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The effects of community factors on residents' perceptions toward World Heritage Site inscription and sustainable tourism development

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ABSTRACT

Using partial least squares-structural equation modeling, we analyzed data from 410 questionnaires completed by a sample of residents from the vicinity of the George Town World Heritage Site (WHS), Malaysia, to investigate the effects of community factors on residents' perceptions and support for WHS conservation and tourism development. To conceptualize these relationships, we developed a framework based on social exchange theory (SET) and previous empirical evidence. While community attachment, cultural attitudes, community involvement, and community gain had positive effects on residents' perceptions, the effects of community members' gain and status consistency were particularly strong. Our results suggest that perceptions strongly influence support for WHS conservation and tourism development. Having examined a number of new resident perception factors, this study makes a significant theoretical and methodological contribution to the tourism and resident perception literature. Furthermore, this study has practical implications for future sustainable community development in the George Town WHS.

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Introduction

The inscription of a site as a World Heritage Site (WHS) enhances its international visibility and makes the site attractive for tourism development (Hall & Piggin, 2001). Such development has the potential to increase public and financial support for the conservation of the site's heritage (Aas, Ladkin, & Fletcher, 2005; Su & Wall, 2012). While this alone might impress as a reason to develop the site and surrounding area as a tourist destination, tourism may also promote the economic development of local communities (Jimura, 2011). Tourism development can positively influence the lives of the local community with increased income, employment opportunities, improved standards of living, improved public infrastructure, the increased availability of recreational and entertainment facilities, and the promotion and preservation of local culture (Andereck, Valentine, Knopf, & Vogt, 2005; Choi & Sirakaya, 2006; Deery, Jago, & Fredline, 2012; Ko & Stewart, 2002; McGehee, Andereck, & Vogt, 2002). However, tourism also has the potential to negatively impact local communities by increasing the cost of living, raising property prices, exacerbating overcrowding and traffic congestion, and increasing the prevalence of crime and drugs (Brunt & Courtney, 1999; Deery et al., 2012; Ko & Stewart, 2002; Látková & Vogt, 2012; Liu & Var, 1986; Tosun, 2002). In addition, tourism can contribute to damaging natural environments and ecosystems; increase air, water, and other forms of

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environmental pollution; and result in damage to historical buildings and heritage sites (Jimura, 2011; Ko & Stewart, 2002).

Community support for tourism depends heavily upon how local residents perceive the impact of tourism development on their community (Andereck et al., 2005; Látková & Vogt, 2012; Nicholas, Thapa, & Ko, 2009; Wang & Pfister, 2008). Therefore, achieving sustainable development in a WHS demands enhancing the positive social and economic impacts of tourism for the sake of the local community while successfully managing the negative impacts of tourism, and improving heritage site conservation programs (Buckley, 2012; Jimura, 2011). Focusing on the perceived positive impact of tourism encourages the community to support tourism development, while focusing on the perceived negative effects reduces residents' support (Sharpley, 2014). However, the perceptions of positive and negative tourism development impacts are influenced by a range of factors which differ from one destination to another (Andereck et al., 2005; Ap, 1992; Gursoy, Jurowski, & Uysal, 2002; Jurowski, Uysal, & Williams 1997; Ko & Stewart, 2002; Látková & Vogt, 2012; McGehee & Andereck, 2004; Nicholas et al., 2009; Perdue, Long, & Allen, 1990; Wang & Pfister, 2008).

This study examines the effects of community factors – including community attachment, community cultural attitudes, community involvement, community gain, community members' gain, and status consistency – on residents' perceptions and support for WHS conservation and tourism development. Some of these community factors, such as community attachment and community involvement, have been examined in earlier studies (Andereck & Nyaupane, 2011; Andereck et al., 2005; Gursoy et al., 2002; Jurowski et al., 1997; Látková & Vogt, 2012; McGehee & Andereck, 2004; McCool & Martin, 1994; Nicholas et al., 2009; Tosun, 2002), however, most of these factors – such as community cultural attitudes, community gain, community members' gain, and status consistency – are examined for the first time in this study. This study deploys social exchange theory (SET) to hypothesize the effects of community cultural attitudes, community gain, community members' gain, and status consistency on residents' perceptions, thus making a unique contribution to a well-established literature. SET is a theoretical framework that explains the positive and negative perceptions of host communities (Andriotis, 2005; Andereck et al., 2005; Jurowski et al., 1997; Wang & Pfister, 2008). According to SET, residents will be more inclined to support tourism development if they perceive the benefits of tourism development to outweigh the costs of development (Andriotis, 2005; Jurowski et al., 1997).

This study is also unique in terms of its setting, the George Town WHS, Malaysia. George Town was inscribed as a WHS in 2008 by the United Nations Educational, Scientific, and Cultural Organization (UNESCO) because of its outstanding universal values. The George Town WHS is a mutlticultural trading town in Southeast Asia, home to various cultures (especially Chinese, Indian, and Malay) and religions, all living together peacefully. Consequently, George Town has amassed a wealth of intangible and tangible heritage (e.g., religious buildings, festivals, costumes, languages, art, musics, and lifestyles) that demonstrate the outstanding universal values of the WHS (UNESCO, 2008). In addition, the George Town WHS represents a popular tourism destination in a developing country. Most studies of residents' perceptions of tourism development have been conducted in developed countries (Sharpley, 2014), and few studies have examined residents' perceptions in the context of a WHS (Jimura, 2011; Nicholas et al., 2009).

Residents' perceptions of tourism development impacts

Several previous studies have explored the perceived impact of tourism development on local communities (Andereck et al., 2005; Ap, 1992; Hall & Page, 2014; Sharpley, 1994, 2014; Vareiro, Remoaldo, & Ribeiro, 2013). Tourism development, and subsequent interactions with tourists, directly affects local communities (Sharpley, 1994). These forces invariably alter the values, behaviors, lifestyles, and quality of life of local community members (Andereck et al., 2005; Hall & Page, 2014). Previous studies have identified the positive and negative social impacts of tourism on local communities (Deery et al., 2012; Haobin Ye, Qiu Zhang, Huawen Shen, & Goh, 2014; McGehee et al., 2002). They identify that

tourism development can increase the availability of recreational and entertainment facilities to the community; facilitate an understanding of cultural identity, as well as promote the preservation and revival of traditional arts, culture, and crafts; and encourages the local community to take pride in their culture (Kim, 2002; McGehee et al., 2002; Tovar & Lockwood, 2008).

