



## RESEARCH ARTICLE

**Tourism Impacts and Tourism-Related Stress: The Rural Tourism Destinations in Thailand**Supaporn Prasongthan<sup>1</sup>, Phobphison Phob-Udom<sup>2\*</sup>, Angkana Yaiyong<sup>3</sup><sup>1,2,3</sup> Faculty of Humanities, Kasetsart University, Bangkok, Thailand

ARTICLE INFO	ABSTRACT
Received: May 13, 2024	The development and management of tourism are greatly influenced by local communities, which can have both positive and bad effects on changes in rural areas. This study examined various facets of tourism impacts in rural tourism setting, explore the relationship between tourism impacts and tourism-related stress and investigate different stages of tourism development as a moderating factor in resident's perception of their tourism-related stress. The study utilized a quantitative method through a self-administered survey. Four rural tourism destinations were selected for exploration and development stages, with 490 samples. Three dimensions of tourism impact were identified by the EFA results; Community living environment (LE), Community participation and preservation (PP) and Community recreation and safety (RS). There was a significant and positive relationship between LE and tourism-related stress, as indicated by SEM. The MGA findings indicated significant difference in relationship between exploration stage and development stage of rural tourism destinations in relationship between tourism impacts and tourism-related stress. This study highlighted and made more understanding how rural tourism development can be the causes of residents' stresses. Tourism planning in early-stage development should be identified to keep control over rural tourism before the destination becomes popular and ensure the sustainable development of the community.
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**INTRODUCTION**

Tourism has become a significant contributor to global trade, accounting for 7% of total trade and surpassing economic growth in the past decade (World Tourism Organization, 2020). The report preview from Future Market Insights forecasts the rural tourism market to increase steadily at 6.8% between 2023-2033 as travelers are now becoming aware of unique and exotic culture to enhance the local experiences. In line with UNWTO that designated 2020 as the year of tourism and rural development by promoting the role of tourism in preserving natural and cultural heritage and creating new opportunities for jobs and economic activities in rural areas. As rural tourism has beneficial to rural areas, many countries intend to use rural tourism development as a development policy or strategic of their community (Ionelaa et al, 2015; Liu et al 2023; Mulyani et al, 2022; Yang et al, 2021). Rural tourism is tourism that takes place in rural areas with low population density and distinctive traditional lifestyles. Tourism activities in rural tourism includes a wide range of products and services that are usually built on specific experiences and linked to community's resources. Rural tourism encompasses ecotourism, community-based tourism, homestay tourism, and agrotourism, with the ultimate goal of generating income for local communities, considering the well-being of the villagers and preserving the culture and natural resources of that community.

Host communities, as one of important stakeholders in tourism development, perceive positive and negative impacts of tourism which direct into their emotion that could lead to the support toward tourism development. As suggested by social exchange theory (SET) that proposed social behavior as exchange which relationship is created through a process of cost-benefit analysis. The residents in the host community support tourism in exchange for economic and social benefits. Different phases of growth in rural tourism, beginning with small scales resident owning business to complex business with outsiders. The Tourist Area Lifecycle (TALC) concept explains how destinations evolve through many stages, such as exploration, involvement, development, consolidation, stagnation, and subsequent stagnation, rejuvenation, or decline (Butler, 1980). Each evolution stage, residents experience different types of tourism impacts, emotions and stress (Jordan et al, 2019; Yao et al, 2021). Locals' opinions regarding the development of tourism are quite context-specific and vary based on circumstances (García et al, 2015; Tosun, 2002). Therefore, this study attempted to examine various facets of tourism impacts in rural tourism setting, explore the relationship between tourism impacts and tourism-related stress and investigate different stages of tourism development as a moderating factor in resident's perception of their tourism-related stress. Two stages of tourism development were chosen in this study: exploration stage and development stage of rural tourism destinations. Understanding the relationship among tourism impact, tourism-related stress and level of tourism development can denote to tourism policymakers, destination managers, head of community to implement rural tourism sustainably that maximize benefits to residents.

