

Distinctive and Collective Effects of Physical Distance and Cultural Distance on Tourism

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Abstract

Drawing on the data from the Hong Kong Tourism Board, this study examines the distinctive and collective impacts of physical and cultural distances on tourist trip profile, tourist characteristics, activities and expenditure patterns in Hong Kong, and satisfaction. Compared to cultural distance, physical distance appears to be a stronger determinant of trip profile and tourist behavior. However, cultural distance exhibits distinctive explanatory power on certain attributes such as the proportion of expenditure on hotels and entertainment. The interaction effects show that cultural distance affects short-haul and long-haul tourists differently. Thus, both physical distance and cultural distance should be considered simultaneously in order to better understand tourist behaviors.

Keywords: cultural distance, physical distance, collective effects, tourist behavior, Hong Kong

Introduction

Tobler's (1970) first law of geography argues that "everything is related to everything else, but near things are more related than distant things" (p. 234). This concept is based on the friction of distance which suggests that "distance" hinders interactions between two places. Thus, the farther away two places are, the greater the cost is to overcome the hindrance. The friction of distance thus creates a distance decay effect which is evident in various scientific and social context, such as pollution, migration, and community structure. In tourism, McKercher and Lew (2003) pioneered to explore the effect of distance decay in international tourism flow. Their findings generally echo the distance decay phenomenon, suggesting that tourism demand peaks at a point close to the destination before declining sharply.

The distance between two places can be articulated based on objective measures, such as geographical or physical distance (Bull, 1991), and cultural distance (Crofts, 2004; Litvin et al., 2004). Both measurements of distance are objectively determined and assumed to be homogeneous among members of a society. On the other hand, distance can also be measured subjectively based on social distance (Thurot and Thurot, 1983; Tasci, 2009; Woosnam and Lee, 2011) and psychic distance (Ankomah and Crompton, 1992; Kantarci, 2007; Sousa and Bradley, 2006), and are heterogeneous among individuals. Existing literature exploring the effect of distance mainly focus on one of the distance variables. For example, ample research has been conducted to examine the effect of physical distance on tourist movements (McKercher et al., 2008), destination choices (Lee et al., 2012; Nicolau and Más, 2006; Sun et al., 2017), and tourist characteristics and behaviors (Bao and McKercher, 2008; McKercher, 2008). While culture has long been identified as an influential factor on tourism and tourists' behaviors (Crofts, 2004; Kim and McKercher, 2011; Lepp and Gibson, 2003; Lord et al., 2008; Money and Crofts, 2003), scholars began to focus on the effect of cultural distance, and attempted to explain tourists' intention to visit a destination and their behavior at the destination using the concept of cultural proximity or distance between the destination and the source market (Ahn and McKercher, 2015; McKercher and du Cros, 2003; Ng et al., 2007).

Despite various studies have been performed to examine the impact of distance on tourism, they tend to focus on one single distance variable, which is either physical distance or cultural distance. Therefore, whether physical distance or cultural distance is a more powerful variable in explaining tourists' trip profile, characteristics, and behaviors at a destination is not known. Besides, the collective impacts of both physical distance and cultural distance have not been previously explored. The present study seeks to fill this void by achieving two major objectives. First, it aims to identify whether physical distance or cultural distance is a stronger variable in explaining trip profile, tourist characteristics, activities, expenditure, and satisfaction. Second, it seeks to identify the collective impacts of these two variables by testing their interaction effects. Taking Hong Kong as the study context, the results of this study will enhance the current understanding of tourists coming from different countries with diverse combinations of physical and cultural distances from Hong Kong.

Literature Review

The Role of Physical Distance in Tourism

The concept of physical distance originates from the classic distance decay

theory, which suggests that tourist demand peaks at a distance relatively close to the source market, but decreases exponentially as distance increases (Bull, 1991). It is because people must travel a minimum distance in order for them to feel sufficiently away from home and make the journey worthwhile (McKercher and Lew, 2003). However, demand decreases drastically as distance increases since people tradeoff between cost (the time spent getting to the destination) and benefit (the time available at the destination). McKercher et al. (2008) empirically tested this theory and showed that tourism demand declines significantly by about 50% with every 1000 kilometers traveled, and that the demand for any destination beyond 1000 kilometers falls to merely 2% or less. Lee et al. (2012) further validated the distance decay travel patterns using longitudinal data. McKercher (1998a) introduced a plateauing pattern between physical distance and tourist arrivals, which is caused by the limited number of destination choices along a linear touring route. Instead of a smooth decay curve, McKercher and Lew (2003) suggested and tested the “Effective Tourism Exclusion Zone (ETEZ)”, where no or little tourism activities occur (pp. 159). With this zone situated along the curve, a secondary peak located at a certain distance from the source market is observed, which implies a market's distinctive capabilities in pulling and attracting tourists over despite physical distance (McKercher and Lew, 2003). This supported McKercher (1998b)'s findings in his study on market access theory, that destinations with unfavorable market access do not necessarily have a competitive disadvantage than other destinations. These destinations may possibly attract more repeat visitors, and also visitors with the most time resources. Nevertheless, the distance decay pattern is evidently demonstrated from the inverse relationship between physical distance and tourist movement (Lee et al., 2012; McKercher et al., 2008).