Notwithstanding, the development of tourism can also adversely alter the value systems of families and their relationships; lead to the overcrowding of facilities and services, as well traffic congestion on roads; increase the availability of drugs, and the incidence of crime, prostitution, and public alcoholism; and contribute toward worsening litter (Akama & Kieti, 2007; Brunt & Courtney, 1999; Deery et al., 2012; Ko & Stewart, 2002; Kousis, 1989; Látková & Vogt, 2012; Liu & Var, 1986; Matarrita-Cascante, 2010; Park & Stokowski, 2009; Tosun, 2002). Moreover, from an environmental perspective, the negative potential impacts of tourism development include damage to the natural environment and increased air, water, and other forms of environmental pollution (Ko & Stewart, 2002). It is evident that the inscription of a site as a WHS increases its visibility as a tourism destination and makes it ripe for tourism development (Hall & Piggin, 2001). Therefore, local communities face a critical dilemma in supporting the inscription of a site as a WHS and the processes of tourism development in their community that are likely to follow (Telfer & Sharpley, 2008). While the perceived positive impacts of tourism might encourage the community to support tourism development and WHS conservation programs, the perceived negative impacts might well push them to withdraw their support (Sharpley, 2014).

Community factors and residents' perceptions

Theoretical framework

While a number of resident perception studies have utilized and applied SET (Ap, 1992; Gursoy et al., 2002; Haobin et al., 2014; Jurowski et al., 1997; Ko & Stewart, 2002; Látková & Vogt, 2012; Perdue et al., 1990; Wang & Pfister, 2008), most of these studies have defined SET as a process of exchange between residents and tourists. Therefore, if residents perceive the benefits of tourism development to exceed the costs, then they will engage in a process of exchange and interaction with tourists, and will support tourism development in their community (Ap, 1992; Jurowski et al., 1997). However, newer articulations of SET emphasize interpersonal exchange (Cropanzano & Mitchell, 2005). This revised form of SET was pioneered by Meeker (1971), who proposed a framework based on six rules: reciprocity, rationality, altruism, group gain, status consistency, and competition (Cropanzano & Mitchell, 2005). Reciprocity refers to the traditional understanding of SET, which goes toward explaining acts of cooperation and interaction between groups of people. Based on this rule, if one party (e.g., tourists) furnishes benefits upon another party (e.g., residents), the receiving party should respond kindly and support the interaction (Ap, 1992; Perdue et al., 1990). Rationality refers to the logic behind the behavior of individuals based on their values and beliefs (Cropanzano & Mitchell, 2005). Residents' values and beliefs logically influence their positive and negative perceptions (Andereck et al., 2005). Altruism refers to doing something for the benefit of others despite whatever personal costs might be involved (Cropanzano & Mitchell, 2005). Group gain refers to benefits accrued by the community rather than individuals, with individuals receiving benefits from the group (Cropanzano & Mitchell, 2005). Therefore, while some factors do not benefit individuals directly, they may still influence their perceptions. Status consistency suggests that belonging to a certain group, which may be definted basedon race, gender or language (among others), can benefit the individual and influence their perceptions (Cropanzano & Mitchell, 2005). Finally, the competition rule is the opposite of altruism; individuals act against others irrespective of what harm they might incur unto themselves (Cropanzano & Mitchell, 2005). Using this revised framework of SET, this study aims to determine the effects of community factors on residents' perceptions.

Influencing community factors based on SET

Residents' perceptions toward the inscription of a site as a WHS and tourism development are affected by a range of factors. In this study, we investigate the influence of community attachment (CA), community cultural attitude (CAT), community involvement (CINV), community gain (CG), community members' gain (CMG), and status consistency (SC) on the perceptions of residents in a WHS in developing country.

Several previous studies have examined the effects of community attachment on the perceptions of residents (Gursoy et al., 2002; Jurowski et al., 1997; Látková & Vogt, 2012; McCool & Martin, 1994; Nicholas et al., 2009; Tosun, 2002). Community attachment concerns the feelings, emotions, and sense of belonging that residents have toward their community (Nicholas et al., 2009). However, findings regarding the relationship between community attachment and residents' perceptions are contradictory. For example, Látková and Vogt (2012) found a significant positive relationship between community attachment and the positive perception of residents, and a non-significant relationship between community attachment and negative perceptions. Jaafar, Md Noor, and Rasoolimanesh (2015a), on the other hand, identified significant positive effects for community attachment and the sense of belonging on residents' positive and negative perceptions toward WHS inscription and tourism development; whereas Gursoy et al. (2002) did not find any significant relationship between community attachment and residents' perceptions.

However, using the new SET framework, we propose to explain the effects of community attachment on residents' perceptions under the group gain rule. According to this rule, residents are concerned about the benefits and cost of tourism development on their community. Therefore, while residents who are more attached to their community may want to see their community develop, they may also be worried about the negative impact of tourism on their community. Based on this theory and the results of previous studies, we proposed the following hypotheses:

H1: Community attachment has a positive effect on the positive perceptions of residents.
H2: Community attachment has a positive effect on the negative perceptions of residents.

The rationality rule of SET refers to the effects of residents' beliefs and values of on their perceptions. According to this rule, residents will oppose any development that goes against their beliefs and values, but will agree if they perceive the development as an opportunity to promote and preserve their culture. Therefore, residents whose values rank the preservation of traditional culture and lifestyle as a priority are likely to have a stake in WHS inscription, as inscription and the subsequent presence of tourists provides a context for the promotion of their culture. Previous studies have described cultural pride in terms of being an asset that can facilitate the development of a local tourism industry, with local communities feeling that they have something valuable to offer to tourists. In addition, the development of tourism can contribute toward the preservation of local cultures by promoting cultural activities, increasing residents' pride in their culture, and preserving their cultural identity (Andereck, Valentine, Vogt, & Knopf, 2007; Gursoy et al., 2002; Jaafar, Rasoolimanesh, & Ismail, 2015b; Kim, 2002).

Nonetheless, despite whatever positive perceptions residents might have toward tourism development, they may still harbor some concerns about the negative social impacts of tourism. Several studies have reported on the sociocultural concerns of residents regarding tourism development (Akama & Kieti, 2007; Kim, 2002; Jaafar et al., 2015b). Moreover, the social concerns of residents may suggest a positive relationship between cultural values and negative perceptions. Therefore, the following hypotheses are proposed to represent these relationships:

H3: Cultural attitudes have a positive effect on the positive perceptions of residents.
H4: Cultural attitudes have a positive effect on the negative perceptions of residents.

The relationship between residents' perceptions and community involvement in WHS conservation programs and tourism development has been explored across several SET-based studies (Andereck & Nyaupane, 2011; Látková & Vogt, 2012; Nicholas et al., 2009; Tosun, 2002). The willingness and readiness of residents to become involved in tourism activities and WHS conservation can be explained under the reciprocity rule of SET. Community involvement empowers local residents, improves their awareness of the benefits of tourism development, and boosts their respect for their culture and values (Timothy, 1999; Tosun, 2002). Community involvement provides opportunities for residents to participate in tourism development activities, to organize their capacities as social actors rather than as passive subjects, and to exercise control over the activities that affect their lives (Timothy, 1999). Therefore, community involvement encourages residents to engage in a process of mutual exchange with other stakeholders, such as government agencies, the private sector, and tourists. In light of this, the following hypotheses have been developed to describe the relationship between community involvement and residents' perceptions:

H5: Community involvement has a positive effect on the positive perceptions of residents.
H6: Community involvement has a negative effect on the negative perceptions of residents.