## LITERATURE REVIEW

### Tourism impacts

The study of tourism impacts both positive and negative has been researcher interest worldwide since 1960s with much emphasis on economic growth (Kim 2002). Later from 1980s, the impacts of tourism on socio-cultural and environment have caught academic attention (Bryden, 1973; Butler, 1980). Several research examining the impact of tourism on rural tourism have shown that tourism stimulates economic development in rural areas, improves people's quality of life, and expands the range of recreational activities offered to locals (Andereck et al, 2005; Byrd et al, 2009; Hassan et al, 2022; Yang et al, 2021). Rural tourism also supports community participation and empowerment (Alim et al, 2021; Setokoe and Ramukumba, 2022). In terms of environmental impacts, rural tourism development gains residents' awareness and preservation of natural resources (Andereck et al, 2005; Hassan et al, 2022; Liu et al, 2023; Villanueva-Álvaro et al, 2017). However, the negative impact was also affected to several rural destinations such as traffic congestion, pollution and solid waste problems (Yu et al, 2018). As one of the key players in the growth of the tourist industry, host communities see both positive and negative effects from tourism that affect their stress levels and emotion (Jordan et al, 2019; Yao et al, 2021). Unfortunately, there is a scarcity of research on the connection between stress and tourism, as well as the effects of tourism at various phases of growth in rural areas. The study by Long et al (1990) and Smith and Krannich (1998) revealed that locals perceive the benefits and drawbacks of tourism in relation to the increasing stages of tourism development. On the other hand, Andriotis and Vaughan (2003) discovered that the stage of development is not associated with residents' attitude. Therefore, more evidence is needed to understand residents' perception toward tourism impacts in different tourism development stages.

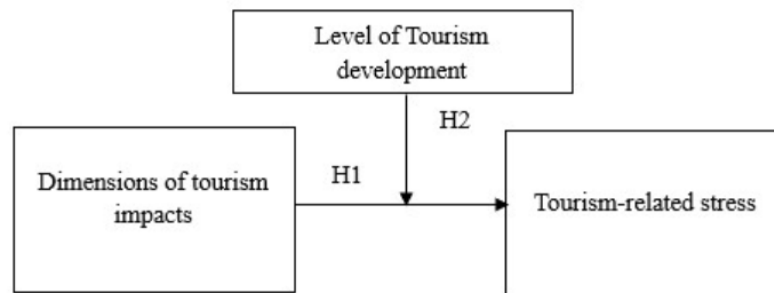
### Stress in tourism

The World Health Organization defines stress as a condition of anxiety or mental strain brought on by a difficult situation. Stress is a natural human response that prompts us to address challenges and threats in our lives. As a cognitive process, the experience of stress is subjective, and ones could experience stress differently based on their cultural backgrounds (Jordan and Vogt, 2017; Yao et al, 2021). In tourism context, stress research was focused on three main groups: employee in tourism organizations, tourists and host communities (Jordan et al, 2021). In rural tourism development,

local communities have a very important role in planning, operating and management activities to maximize the value of social, environmental and economic benefits. Given that tourism development could lead to both positive and negative changes in communities which affect the emotional responses of all residents in rural settings. A growing body of research give attention toward stress and stress coping strategies causing by tourism development from residents and tourist perspectives (Chen et al, 2016; Jordan et al, 2021; Nghiem-Phu and Shibuya,2021; Seo et al, 2021; Yao et al, 2021, Zhu et al, 2020). Previous studies have illustrated that tourism impacts effect on residents' emotion, tourism-related stress (Jordan et al, 2015; Jordan et al, 2019; Seo et al, 2021; Yao et al, 2021). However, limited research has conducted relationship between the tourism-related stress and tourism impact in ASEAN countries and compared the residents' perceptions toward stress and tourism impact in different levels of tourism development destination. Considering the previously review literature, two research hypotheses and conceptual framework were proposed as follows.

Hypothesis 1 Dimensions of tourism impacts are associated with residents' perception toward their tourism-related stress.

Hypothesis 2 There is a significant difference between the development-stage and exploration stage of tourism development between tourism impacts and residents' perception toward their tourism-related stress.