Culture

“+9-Culture” comes from the Latin word “colere”, which means cultivation and nurture. A country's cultural diversity and complexity grow as a result of its development. Traditionally, anthropologists defined culture as the complex mixture of knowledge, belief, art, morals, custom, habits and any other capabilities acquired by members of a society (Tylor, 1974), which distinguishes one society from another (Soloman, 1996). One could find similar cultural elements in different communities, but these communities would never develop and become identical. Over the past few decades, culture has received excessive attention from scholars in various fields. Hofstede is a pioneer in cultural studies. Despite receiving vigorous criticisms over his work, Hofstede's work has largely contributed to the development of this multifaceted concept (Ahn and McKercher, 2015; Sousa and Bradley, 2006). He developed and later on, improved the cultural dimensions theory, which

distinguishes countries based on six cultural dimensions, including Power Distance; Uncertainty Avoidance; Individuality versus Collectivism, and Masculinity versus Femininity; Long-term versus Short-term Orientation; Indulgence versus Self-restraint (Hofstede, 1980; Hofstede, 1991; Hofstede et al., 2010). These measures were widely tested in studies related to marketing and consumer behavior (Soares et al., 2007; Yoo et al., 2011), online communication (Baack and Singh, 2007), and managers' workplace behavior (Shackleton and Ali, 1990) etc. A brief description of each cultural dimension developed by Hofstede is provided below:

- (1) Power distance measures the extent to which power differences within a society are accepted and respected by the less powerful members.
- (2) Uncertainty avoidance refers to the ability of members in a society to tolerate the feeling of uncertainty and ambiguity about the future.
- (3) Individualism / collectivism relates to members' preference to loosely-tied with the other members of the society and only take care of themselves; conversely, collectivism represents a preference for being engaged in a group.
- (4) Masculinity / femininity represents the preference in a society for achievement, heroism and rewards for success; while femininity refers to a society that looks for cooperative, modest and caring character.
- (5) Long-term / short-term orientation measures the extent to which a society foster virtues oriented towards future rewards, particularly persistence and thrift.
- (6) Indulgence / restraint is the extent to which a society permits free fulfilment of basic human needs related to enjoying life and having fun.

Culture is one of the many forces that shapes tourists' way of thinking and reacting, which eventually affect their destination choice (Ng et al., 2007), trip planning (Money and Crofts, 2003), and other tourist behaviors (Litvin et al., 2004). Money and Crofts (2003) found that tourists' level of uncertainty avoidance will affect their length of stay at a destination. Crofts (2004) showed that tourists having higher uncertainty avoidance are more inclined to engage in risk-reducing travel behaviors, such as using travel packages and spending more time in trip planning. Lord et al. (2008) found that levels of individualism, uncertainty avoidance and time orientation affect tourists' perceptions, behaviors and satisfaction towards the neighboring countries. Thus, culture is an essential factor in marketing a destination or other tourism products that should not be overlooked.

The Role of Cultural Distance in Tourism

Cultural distance measures the extent to which the shared norms and values of one country differ from those of another (Hofstede, 2001; Kogut and Singh, 1988; Sousa and Bradley, 2006). It has been applied in studies related to the strategic entry mode adopted by multi-national enterprises during expansion (Drogendijk and Slangen, 2006; Kogut and Singh, 1988), and has become a factor of interest in terms of predicting tourist movement and behavioral patterns (Ahn and McKercher, 2015; McKercher and du Cros, 2003; Ng et al., 2007). It is generally assumed that tourists are motivated to travel in search of novelty and variances from daily routine. Thus, they tend to visit new and different locations instead of making repeat visits to the same destination (Lord et al., 2008). However, the integration of cultural distance may suggest a different explanation. Ng et al. (2007) showed that the greater the cultural similarity between a destination and a tourist's home country, the more likely that the tourist would visit that destination. Particularly, Australian tourists like to visit New Zealand, United Kingdom, the United States and Singapore the most, which are the most culturally similar to Australia, as opposed to Japan, Germany, and Indonesia. Remarkably, there are large variances in the geographic distances among these four most popular countries, which challenged the notion of distance decay. In a more recent study of Ahn and McKercher (2015), they found that cultural distance does not show a decaying curve as the physical distance does.