While the effects of economic gain and increased individual incomes on residents' perceptions toward tourism development have been explored extensively in the literature (Andereck & Nyaupane, 2011; Andereck et al., 2005; Jurowski et al., 1997; Látková & Vogt, 2012; McGehee & Andereck, 2004), the effects of community gain and gains made by other community members is yet to be examined. According to the altruism and group gain rules of SET, residents may express an interest in doing something for the benefit of the community and other individual community members despite whatever personal costs might be incurred (Cropanzano & Mitchell, 2005). Therefore, if individuals perceive sufficient benefit in WHS inscription and tourism development for their community and individual community members, not including themselves, they might be more inclined to perceive tourism development positively. Conversely, if they perceive sufficient detriment for their community and community members, regardless of how positively WHS inscription and tourism development might affect them personally, they may be more inclined to perceive tourism development negatively. Consequently, we expect that community gain and community members' gain will be positively related to residents' positive perceptions and negatively related to their negative perceptions, with these hypotheses being described thusly:

H7: Community gain has a positive influence on the positive perceptions of residents.
H8: Community gain has a negative influence on the negative perceptions of residents.
H9: Community members' gain has a positive influence on the positive perceptions of residents.
H10: Community members' gain has a negative influence on the negative perceptions of residents.

The status consistency rule of SET suggests that belonging to a certain group, such as a race or gender, can benefit the individual and influence their perceptions (Cropanzano & Mitchell, 2005). Wanting to showcase their cultural assets, especially in multicultural destinations, distinct resident groups may wish to exhibit their religious festivals, traditional dances, costumes, art, music, food, and lifestyles for the benefit of tourists. Such cultural pride, therefore, can influence the development of the local tourism industry as local communities feel that they have something valuable to offer the tourist (Jaafar et al., 2015b; Kim, 2002). Moreover, this cultural exhibitionism contributes toward the preservation of local cultures by promoting cultural activities, increasing residents' pride in their culture, and preserving their cultural identity (Andereck et al., 2007; Gursoy et al., 2002; Kim, 2002). Therefore, status consistency has a positive influence on the positive perceptions of residents and a negative effect on their negative perceptions toward the inscription of their locale as a WHS and tourism development. The following hypotheses articulate these relationships:

H11: Status consistency has a positive effect on the positive perceptions of residents.
H12: Status consistency has a negative effect on the negative perceptions of residents.

Support for WHS conservation programs and tourism development

The effects of residents' perceptions, vis-à-vis the positive and negative impacts of tourism development, on support for heritage site conservation programs and the development of a tourism destination have been extensively investigated (Andereck et al., 2005; Gursoy et al., 2002; Látková & Vogt, 2012; Nicholas et al., 2009; Nunkoo & Ramkissoon, 2010; Walpole & Goodwin, 2001; Wang & Pfister, 2008). How residents perceive the impact of tourism development affects local community support for and the sustainability of the development (Nicholas et al., 2009; Nunkoo & Ramkissoon, 2010). In other words, the sustainable conservation of a WHS and development of a tourism destination is heavily dependent upon the concerns of the host community (Gursoy et al., 2002; Jaafar et al., 2015a; Sharpley, 2014). Therefore, residents who perceive WHS inscription and tourism development to have more positive impacts in will support future related activities, such as WHS conservation and tourism development; while residents who perceive more negative impacts are less inclined to support future activities and development (Jaafar et al., 2015a; Nunkoo & Ramkissoon, 2010). The following hypotheses identify these relationships:

H13: The positive perceptions of residents have a positive influence their support for WHS conservation programs and tourism development.
H14: The negative perceptions of residents have a negative influence their support for WHS conservation programs and tourism development.

The conceptual framework for this study, shown in Figure 1, has been conceptualized based on the aforementioned research hypotheses regarding the community factors affecting the positive and negative perceptions of residents, as well as the relationships between these perceptions, and residents' support for WHS conservation programs and tourism development.

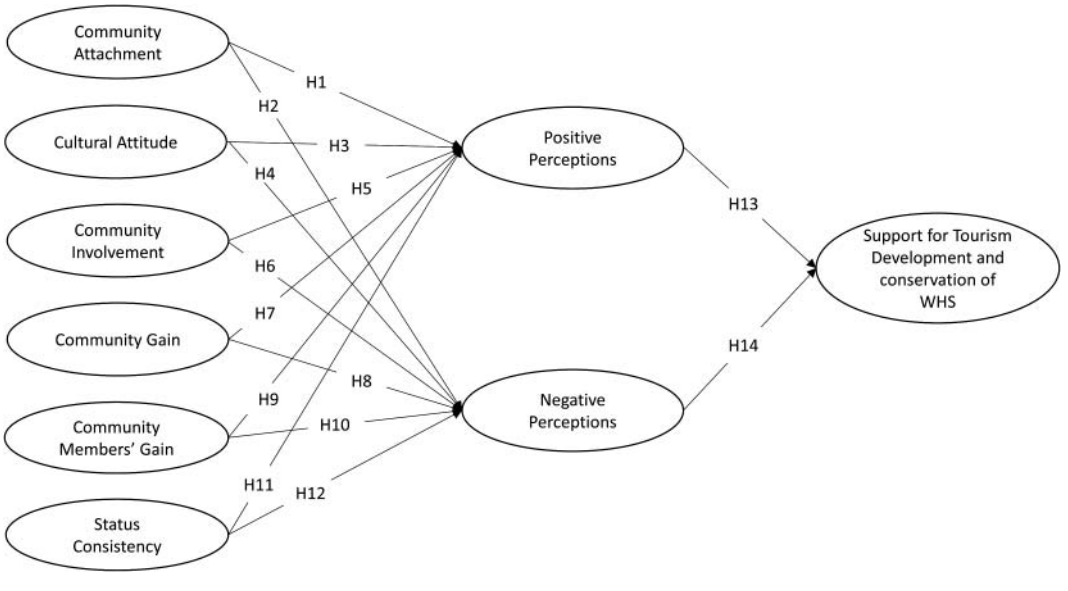

Figure 1. Conceptual framework.