**Figure 1. Conceptual framework**

## RESEARCH METHODS

### Research site and study contexts

Thailand is a Southeast Asian country with famous tourist destinations due to its natural resources and cultural importance, e.g., tropical beaches, historical sites, famous authentic Thai cuisine, and more. As a developing country, tourism industry has become a great importance to the country's economy and tend to be one important sector contributed GDP in Thailand. Based on the notion that tourism brings prosperity and benefits to the community, resulting in participation in the development, preservation of local wisdom, and the environment, the idea of using tourism as a tool for community development and environmental conservation has been continuously used in Thailand. In this study, authors focus on the tourist destinations in non-urban settings. Based on the rural community/village report in 2023 by community development department, Thailand, there were 70,460 villages with different characteristic such as traditional community, hybrid rural community and semi-urban community. In terms of rural tourism destinations, there were more than 3,200 communities participating in the project called One Tambon One Product: OTOP Nawatwithi community tourism villages. Aiming to encourage smaller-scale rural tourism by attracting outsiders to experience the charm of the villages and in turn the tourism can protect their natural and cultural assets while also providing revenue for the locals (Na Phayap et al, 2024).

Rural tourism destinations can be classified according to their various levels of development. The study of Butler (1980), The six stages of tourism evolution in a place are described by the Tourist Area Lifecycle (TALC), which includes exploration, involvement, development, consolidation, stagnation, and finally experienced stagnation, rejuvenation, or decline. Each evolution stage, residents experience different types of tourism impacts, emotions and stress (Jordan et al, 2019; Yao et al, 2021). This study, we investigate two different stages of TALC; exploration and development. Using a life-cycle model, the exploration stage implies the destination that has a small number of tourists with low accessibility and little or no facilities for visitors. The area's cultural diversity and natural beauty may have drawn tourists to the destination, however only a few tourists may visit, and they tended to plan their own journey. Tourists' presence has no significant economic and social benefit to the community. Two rural tourism destinations, Hua Pha community and Bang Phung community, were chosen as the study sites where tourism has just underway, and residents derive very little or no economic gain from their interactions with tourists. The development stage of rural destinations indicates an increase in the number of tourists afterward. The rural destinations become well known, new amenities and facilities are invested such as accommodations and restaurants in some cases supported by man-made facilities. At this level, exceeding carrying capacity and physical changes that unfit with the values of the local are witnessed. Chiang Kan community and Phu Tub Berk community were chosen as study sites due to their recognition as popular destinations for rural tourism and overtourism phenomenon.

### **Research Instrument**

This research employed a quantitative approach to explore impacts of tourism, to examine the relationship among tourism impacts and residents stress between exploration stage and development stage of rural tourism destinations. A self-administered survey was conducted on site and used to determine the residents' perception toward tourism impacts and their tourism-related stress. The questionnaire starts with questions related to respondents' profile. Following with thirty-seven items involving perceived tourism impacts which altered from Andereck and Nyaupane (2010). The third section consisted of six items of tourism-related stress from Jordan et al (2019). All items were measured on a 1-5 Likert scale to identify how they perceived tourism impacts (1= very negatively to 5=very positively) and how stressful they experience from tourism in their community (1=not stressful to 5 extremely stressful). The questionnaire was verified by academic experts in tourism management and linguistics to ensure that questions were properly translated from English to Thai with simple and straightforward sentences.

### **Data collection and data analysis**

The population of this study was residents who live in four communities. The paper-based survey questionnaire was distributed through convenience sampling from February 2023-April 2023 with 490 samples retrieved from four communities. The returned questionnaire was screened for the missing data and then coded for the data entry process with a total of 424 samples (86.53% response rate), 214 samples for developing-stage tourism destinations and 210 sample for exploration-stage tourism destinations, which adequate for structural equation modeling analysis (SEM) as stated by Kline (2016) that sample size over 200 can be considered large for a SEM analysis. The respondents' profiles were described using descriptive statistics, separating into three groups; overall, development stage and exploration stage of tourism development (see Table 1). The test for correlation and multicollinearity was then examined and eliminated variables with high (above.80) and low correlation coefficient (below .30). Ten variables of tourism impacts were removed and continued the next step. The study utilized Exploratory Factor Analysis (EFA) to identify the underlying factors influencing tourism impacts. Confirmatory factor analysis, or CFA, was performed to assess the validity and reliability of the study on tourism impacts and stress related to tourism. Average variance extracted (AVE) and composite reliability (CR) with threshold values above 0.5 and

