
pb17	.436		.209		.268	.293
pb18	.450					.248
pb19	.401		.203	.263		.293
pb20				.222		.111
pb21		.632				.429
pb22		.794			.391	.810
pb23		.808			.385	.812
pb24		.690			-.343	.609
pb25		.637			-.396	.602
PPB1	.390		.291		.283	.360
PPB2	.470		.381		.332	.479
PPB3	.345		.832			.833
PPB4	.349		.749			.694
PPB5	.368		.248		.300	.288
PPB6	.428			.353		.366
PPB7	.592					.403
PPB8	.282		.212			.175
PPB9	.677					.513
PPB10	.618					.462
PPB11	.740					.577
PPB12	.855					.760
PPB13	.813					.720

PPB14	.662			.482
PPB15	.444	.209		.322
PPB16		.570		.524
<hr/>				
PPB17		.670		.477
PPB18	.677			.517
TOLQ				.109
4				
TOLQ				.210
6				
<hr/>				

Note: major factor loadings for each item are in bold

APPENDIX L

Table 39

Post Hoc Tests for Quality of Life and Dependence on Tourism

Multiple Comparisons

Dependent Variable: QoL Quality of Life Scale

	(I) Dependence	Dependence	(J) Dependence	Dependence	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
	Dependence on tourism	Dependence on tourism	on tourism	on tourism				Lower Bound	Upper Bound
Tukey HSD	0 not dependent on tourism	Dependence on tourism	1 partially dependent on tourism	Dependence on tourism	-.33470*	.07818	.000	-.5187	-.1507
			2 dependent on tourism	Dependence on tourism	-.90301*	.09544	.000	-1.1277	-.6784
	1 partially dependent on tourism	Dependence on tourism	0 not dependent on tourism	Dependence on tourism	.33470*	.07818	.000	.1507	.5187
			2 dependent on tourism	Dependence on tourism	-.56831*	.09003	.000	-.7802	-.3564
	2 dependent on tourism	Dependence on tourism	0 not dependent on tourism	Dependence on tourism	.90301*	.09544	.000	.6784	1.1277
			1 partially dependent on tourism	Dependence on tourism	.56831*	.09003	.000	.3564	.7802
Games-Howell	0 not dependent on tourism	Dependence on tourism	1 partially dependent on tourism	Dependence on tourism	-.33470*	.07614	.000	-.5141	-.1553
			2 dependent on tourism	Dependence on tourism	-.90301*	.08852	.000	-1.1126	-.6934
	1 partially dependent on tourism	Dependence on tourism	0 not dependent on tourism	Dependence on tourism	.33470*	.07614	.000	.1553	.5141
			2 dependent on tourism	Dependence on tourism	-.56831*	.09050	.000	-.7824	-.3542
	2 dependent on tourism	Dependence on tourism	0 not dependent on tourism	Dependence on tourism	.90301*	.08852	.000	.6934	1.1126
			1 partially dependent on tourism	Dependence on tourism	.56831*	.09050	.000	.3542	.7824

*. The mean difference is significant at the 0.05 level

VITA

Norene Mellissa Brown-Roomes

Candidate for the Degree of

Doctor of Philosophy

Dissertation: RESIDENTS' PERCEPTION OF THEIR QUALITY OF LIFE AND TOLERANCE OF TOURISM AS A DIAGNOSTIC MODEL FOR ASSESSING THE SOCIAL CARRYING CAPACITY OF SMALL ISLAND DEVELOPING STATES: THE CASE OF OCHO RIOS, JAMAICA.

Major Field: Human Sciences

Biographical:

Education:

Completed the requirements for the Doctor of Philosophy in Human Sciences at Oklahoma State University, Stillwater, Oklahoma in December, 2018.

Completed the requirements for the Master of Science in Hospitality Management at University of the West Indies, Mona, Kingston, Jamaica in 2000.

Completed the requirements for the Bachelor of Science in Hotel Management at University of the West Indies, Mona, Kingston, Jamaica in 1992.

Experience:

February - April 2016: Graduate Research Associate, Oklahoma State University School of Hospitality and Tourism Management.

2000 – Present: Lecturer, University of Technology, Jamaica School of Hospitality and Tourism Management (SHTM).

March 2017- Present: School Curriculum Coordinator, University of Technology, Jamaica School of Hospitality and Tourism Management (SHTM).

Professional Memberships:

Graduate Students in Human Sciences organization (GSHS) at Oklahoma State University