Research method

Instrument development

This study employed a quantitative research design, using a questionnaire containing a number of question-statements or items adapted from instruments used in previous related studies. The items used to measure community attachment (4 items) (Jaafar et al., 2015a; Nicholas et al., 2009), community involvement (4 items) (Nicholas et al., 2009), positive perceptions (5 items) (Gursoy et al., 2002; Nunkoo & Ramkissoon, 2010), negative perceptions (5 items) (Gursoy et al., 2002; Nunkoo & Ramkissoon, 2010), and support for tourism development (7 items) (Wang & Pfister, 2008) were adapted from previous studies. However, the items used to measure cultural attitude (3 items), community gain (3 items), community members' gain (3 items), and status consistency (3 items) were developed specifically for this study, because these variables had never been assessed in the tourism literature prior to this study. Question-statements were answered on a 5-point Likert scale, with 1 referring to *strongly disagree* and 5 referring to *strongly agree*.

We conducted rigorous pilot testing of the data collection instrument prior to the administration of the survey in order to establish the reliability and validity of the adapted and developed items. We interviewed six experts (i.e., our academic colleagues and experts from George Town World Heritage Inc.), asking them to review and comment on the questionnaire. In addition, we collected 40 completed questionnaires from the residents of George Town during pilot testing, and calculated the Cronbach's alpha for the constructs. Based on the feedback from these interviews and analysis of the pilot data, we removed one item from the community gain construct and revised the wording in some parts of the questionnaire.

Each of the constructs examined in this study were reflective, and the number of items in the final questionnaire were sufficient to assess the model and perform partial least squares-structural equation modeling (PLS-SEM) data analysis (Hair, Sarstedt, Hopkins, & Kuppelwieser, 2014). In light of the various ethnicities in the George Town WHS catchment area, the questionnaire was prepared in the three dominant community languages: English, Bahasa Malay, and Chinese. The original version of questionnaire was prepared in English and was translated into Chinese and Bahasa Malay by our colleagues who were familiar with these languages. The translated instruments were then reverse-translated back into English to ensure minimal differences between the various versions of the questionnaire.

Data collection procedure

The data for this study were collected between January and February of 2015. While George Town covers an area of some 121 km^2, sampling was restricted to the WHS itself, which covers a mere 2.6 km^2 area, with a core zone of 1.1 km^2 and a 1.5 km^2 buffer zone. This 2.6 km^2 WHS contains 2500 households, with 9425 ethnically diverse residents. While Malaysian Chinese (65%) make for the largest ethnic cohort, Malay (11%) and Malaysian Indian (10%) households, and temporary residents from India, China, Bangladesh, Indonesia, and various other countries contribute to the city's multi-ethnic character (Think City, 2014). In consultation with local experts from George Town World Heritage Inc., we selected six population clusters based on population density and ethnic diversity. We identified the required number of completed questionnaires for each cluster based on population figures, and distributed 120, 100, 100, 100, 90, 80, and 50 questionnaires to clusters 1 through 6, respectively, based on these population figures and using systematic sampling. Furthermore, we delivered the questionnaire and collected it again the next day. The total numbers of completed questionnaires returned from cluster 1 to 6, respectively, were 80, 68, 62, 65, 65, 50, and 20. The representativeness of the sample size was checked using a chi-square (χ^2) test based on racial diversity, and the value of $\chi^2 = 4.1$ (*degrees of freedom of 3*) showed a good match between the population and sample size. Therefore, the 410 completed questionnaires were deemed to be representative of the George Town WHS population.

We also used G*Power to calculate the sample size. Based on a power of 0.95, we needed a sample size of 146 for model testing. Therefore, given that our sample size exceeded 146, the power value in this study exceeds 0.95. Moreover, a sample size of 410 returned questionnaires would generally be seen as adequate for a PLS-SEM analysis, with previous studies having identified a sample size threshold of 100 (Akter, D'Ambra, & Ray, 2010; Reinartz, Haenlein, & Henseler, 2009). In addition, a rule of thumb for PLS-SEM is the 'ten times rule' (Chin, 1998; Hair, Ringle, & Sarstedt, 2011), according to which the minimum sample size must be ten times the largest number of paths in the structural or measurement models. Therefore, we can safely conclude that a sample of 410 is acceptable in this study.

Data analysis approach

PLS-SEM was used to test the hypothesized relationships. PLS-SEM is a comprehensive multivariate statistical analysis approach that includes measurement and structural components to simultaneously examine the relationships among each of the variables in a conceptual model. PLS-SEM was employed in the current study because it facilitates theory building (Hair et al., 2011). WarpPLS (version 5.0) (Kock, 2014) was used to perform the PLS-SEM analysis. WarpPLS 5.0 provides the option of using different algorithms for the outer and inner models to calculate scores for the latent variables (LV). Notwithstanding, the use of PLS-SEM has been criticized by some researchers, such as Rönkkö and Evermann (2013), for the use of composite algorithms, such as mode A or mode B, to calculate LV scores. To address this criticism, a factor-based algorithm (Kock, 2015) and consistent PLS (Dijkstra & Henseler, 2015) have been proposed, with a factor-based algorithm used for the outer model in this study. In addition, WarpPLS 5.0's warp3 algorithm for inner model testing was used to assess the structural model. The warp3 algorithm for inner model testing estimates parameters, such as the path coefficient and associated *p*-values, by identifying and accounting for nonlinear relationships in the structural model (Kock, 2010).

George Town World Heritage Site

Located in the north east of Penang Island in northern Malaysia, George Town was inscribed as a WHS in July 2008 by UNESCO. In 1786, a colonial trading center was established in George Town by the British East India Company. George Town has since developed over centuries of trading and cultural exchange between east and west, evolving from a trading port to a historic multicultural city (Think City, 2014). With close to two thousand historic buildings representative of the various cultures and religions within George Town's core WHS zone, as well as a variety of religious festivals, dances, costumes, art, music, food, and lifestyles, George Town's heritage properties, tangible and intangible, are considerable (State Government of Penang, 2013).

The historic city of George Town includes a unique variation of architecture, culture, and urban landscapes representative of its historic past as a Southeast Asian trading settlement. This role had brought together various communities and cultures to live together within the city, making it commonplace to find Chinese, Indians, Malays, and Eurasians living harmoniously together in the same street, but with each following their own values and religious beliefs. Thus, religious pluralism is yet another of George Town's distinctive characteristics. This pluralism is reflected in the architecture of the many temples, churches, and mosques scattered throughout the city that depict a plethora of foreign design influences, many of which are to be found on the same street and in close proximity to one another. Moreover, George Town plays host to a variety of religious festivals idiomatic of the city's multireligious diversity, like Thaipusam, the Festival of the Hungry Ghost, the Nine Emperor Gods Festival, and Wesak Day. In light of its history of embracing diversity, UNESCO recognized George Town as a WHS because of its outstanding universal values, containing:

> … exceptional examples of multi-cultural trading town, forged through the mercantile exchanges of Malay, Chinese, Indian and European cultures, and the imprints of architecture, urban form, technology and monumental art; Living testimony to the multi-cultural heritage and tradition of Asia and European colonial influences (with the tangible and intangible heritage expressed in the variety of religious buildings of different faiths, ethnic

quarters, many languages, worship and religious festivals, dances, costumes, art, music, food and daily life), and a mixture of influences which have created a unique architecture, culture and townscape without parallel anywhere in East and South Asia – particularly the exceptional range of shop houses and townhouses of different types and stages of development. (Think City, 2014, p. 8; UNESCO, 2008)

George Town's historic richness attracts visitors from around the world. Following the inscription of George Town as a WHS by UNESCO, the local economy shifted from a focus on traditional business toward tourism and hospitality. The increase in the number of hotels (+41), restaurants/bars (+47), art culture and craft business (+26), and travel and tourism services (+21) from 2009 to 2013 reflects this shift in the local economy toward tourism (Think City, 2014).