0.7 were suggested by Hair et al. (2006) to evaluate convergent validity. Discriminant validity was also computed using inter-factor correlation values of the constructs with 95% of CICFA. The measurement and structural models were tested, with goodness of fit indices and model fit values suggesting CMIN/DF below 3, CFI above 0.90, TLI above 0.90, and RMSEA below 0.05 (Gefen et al., 2000). Multigroup analysis was applied to investigate different stages of tourism development as a moderation role of resident's perception toward their tourism-related stress.

**Table 1: A comparison of respondent's profiles**

Variable	Description	Overall (n = 424)		Developing stage (n=214)		Exploration stage (n=210)	
		Frequency	%	Frequency	%	Frequency	%
Gender	Male	148	34.9	66	30.8	82	39.0
	Female	262	61.8	134	62.6	128	61.0
	LGBTQ+	14	3.3	14	6.5	0	0
Age	18-25	62	14.6	31	14.5	31	14.8
	26-35	96	22.6	66	30.8	30	14.3
	36-45	85	20.0	57	26.6	28	13.3
	46-55	79	18.6	31	14.5	48	22.9
	More than 55	102	24.1	29	13.6	73	34.8
Education	High school or below	260	72.1	125	58.4	135	64.3
	Diploma	29	6.8	10	4.7	19	9.0
	Bachelor	121	28.5	70	32.7	51	24.3
	Postgraduate	14	3.3	9	4.2	5	2.4
Status	Single	155	36.6	70	32.7	85	40.5
	Marriage	243	57.3	127	59.3	116	55.2
	Divorce	26	6.1	17	7.9	9	4.3

Source: compiled by the authors based on research results.

## RESULTS

Respondent profiles were illustrated in Table 1 separated into 3 sections: overall, developing stage destinations and exploration stage destinations. The data indicates that more than half of respondents from both groups were female with marriage status and acquired educational degree from high school or below. The study involved four phases: Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), Structural Equation Modeling (SEM), and Multigroup Analysis (MGA) to achieve its research objectives. To determine underlying dimensions of tourism impact in rural setting, EFA was performed with Varimax rotation and factor extraction was employed. The statistical analysis revealed that the data was suitable for factor analysis (KMO.940 and Bartlett's test of sphericity  $p < .000$ ), with all factors having eigenvalues greater than 1. Three factors for the tourism impacts were suggested which explained 74% of the total variation in the data. Factor 1, consisted of 9 items and labelled as community living environment (LE) which assesses residents' perception

toward their living conditions and stability such as political environment, city services, public transportation, controlled traffic, litter control zoning and land use etc. Factor 2, community participation and preservation (PP), consists of 11 items related to the feeling and action of residents related to tourism movement such as understanding different culture, preserving way of life, involving in local conservation including culture and natural heritage, wildlife habitats and natural areas etc. The last factor, community recreation and safety (RS) with five items assess the recreational opportunities, safety and security situations in areas. (See Table 2) All three underline impact dimensions could represent socio-cultural and environmental impact of tourism. Surprisingly, all items of economic impact, e.g. strong and diverse economy, enough good jobs for residents, plenty of retail shops and restaurants, were removed due to low correlation coefficient which eliminates the dimension of economic impact.