We thus face an alternative proposition that cultural distance, which is interrelated with physical distance (McKercher and du Cros, 2003), explains tourists' visit intention to and their behavior at a destination. People perceive that the risk involved in the travel decision is higher if they are visiting a more culturally distant place due to their unfamiliarity of local language, signs and traditions (Lepp and Gibson, 2003). Thus when they travel to countries that are having high cultural distance from their own country of origin, they are more likely to engage in risk reducing travel behaviors, such as spending more time on trip planning, traveling alone less frequently, visiting less destinations and joining tours more often (Crotts, 2004). The findings of Ahn and McKercher (2015), however, provided an opposing argument. They showed that greater cultural distance encourages tourists to visit more destinations in a single trip to spread the risk involved, yet increases the tendency for tourists to travel alone to explore the cultural aspect of the destination.

In his study about destination image, Kastenholz (2010) showed that tourists seek to balance between familiarity and novelty in their travel experiences. Instead of culturally proximate or distant locations, tourists' image towards destinations having moderate level of cultural distance from their home

country is the most positive. Similar to the concept of distance decay theory, this suggests the notion that people must travel to a destination that is sufficiently “distant” in culture before they become excited and feel motivated.

Method

Data Collection

Secondary data available at the Hong Kong Tourism Board's Visitor Profile Report 2016 (HKTB, 2017) is used to analyze the profiles of visitors. This study focuses only on the Vacation Overnight Visitors, which best represents the pleasure tourism market (Ahn and McKercher, 2015). Information of 25 observations are available in the report, but only 20 of them, for which the cultural distance figures could be retrieved and calculated, are included in the analysis. Other observations such as Middle East and Nordic, which represent a group of countries instead of one, are excluded.

The variable physical distance is obtained through distance calculator, based on the distance between Hong Kong and the largest single point source of visitors from any market (Geobytes, 2017; McKercher, 2008). The measurements of the six cultural dimensions for each country were obtained from Hofstede's (2017) website, which was then used to compute the cultural distance index using the formula of Kogut and Singh (1988), which was later on modified by Ahn and McKercher (2015) as below. The higher the score obtained, the larger the cultural distance of a source market from Hong Kong.

$$CD_j = \sum_{i=1}^n \frac{(I_{ij} - I_{ihk})^2 / v_i}{n}$$

where CD_j is the cultural distance for the j th country from Hong Kong;

I_{ij} is the Hofstede's score for the i th cultural dimension and j th country;

I_{ihk} is the Hofstede's score for the i th cultural dimension and Hong Kong;

v_i is the variance of Hofstede's index for the i th dimension;

n is the number of cultural dimensions.

Based on the average physical distance ($M=3.919$ thousand miles) and cultural distance ($M=1.94$), the 20 countries in the sample can be categorized into four groups, including (1) countries having both low physical distance and low cultural distance from Hong Kong: Taiwan, Philippines, Thailand, Korea,

Malaysia, Singapore, Indonesia and India; (2) country with low physical distance but high cultural distance: Japan; (3) countries with high physical distance and high cultural distance: Russia, Australia, New Zealand, Netherlands, United Kingdom, France, United States and Canada; and (4) countries having high physical distance but low cultural distance: Germany, Italy and South Africa. Each of these countries is plotted according to their respective values of physical distance and cultural distance, as shown in Figure 1. It is evident that various countries having similar physical distance from Hong Kong may differ in their cultural distance values (e.g., Malaysia and Japan).