Analysis and results

Profile of respondents

Table 1 shows that the number of male and female respondents was fairly even, with there being slightly more male respondents (51%) than female (49%). Respondents were categorized into five

Table 1. Profile of the respondents.

Characteristics	Frequency	Percentage (%)	
Gender			
	Male	209	51.0
	Female	201	49.0
Age (years)			
	15–25	75	18.3
	26–35	90	22
	36–45	66	16.1
	46–55	107	26.1
	56 and above	72	17.6
Race			
	Chinese	304	74.1
	Malay	37	9.0
	Indian	56	13.7
	Others	13	3.2
Education			
	No formal education	2	0.5
	Primary school	68	16.6
	Secondary school	203	49.5
	Certificate/diploma	93	22.7
	Degree/postgraduate	44	10.8
Employment sector			
	Government employee	9	2.2
	Private sector	183	44.6
	Own business	155	37.8
	Unemployed	38	9.3
	Other	25	6.1
Household income			
	Less than MYR 2000 *	112	27.4
	MYR 2000–4000	201	49.0
	MYR 4000–6000	74	18.1
	MYR 6000–8000	12	2.9
	MYR 8000 and above	11	2.6
Place of birth			
	George Town	353	86.1
	Others	57	13.9
Percentage of household income from tourism?			
	Less than 20%	182	44.4
	20%–40%	83	20.2
	40%–60%	46	11.2
	60%–80%	54	13.2
	More than 80%	45	11.0

Note: MYR 4.20 = USD 1.00 (at the time of this writing).

age groups: 15−25 years (18.3%), 26−35 years (22%), 36−45 years (16.1%), 46−55 years (26.1%), and 56 years and above (17.6%). The majority of respondents were ethnic Malaysian Chinese (74.1%), followed by Malaysian Indians (13.7%), and Malays (9%). Most of the respondents had a secondary-level education (49.5%) or less (17.1%), while a smaller number had a diploma/certificate-level education (22.7%) or a degree (10.8%). Most respondents were employed in the private sector (44.6%) or managed their own businesses (37.8%), while a smaller number were either unemployed or public servants. Most of the respondents earned less than MYR 4000 per month (about USD 952 at the time of this writing) (76.4%), while the remainder earned above MYR 4000 (23.6%) per month. Most of the respondents were born in George Town (86.1%), with the remainder having been born elsewhere (13.9%). Among the 410 respondents, 145 (35.4%) earned more than 40% of their household income from tourism-related activities, while the majority (64.6%) earned less than 40% of their household income from tourism.

Model assessment using PLS-SEM

The assessment of a model using PLS-SEM is a two-step process involving the assessment of the measurement and structural models (Chin, 2010; Hair et al., 2011). The assessment of the measurement model encompasses an evaluation of the validity and reliability of the constructs. This step involves an assessment of the relationship between each construct and their associated items (i.e., responses to individual question-statements in the questionnaire). The assessment of the structural model is concerned with the relationships among the constructs (Chin, 2010; Hair et al., 2011).

Assessment of the measurement model

This study investigated nine reflective constructs, six of which have already been identified, namely CA, CAT, CINV, CG, CMG, and SC. The remaining three reflective constructs include positive perceptions toward tourism development and WHS conservation (PP), negative perceptions toward tourism development and WHS conservation (NP), and support for tourism development and WHS conservation (SUP). The assessment of the reflective measurement model involves an evaluation of reliability and validity, with two types of validity considered: convergent and discriminant.

To assess the quality of reflective constructs, convergent validity and construct reliability (i.e., internal consistency) should be evaluated. For convergent validity to be considered acceptable, the loading for each indicator should be higher than 0.7 (Hair et al., 2011). A loading lower than 0.4 indicates that an item should be considered for removal, and items with a loading of 0.4−0.7 should be considered for removal if their removal would lead to an increase in Composite Reliability (CR) and Average Variance Extracted (AVE) above the threshold (Chin, 2010; Hair et al., 2011). Construct reliability is also assessed using the CR coefficient (Chin, 2010; Kock, 2013). When using a factor-based algorithm for the outer model, as in this study, Cronbach's alpha coefficient can be used to perform the reliability assessment, as this and CR tend to converge into similar values with a factor-based algorithm (Kock, 2015). As shown in Table 2, each item associated with the nine reflective constructs in this study had a loading greater than 0.6, and both the CR and Cronbach's alphas for the constructs were greater than 0.8; thus indicating acceptable reliability.

In addition to the above tests, convergent validity is often assessed by way of AVE (Chin, 2010; Hair et al., 2011). The AVE of the constructs should be higher than 0.5 for their convergent validity to be considered acceptable (Chin, 2010; Hair et al., 2011). Table 2 indicates that the AVE of the constructs was higher than 0.5; therefore, the measurement model's convergent validity was acceptable.

Discriminant validity provides an indication of the extent to which each construct is distinct from other constructs in the model (Chin, 2010), and of the extent to which overlaps in meaning are avoided in indicators that do not "belong" to various constructs (Kock, 2014). The square root of the AVE for each construct should be higher than the highest correlation between the construct and other constructs in the model (Chin, 2010; Hair et al., 2011; Kock, 2014). Table 3 shows the square

Table 2. Assessment results of the measurement model.