An examination of mean value in Table 3 revealed that residents in rural tourism destinations generally expressed positive views toward three factors of tourism impacts (Mean 3.64, 4.10 and 3.81 respectively) with less tourism-related stress (Mean 1.83). The research conducted by García et al. (2015) indicates that the majority of citizens have a positive attitude toward tourism impact, suggesting support for the growth of the tourism industry. A comparison of mean value between residents who live in development stage and exploration stage of tourism development were also exposed. The results specified that residents who live in exploration stage of rural destinations perceived more positive views toward tourism impact toward tourism in community living environment (LE) and community recreation and safety (RS) than residents in development-stage destination, which confirming prior findings by Seo et al (2021) that tourism effect on daily lives of individuals in tourism destination where the numbers of visitor grow. It can be frustrating for them to be part of crowding and overtourism. Whilst residents in exploration stage destinations had less favourable opinion on the positive impact on community participation and preservation due to low number of visitors and the assumed benefits of tourism may be insignificant (Uysal et al, 2012). Interestingly, community participation and preservation (PP) factor was scored as the highest mean value in both tourism development stages. This could be explained as rural residents perceived tourism gain their opportunities to involve in community and build their awareness of community heritage. In terms of tourism-related stress, the mean score results also suggest that residents who live in exploration-stage tourism destination have less stress compared with another group (see Table 3). The results of the study comply with Madrigal (1993) that resident in development areas perceived impact more heavily than resident of less developed cities.

**Table 2: Results of CFA and the reliability for convergent validity of tourism impacts**

Constructs and Items	Loading	CR	AVE
<b><i>Community living environment (LE)</i></b>		.98	.72
IMP1	0.868		
IMP3	0.868		
IMP4	0.921		
IMP5	0.931		
IMP6	0.813		
IMP7	0.815		
IMP10	0.877		
IMP12	0.832		
IMP13	0.682		
<b><i>Community participation and preservation (PP)</i></b>		.90	.61
IMP15	0.798		
IMP16	0.815		

Constructs and Items	Loading	CR	AVE
IMP17	0.784		
IMP18	0.847		
IMP19	0.784		
IMP20	0.789		
IMP21	0.771		
IMP23	0.77		
IMP24	0.766		
IMP25	0.733		
IMP26	0.744		
<b>Community recreation and safety (RS)</b>		.95	.67
IMP33	0.686		
IMP34	0.886		
IMP35	0.89		
IMP36	0.836		
IMP37	0.774		
<b>Tourism-related Stress (ST)</b>		.97	.74
STR1	0.842		
STR2	0.822		
STR3	0.846		
STR8	0.908		
STR11	0.886		
STR14	0.856		

Source: compiled by the authors based on research results.

**Table 3: Descriptive analysis of mean values**

Constructs	Development stage (n = 214)		Exploration stage (n = 210)		Overall (n = 424)	
	Mean	SD	Mean	SD	Mean	SD
Community living environment (LE)	3.29	1.11	4.00	.68	3.64	.99
Community participation and preservation (PP)	4.12	.65	4.07	.64	4.10	.64
Community recreation and safety (RS)	3.66	.94	3.96	.69	3.81	.84
Tourism-related stress (ST)	1.97	.98	1.69	.77	1.83	.89

Note: The mean values are calculated using a 5-point Likert scale.

Source: compiled by the authors based on research results.

Second phase, the construct validity was assessed using confirmatory factor analysis (CFA) based on the maximum likelihood technique. The results of goodness of fit statistic revealed that measurement model had a good fit with empirical data, and all indices meet the recommended cutoff values: CMIN/DF 2.121; CFI .97; TLI .90; RMSEA .05. The convergent validity test was conducted using average variance extracted (AVE) and composite reliability (CR). The AVE values ranged from .61-

.74 which means latent construct accounts more than half of the indicator variance (Fornell and Larcker, 1981). The CR values ranged from .90-.98 which were greater than 0.7 as recommended by Hir et al (2010). In other words, the total error variance of this study consists of less than 10% of the variance of the latent variable. As a result, all constructs in measurements models established convergent validity (See Table 2). An alternative approach for assessing discriminant validity was computed using inter-factor correlation values of the constructs with 95% of CI as recommended by Ronkko and Cho (2022). The upper and lower bound values were between -.049 to .0438 which is lower than .80, suggesting constructs are not highly related and measure different concepts with others (See Table 4). It can be concluded that discriminant validity has been achieved for all constructs and can be assembled for SEM analysis.

**Table 4: The Assessment of Discriminant Validity**

	LE	PP	RS	ST
LE	1	<i>(.216, .045)</i>	<i>(.438, .286)</i>	<i>(.147, .033)</i>
PP		1	<i>(.332, .210)</i>	<i>(.024, -.070)</i>
RS			1	<i>(.085, -.049)</i>
ST				1

Note Values below the diagonal (italicized) represent the correlations between the latent constructs and (in square parentheses) represent the correlation values of the latent constructs at the 5% upper / lower bound.

Source: compiled by the authors based on research results.

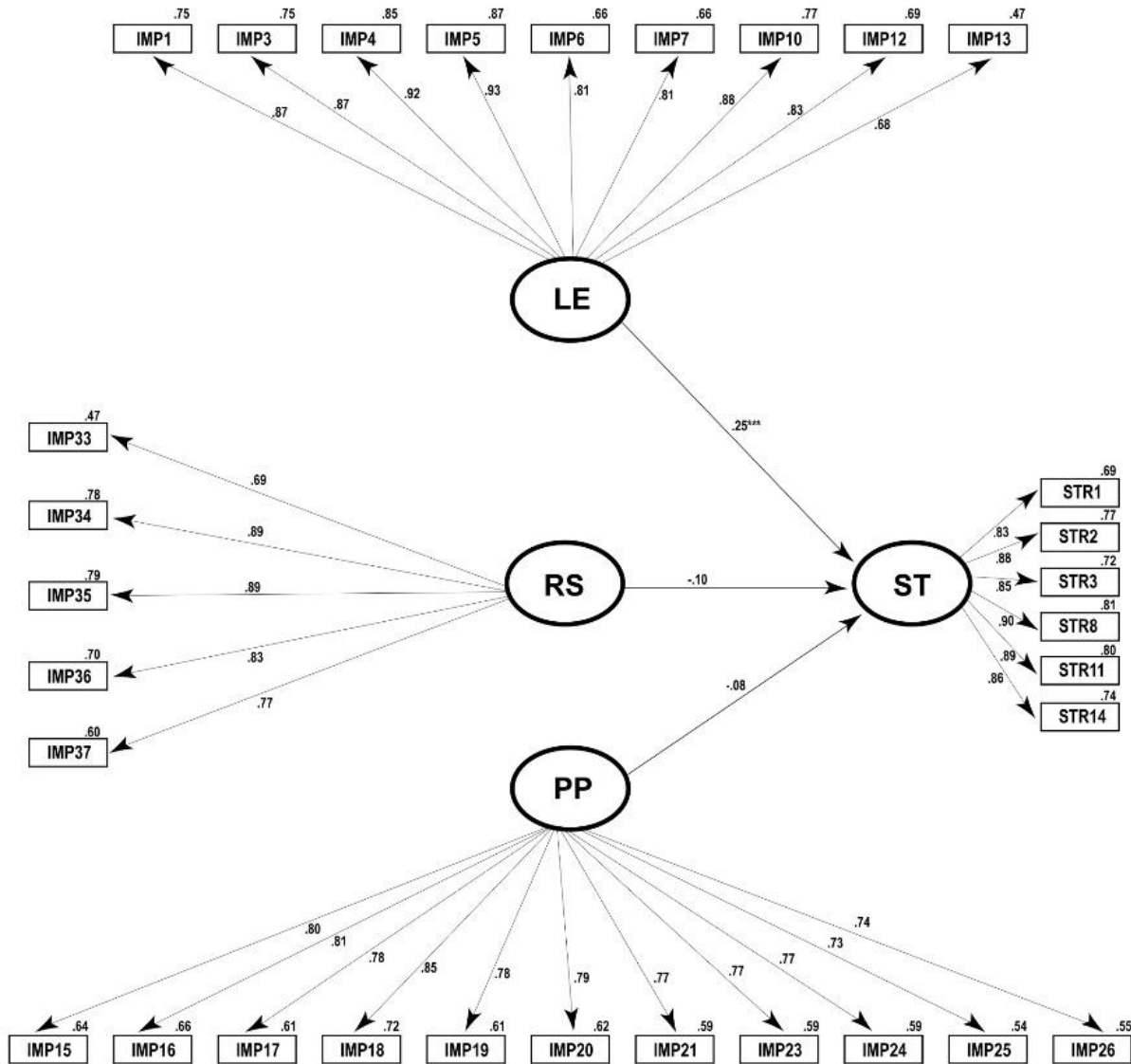
In phase three, a structural equation modeling was assembled to investigate the relationship among constructs. The goodness of fit indices indicated that the structural models fitted with empirical data: CMIN/DF 2.128; CFI .97; TLI .903; RMSEA .05 (See Figure 2). Research hypothesis 1 was tested and indicated the standardized regression weights, significance level and variance explained by the independent variables (R<sup>2</sup>). The results indicated a significant and positive relationship between community living environment (LE) and tourism-related stress (ST) ( $\beta = .246$ ;  $p$ -value  $< .000$ ). Thus, H1a was supported by the dataset. While Community participation and preservation (PP) and Community recreation and safety (RS) were not significant determinants of tourism-related stress. These results suggested that H1b and H1c were not supported. The final phase, Multigroup analysis (MGA) was applied to evaluate the relationship between exploration stage and development stage of rural tourism in relationship between tourism impacts and tourism-related stress. Two steps were applied to test the moderation effect of tourism development stages. The Chi-square difference test was used to compare models, revealing a statistically significant difference between groups. The results revealed that the Chi-square difference value resulting statistically significant, evidencing the two model are different. Step 2, the moderation effect on each coefficient path of each group has been tested. Table 7 revealed the results of direct effects on two groups. People who live in rural areas and are still exploring these tourist attractions sometimes overlook the impact of tourism as sources of stress. While residents who live in the development stage of rural tourism destinations perceived tourism-related stress caused by all three dimensions of tourism impact. More specifically, the effect of LE on ST ( $\beta = .373$ ;  $p = .000$ ), PP on ST ( $\beta = -.247$ ;  $p = .001$ ), and RS on ST ( $\beta = -.196$ ;  $p = .012$ ) were significant. These results implied that rural residents in development stage perceived more stress when their community living environment was improved. On the other hand, their tourism related stress inclined when their community participation and preservation, as well as recreation and safety were declined.