Construct /item	Loading	CR	Cronbach's α	AVE	Full collinearity VIFs
Community attachment (CA)		0.866	0.862	0.618	2.824
(1) Inscription of George Town as a WHS is important to me.	0.694				
(2) I have positive feelings for George Town.	0.858				
(3) I feel a sense of belonging to this place.	0.785				
(4) I have an emotional attachment to this place – it has meaning to me.	0.799				
Cultural Attitude (CAT)		0.851	0.851	0.658	2.778
(1) The local and traditional culture should be preserved.	0.809				
(2) The lifestyle of local residents should be protected.	0.911				
(3) My traditions and culture is very important for me.	0.698				
Community Involvement (CINV)		0.880	0.880	0.648	1.889
(1) The residents of George Town have been involved in the management of the George Town WHS.	0.697				
(2) The residents of George Town have been involved in the process of tourism development and planning.	0.818				
(3) Most of the time, my opinions regarding tourism planning and development have been solicited.	0.866				
(4) Most of the time, my opinions regarding conservation projects in the George Town WHS have been solicited.	0.829				
Community Gain (CG)		0.805	0.805	0.673	2.610
(1) The infrastructure and public facilities, such as roads, telecommunications, hospitals, etc. have improved since George Town has been inscribed as a WHS.	0.791				
(2) Community security and safety has improved since George Town has been inscribed as a WHS.	0.849				
Community Members' Gain (CMG)		0.902	0.902	0.755	2.654
(1) Increasing the number of visitors in George Town affects the household income of my friends and relatives.	0.820				
(2) The quality of life of my neighbors, friends, and relatives has improved.	0.902				
(3) Increasing the number of visitors to George Town has created new jobs for my friends and relatives.	0.881				
Status consistency (SC)		0.856	0.853	0.665	3.207
(1) I am happy that I belong to a group with interesting traditions and events.	0.733				
(2) The inscription of George Town as a WHS provides an opportunity for us to show-off our culture and identity.	0.868				
(3) The inscription of George Town as a WHS contributed to reviving and exposing my religious and traditional events.	0.839				
Positive Perception (PP)		0.903	0.900	0.651	3.68
(1) The inscription of George Town as a WHS and tourism development creates more jobs for my community.	0.812				
(2) The inscription of George Town as a WHS and tourism development attracts more investment to my community.	0.850				
(3) The standard of living has increased considerably since the inscription of George Town as a WHS and tourism development.	0.840				
(4) The inscription of George Town as a WHS and tourism development contributes to the provision of more infrastructure and public facilities, like roads, shopping malls, etc.	0.833				
(5) The inscription of George Town as a WHS and tourism development enhances the image of local cultures and residents take pride in their culture.	0.689				
Negative Perception (NP)		0.902	0.902	0.755	2.654
(1) Local residents suffer from living in a tourism destination area and heritage site.	0.711				
(2) The inscription of George Town as a WHS and tourism development results in traffic congestion, noise, and pollution.	0.669				

(*continued*)

Table 2. (*Continued*)

Construct /item	Loading	CR	Cronbach's α	AVE	Full collinearity VIFs
(3) The construction of hotels and other tourist facilities destroys the environment.	0.811				
(4) The inscription of George Town as a WHS and tourism development increases the costs of living.	0.773				
(5) The inscription of George Town as a WHS and tourism development increases the rate of crime.	0.750				
Support for WHS Conservation and Tourism Development (SUP)		0.925	0.925	0.641o	2.112
(1) Residents should participate in tourism planning and development.	0.693				
(2) Residents should participate in heritage site conservation programs in George Town.	0.826				
(3) I believe that tourism should be actively encouraged in my community.	0.833				
(4) I support tourism and would like to see it become an important part of my community.	0.835				
(5) The local and state authorities should support the promotion of tourism.	0.835				
(6) It is important to develop plans to manage the conservation of historical site and growth of tourism.	0.844				
(7) Long-term planning by city officials can control the negative impacts of tourism on the environment.	0.721				

Note: VIFs = variance inflation factors.

roots of the AVEs for the constructs and the correlations among the constructs, indicating that the model possesses acceptable discriminant validity.

The potential for misleading results based on SEM highlights the importance of evaluating lateral and vertical collinearity among the constructs (Kock & Lynn, 2012). This is particularly important in our study because we measured residents' positive and negative perceptions through different constructs; moreover, some of the community factors analyzed in this study are suspected of being too similar and some technical readers may wish to see evidence that these constructs are not redundant. WarpPLS 5.0 calculates the full collinearity for all the constructs; allowing for the simultaneous assessment of vertical and lateral collinearity among the constructs (Kock, 2013). Table 2 indicates that the full collinearity for the constructs was less than 5, which Hair et al. (2014) and Kock (2015) suggest to be an acceptable collinearity threshold for factor-based PLS-SEM.

Assessment of the structural model

To assess the structural model, two preliminary criteria should be checked and reported: the significance of the path coefficients and the value of the R^2 coefficients for endogenous constructs. Each hypothesis is associated with a causal link in the structural model, which represents the relationships between a pair of constructs. Path coefficients have been calculated for each relationship in the

Table 3. Discriminant validity.

Constructs	CA	CAT	CINV	CG	CMG	SC	PP	NP	SUP
CA	**0.786**								
CAT	0.762	**0.811**							
CINV	0.417	0.336	**0.805**						
CG	0.528	0.474	0.603	**0.821**					
CMG	0.657	0.668	0.473	0.699	**0.815**				
SC	0.335	0.295	0.555	0.590	0.542	**0.869**			
PP	0.470	0.459	0.563	0.634	0.652	0.748	**0.807**		
NP	0.040	0.088	0.116	0.128	0.089	0.110	0.151	**0.744**	
SUP	0.493	0.459	0.478	0.442	0.544	0.399	0.640	0.255	**0.800**

Note: The square root of AVEs is shown diagonally in bold.

Table 4. Results of hypothesis testing.

	Hypothesis	Path coefficient	*p*-value	Supported
H1	CA → PP	−0.019	0.347	No
H2	CA → NP	0.126	<0.01	Yes
H3	CAT → PP	0.086	<0.05	Yes
H4	CAT → NP	−0.037	0.228	No
H5	CINV → PP	0.121	<0.01	Yes
H6	CINV → NP	0.075	0.064	No
H7	CG → PP	0.094	<0.05	Yes
H8	CG → NP	0.162	<0.01	No (different sign)
H9	CMG → PP	0.484	<0.01	Yes
H10	CMG → NP	0.064	0.096	No
H11	SC → PP	0.217	<0.01	Yes
H12	SC → NP	−0.067	0.087	No
H13	PP → SUP	0.608	<0.01	Yes
H14	NP → SUP	0.147	<0.01	No (different sign)

model, as well as their corresponding *p*-values. While the path coefficients must be significant, the value of the R^2 coefficients is largely dependent upon the research area. Chin (1998) suggested values of 0.67, 0.33, and 0.19 as, respectively, substantial, moderate, and weak measures of R. In behavioral studies, a value of 0.2 for R^2 is generally considered acceptable (Hair et al., 2014; Kock, 2013).

In the present study, the R^2 coefficients for PP, NP, and SUP were 0.67, 0.05, and 0.45, respectively. Therefore, while PP and SUP had relatively high and acceptable R^2 values, NP had a low R^2 value. That is, the R^2 values in this study suggest that while the percentages of the variances in PP and SUP are appropriately explained, it is likely that omitted variables account for a fairly large percentage of the variance in NP.