**Table 5: Hypothesis one testing results**

Hypotheses	Path	Path coefficient	S.E.	C.R. (t-value)	P-value	Results
H1a	ST < LE	.246	.088	3.519	***	Supported
H1b	ST < PP	-.082	.099	-1.255	.210	Not supported
H1c	ST < RS	-.105	.083	-1.341	.180	Not supported

Source: compiled by the authors based on research results.



**Figure 2. Structural Model**  
Source: Drawn by the authors

**Table 6: Results of hypothesis testing with Chi-square significance**

Models	Chi-square	DF	Chi-square/DF	P-value
Unconstrained	1209.605	700	1.728	.000
Constrained	1299.917	730	1.781	.000
Chi-square significance ( $\Delta\chi^2$ )	90.312	30		.000

Source: compiled by the authors based on research results.

**Table 7: Results of direct effects among two groups**

Path	Groups	Path coefficient	C.R. (t-value)	P-value
ST < LE	Development	.373***	4.457	***
ST < PP		-.247**	-3.223	.001
ST < RS		-.196**	-2.510	.012
ST < LE	Exploration	.105	.340	.734
ST < PP		-.556	-1.047	.295
ST < RS		.685	1.352	.176

Source: compiled by the authors based on research results.

## DISCUSSION

The results of the study underline three impact dimension; Community living environment (LE), Community participation and preservation (PP) and Community recreation and safety (RS) which consistent with prior studies providing evidence that both social and environmental impacts are mainly benefit residents in rural areas (Figueiredo et al, 2014; Liasidou et al, 2021). Positive impact toward rural tourism development had been notified by residents in both stages of tourism development destinations. Understanding dimensions of tourism impacts can provide useful information for tourism developers, destination managers, residents, policymakers and government agencies. Tourism impact lessons could be established for future development to minimize negative effects such as embracing residents' participation, assessing carrying capacity, and educating tourists about potential impacts caused by them. Additionally, this study highlighted and made more understanding how rural tourism development can be the causes of residents' stresses, even though residents indicate a welcoming tourist to their destination. The results of this study revealed a significant and positive relationship between community living environment (LE) and tourism-related stress (ST). This finding aligns with previous research by Jordan et al. (2019; 2021), describing tourism-related stressor caused by the diffusion of tourists which effect traffic congestion, crowding and their way of life. As that tourism destination can be modified to limit stress and promote coping skills and strategy. People who live in rural areas and are still exploring these tourist attractions sometimes overlook the impact of tourism as sources of stress. While residents who live in the development stage of rural tourism destinations perceived tourism-related stress caused by all three dimensions of tourism impact.