Table 4 and Figure 2 show the results of hypothesis testing and the assessment of path coefficients. The results show the non-significant effect of CA on PP (H1), while the effect of CA on NP (H2) was found to be positive and significant. The effect of CAT on PP (H3) was found to be positive and significant, but the results did not support the effect of CAT on NP (H4). In addition, this study revealed positive and significant effects for CINV, CG, CMG, and SC on PP (H5, H7, H9, and H11); however, the findings did not support the effects of CINV, CG, CMG, or SC on NP (H6, H8, H10, and H12).

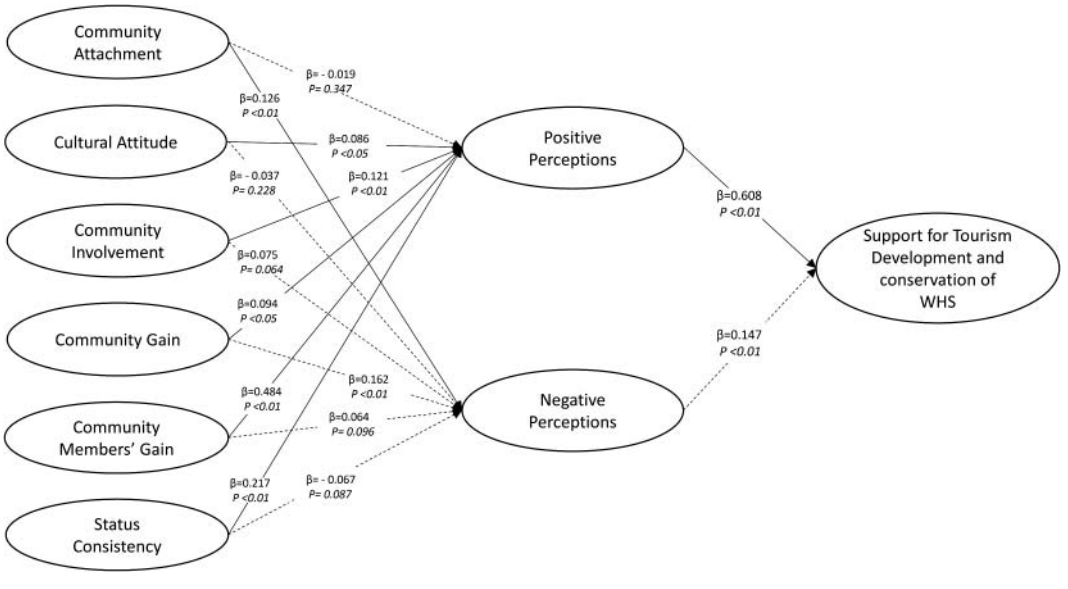

Figure 2. Results of hypothesis testing.

The associated *p*-values for H6, H8, H10 were higher than 0.05 and not significant, however, the *p*-value of the relationship between CG and NP was lower than 0.01 and non-significant because of different sign. While the relationship between CINV and NP was hypothesized to be negative, the results suggest that it was positive. Therefore, despite having *p*-values lower than 0.01, the corresponding hypothesis cannot be supported. In addition, the results indicate a positive and significant effect for PP and NP on SUP (H13 and H14); therefore, while the associated hypothesis for the effect of PP on SUP (H13) can be supported, the results cannot support H14 because of different sign. The relationship between NP and SUP was hypothesized to be negative, however, the results suggest that it was positive.

Additionally, six global fit indices (Kock, 2014) were calculated for the whole model and Stone–Geisser's Q^2 values, indicative of the model's explanatory power and predictive validity, were calculated for the endogenous LVs (Hair et al., 2011). The six fit indices suggested that the model–data fit was more than acceptable: average path coefficient (APC) = 0.165, $P < 0.001$; average R^2 (ARS) = 0.389, $P < 0.001$; average adjusted R^2 (AARS) = 0.382, $P < 0.001$; average block variance inflation factor (AVIF) = 2.118 (acceptable if ≤ 5, ideally ≤ 3.3); average full collinearity variance inflation factor (AFVIF) = 2.539 (acceptable if ≤ 5, ideally ≤ 3.3); and Tenenhaus GoF (GoF) = 0.503 (small ≥ 0.1, medium ≥ 0.25, large ≥ 0.36). In this study, the Q^2 values for PP, NP, and SUP were 0.67, 0.065, and 0.45, respectively. The predictive validity of a construct can be confirmed when the value of its associated Q^2 coefficient is greater than zero. This was the case for all endogenous LVs in the model, suggesting acceptable model-wide predictive validity.

Discussion

The results of the assessment of the measurement model using a factor-based algorithm, which is similar to confirmatory factor analysis, indicated the highly acceptable reliability and validity of constructs such as CA, CG, CMG, and SC that had not been previously measured in the tourism literature. Therefore, the findings of the current study confirm the suitability of the associated items used to measure these new constructs.

The results of the structural model assessment indicated that community attachment had a non-significant effect on the positive perceptions of residents, a finding consistent with previous studies (Gursoy et al., 2002; Jurowski et al., 1997; Nunkoo & Ramkissoon, 2010). However, other studies report contradictory findings in this regard. For instance, Látková and Vogt (2012) and Lee (2013) identified positive effects for community attachment on the positive perceptions of residents. Moreover, while this study revealed positive and significant effects for community attachment on residents' negative perceptions, consistent with some earlier studies (Harrill, 2004; Jaafar et al., 2015a; Um & Crompton, 1987), yet others had reported non-significant effects (Gursoy et al., 2002; Nunkoo & Ramkissoon, 2010). Nonetheless, our findings concerning the effect of community attachment on residents' negative perceptions has not only the support of previous studies, but is consistent with the group gain rule of SET, which suggests that community attachment has a positive effect on the negative perceptions of residents. In other words, residents who are more attached to their community are also more worried about the negative impacts of tourism in the George Town WHS.

This study assessed the effect of residents' cultural attitudes on their positive and negative perceptions with respect to WHS conservation and tourism development. The results indicate that cultural attitudes have a positive effect on the positive perceptions of residents. Residents who desired to preserve their local culture and the lifestyle of the local community were more inclined to perceive the positive impacts of WHS inscription and tourism development. These residents believed that the inscription of George Town as a WHS and tourism development provided a context with which to introduce and promote their culture and could contribute toward the preservation of their culture. This finding is supported by the rationality rule of SET and is consistent previous studies indicating that pride in one's local culture can facilitate the development of a local tourism industry (Andereck

et al., 2007; Gursoy et al., 2002; Jaafar et al., 2015b; Kim, 2002). However, the results of this study did not support an effect for cultural attitude on the negative perceptions of residents.

Community involvement in the conservation of the George Town WHS and tourism development positively affects the positive perceptions of residents toward George Town's inscription as a WHS and tourism development. Our results indicate that a high level of community involvement improves residents' perceptions of the benefits of tourism, this finding being consistent with previous studies (Andereck & Nyaupane, 2011; Látková & Vogt, 2012; Nicholas et al., 2009; Tosun, 2002). However, the effect of community involvement on the negative perceptions of residents was found to be non-significant. This result indicated that residents who are involved in WHS conservation programs and tourism development are comparable to those who are not involved in terms of their feelings regarding the negative impacts of tourism development.

The findings of this study also demonstrated a positive effect for community gain on the positive and negative perceptions of residents toward the inscription of George Town as a WHS and tourism development. Community gain in this study was assessed based on the opinions of residents regarding improvements in infrastructure, public facilities, community security, and safety in the wake of George Town having been inscribed as a WHS. Residents who believed that the community had benefited from George Town's inscription as a WHS and tourism development perceived more positive impacts of tourism. While this finding is consistent with the group gain rule of SET, it must be seen in the context of having also found a positive effect for community gain on residents' negative perceptions. Consequently, these results do not support our earlier hypothesis. The positive effects of community gain on residents' negative perceptions suggests that although increasing community gain improves the positive perceptions of residents, the negative impact of tourism development remains an important area of concern for residents. We had expected the negative effects of community gain to affect residents negative perceptions; however, our results indicated quite the opposite.

The highest positive effects were among the predictors of residents' positive perceptions for community members' gain and status consistency, respectively. These community factors strongly influence the positive perceptions of residents toward George Town's inscription as a WHS and tourism development, and refer to the importance of belonging to a certain resident group, and to considering the benefits of WHS inscription and tourism development to other group members. This finding is consistent with George Town's multicultural context, having developed over centuries of trading and cultural exchange between east and west to become a multicultural city (Think City, 2014). George Town's multiethnic make-up lends itself to the various ethnic groups wishing to promote their culture and traditions, and to improving the circumstances of their respective communities and their members. These findings are consistent with the group gain and status consistency rules of SET. These findings are also consistent with previous studies having identified the contributions made by cultural group affiliation toward the preservation of local cultures by promoting cultural activities, increasing residents' pride in their culture and preserving their cultural identity (Andereck et al., 2007; Gursoy et al., 2002; Kim, 2002). Notwithstanding, the effect of community members' gain and status consistency on the negative perception of residents was non-significant. These results would suggest that these community factors only exert an influence over the positive perceptions of residents, while residents' negative perceptions appear to be influenced by other factors yet to be identified.

Another important finding to note is the R^2 value of the positive and negative perceptions of residents. The R^2 value is an indicator of the variance explained by a set of predictors on a criterion. In this study, we investigated the effects of certain variables on the positive and negative perceptions of residents toward tourism development. However, we found the R^2 value of positive perceptions to be much higher than that of the negative perceptions. This result indicates that the factors identified in this study exert a stronger influence on positive perceptions than they do on negative perceptions. Therefore, while the community factors involved in this study appear to be good predictors of residents' positive perceptions, they are not good predictors of residents' negative perceptions; we therefore suggest that some other set of factors may be at work in resident's negative perceptions.

We also found a significant and positive effect for residents' positive and negative perceptions on their support for WHS conservation and tourism development. Residents with more positive perceptions were more willing to participate in WHS conservation programs and tourism development. These residents also believed that local authorities and the state government should support the promotion of tourism and develop a long-term plan to manage conservation efforts and the growth of tourism in the George Town WHS. This finding was consistent with several previous studies (Andereck et al., 2005; Gursoy et al., 2002; Ko & Stewart, 2002; Látková & Vogt, 2012; Nicholas et al., 2009; Walpole & Goodwin, 2001; Wang & Pfister, 2008). However, a positive relationship was also found between residents' negative perceptions and community participation. This study had hypothesized this effect as being negative effect. Residents indicated that the inscription of George Town as a WHS and tourism development had adverse effects on them individually and on their community. Nevertheless, these residents still supported participation in WHS conservation efforts and tourism development in order to increase their positive impacts and reduce the negatives. Such motives are consistent with the findings of earlier studies (Easterling, 2005; Jaafar et al., 2015b; Nicholas et al., 2009).

Conclusion

In this study, we investigated the effects of community factors influencing residents' perceptions and support for WHS conservation and tourism development in the George Town WHS, using SET to conceptualize the relationships between these factors and residents' perceptions. We used a revised SET framework that explains the interpersonal exchange of residents in terms of six rules: reciprocity, rationality, altruism, group gain, status consistency, and competition (Cropanzano & Mitchell, 2005). We described the conceptual framework based on these six SET rules and discussed our results based on these same rules. Some of these community factors – such as cultural attitude, community gain, community members' gain, and status consistency – have not been previously examined in the literature on residents' perceptions toward tourism development. This represents an important theoretical contribution arising from this study. In addition, we used common factor-based PLS-SEM to address some of the recent the criticisms of PLS-SEM and performed confirmatory factor analysis to assess the reliability and validity of the newly developed constructs, and this can be considered a significant methodological contribution of the present study.

The results of this study have some important practical implications for the authorities responsible for the management of the George Town WHS. Our results allude to the importance of positive and negative perceptions in support of tourism development in the George Town WHS. Thus, local authorities should actively and directly endeavor to improve the positive perceptions and respond to any negative perceptions held by residents. Improving community members' gain, status consistency, and community involvement would significantly enhance their positive perceptions. However, as the results demonstrate, residents with a high level of community attachment and perceived community gain can still be concerned about the negative impacts of tourism. Therefore, in addition to improving community gain, local authorities should try to mitigate the negative impacts of tourism development.

Limitations and recommendations for future studies

There are a number of limitations and areas for further research based on the finding of present study. One limitation of this study is that most of the community factors that were examined had non-significant effects on the negative perceptions of residents. Moreover, the R^2 value of residents' negative perceptions was low in contrast to the high R^2 value of the associated positive perceptions. We therefore conclude that while these community factors are good predictors of positive perceptions, they are not suitable predictors of negative perception. Further research, therefore, is necessary

to identify more suitable predictors of residents' negative perceptions that correspond with the rules of SET.

In addition, the effects of the factors influencing residents' perceptions, and also the expression of negative and positive feelings toward tourism development, may differ depending on context, with different host community cultures potentially producing significantly different results. For example, in our study, the effect of community members' gain and status consistency had the strongest effect on the positive perceptions of residents of the George Town WHS, something which might be attributed to George Town's unique history. Comparative studies between developing and developed countries, between different context (e.g., rural versus urban area), and communities with different cultures might elucidate upon these differences and further our understanding of the factors influencing residents' perceptions in different contexts.

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