This study expands theoretical understanding of tourism-related stress in different levels of tourism development destinations. As the results of multi group analysis, the finding indicated a statistically significant difference between exploration stage and development stage of rural tourism destinations. This finding supports the Tourist Area Lifecycle (TALC) and the previous research by Jordan et al. (2019) and Yao et al (2021) that explained each evolution stage, residents experience

different types of tourism impacts, emotions and stress. Thus, this finding confirms the link between stress and their level of development. Tourism planning in early-stage development should be identified to keep control over rural tourism before the destination becomes popular and ensure the sustainable development of the community. For developing rural tourism destinations, impact measurement should be implemented, as well as a rural destination development plan which prevent overtourism, involve with all stakeholders, minimize tourism impacts and increase tourist experience and satisfaction.

This study is not only providing contributions to tourism academic field, but also has several limitations. Firstly, the research sample was drawn from four rural destinations which cannot represent all rural setting in Thailand. In addition, convenience sampling technique was employed as sampling strategy to help collect data and gain information from respondents based on ease of access. Future study should apply probability sampling methods to minimize sampling error. Thirdly, our survey was based on a self-report questionnaire on their perception toward tourism impact and tourism-related stress with cross-sectional design in each destination. Longitudinal design needs to be a future study to collect data from multiple timepoints of each rural destination. Lastly, several factors have been determining the stressor of individuals such as gender, personality, social support and social identity. Further studies should be conducted to investigate the relationship between these factors and the host community's tourism-related stress.

## CONCLUSION

Rural areas or countryside habitat have been preserved with its nature beauty, valued landscapes, culture, and heritage, conversely still face many challenges such as scarce infrastructure and transport connectivity, lower income level, depopulation, etc. (World Tourism Organization, 2020). Since rural tourism has a significant potential to promote social change, local economic growth, and the preservation of the region's natural and cultural heritage, it is often used as a strategy for rural development (World Tourism Organization, 2023). Undoubtedly, there are both positive and negative effects that might result from rural tourism. Therefore, this study attempted to examine various facets of tourism impacts in rural tourism setting, explore the relationship between tourism impacts and tourism-related stress and investigate different stages of tourism development as a moderating factor in resident's perception of their tourism-related stress. Based on the study results, perception of rural residents toward tourism impacts has essentially focused on socio-cultural and environmental aspects. Community participation and preservation, community living environment, and community recreation and safety were perceived as positive impacts by rural residents. In terms of tourism-related stress, residents perceived less stressful toward tourism development in rural settings. Our finding indicated a significant positive relationship between community living environment and tourism-related stress which suggested that tourism-related stress tends to increase as the community living environment improves. Once the rural tourism destinations become popular, numerous tourists will come to visit and exploit resources which affect community peace and quiet, traffic congestion, inappropriate land use and litter control. Using Social Exchange Theory as a guiding framework, an exchange process occurs when rural residents weigh the potential risks from tourism and expose themselves to stress. Moreover, the results indicated significant difference in relationship between exploration stage and development stage of rural tourism in relationship between tourism impacts and tourism-related stress. It could possibly be interpreted that whereas residents in the development stage experience stress connected to tourism from all three dimensions of tourism impacts, while those in the exploration phase do not. According to The Tourist Area Life Cycle (TALC), as the destination develops, its infrastructure, services, and facilities could be unfit with local values and beyond carrying capacity.

## ACKNOWLEDGEMENTS

The Kasetsart University research ethics committee has given its approval for this study. With reference number COE66/007, the ethical certificate was granted in January 2023.

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