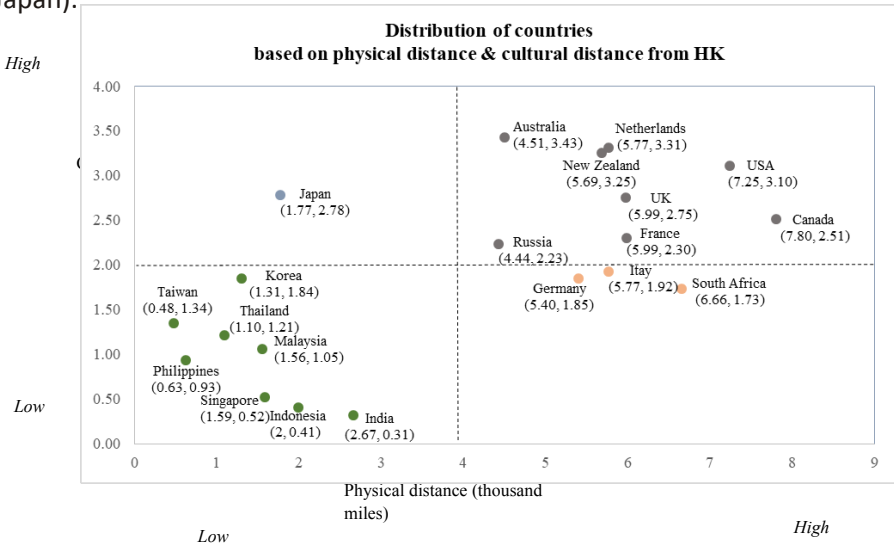


Figure 1. Distribution of countries based on physical distance and cultural distance from Hong Kong

Results

This section examines the distinctive and collective impacts of physical distance and cultural distance on tourists through in-depth analysis of the secondary data. The effects of the three independent variables of interest, including physical distance (PD), cultural distance (CD), and the interacted term of physical distance and cultural distance after mean centering (PD*CD) were tested on the five categories of dependent variables (trip profile, tourist characteristics, activities, expenditures, and satisfaction) using stepwise regression analysis. A p-value of 0.1 has been adopted for the analysis.

Trip Profile

Four attributes of trip profile (i.e., average length of stay in nights, proportion

of tourists being a repeat visitors, joining guided tours, and taking Hong Kong as the only destination) were tested, and the results are shown in Table 1. Physical distance is included as an independent variable in the stepwise regression models for all four attributes. Physical distance is positively related to the average length of stay in nights ($\beta=0.64, p<0.01$), but negatively related to the proportion of repeat visitors ($\beta= -0.49, p<0.05$), the proportion of tourists joining guided tours ($\beta= -0.48, p<0.05$), and the proportion of tourists taking Hong Kong as the only destination ($\beta= -0.90, p<0.01$). Thus, the more distant the source market is, the longer the tourists stay in Hong Kong, and a lower proportion of them will be repeat visitors, or joining guided tours, or taking Hong Kong as the only destination in their trip. Cultural distance, however, does not seem to be related to any attributes of trip profile examined, and was thus excluded in the stepwise regression analyses. This suggests that physical distance is a better determinant of trip profile than cultural distance.

Table 1 Stepwise regression analysis for trip profile

Dependent variable	PD		CD		PD*CD		R ²	Change in R ²	F
	t	β	t	β	t	β			
<i>Trip profile</i>									
LOS - average nights	0.64	3.74***	-	-	0.38	2.23**	0.51	0.14	8.76**
% repeat visit	-0.49	-2.58**	-	-	0.37	1.94*	0.40	0.13	5.74**
% on guided tour	-0.48	-2.18**	-	-	-	-	0.21	0.21	4.74**
% Hong Kong only destination	-0.90	-8.61***	-	-	-	-	0.81	0.81	74.18***

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

"-" indicates that the independent variable was excluded in the stepwise regression analysis

Despite cultural distance is not a significant determinant of trip profile attributes, it was found to positively moderate the relationship between physical distance and length of stay ($\beta = 0.38, p < .05$), and negatively moderate the relationship between physical distance and the proportion of repeat visitors ($\beta=0.37, p<0.1$). As shown in Figure 2, the relationship between physical distance and average length of stay is more positive as cultural distance increases. Thus, high cultural distance seems to reduce the length of stay in nights for tourists from more proximate source markets ($M_{low PD, low CD}=2.7, M_{low PD, high CD}=2.1$), but increase the length of stay for tourists from distant markets. ($M_{high PD, low CD}=3.2, M_{high PD, high CD}=3.5$)

By contrast, the negative relationship between physical distance and the proportion of repeat visitors becomes weaker as cultural distance increases. As shown in Figure 3, high cultural distance tends to reduce the proportion of repeat visitors for more proximate source markets ($M_{low PD, low CD}=61.3\%, M_{low$

PD, high CD=55%), but increase that for more distant markets ($M_{high PD, low CD}=42\%$, $M_{high PD, high CD}=47\%$).

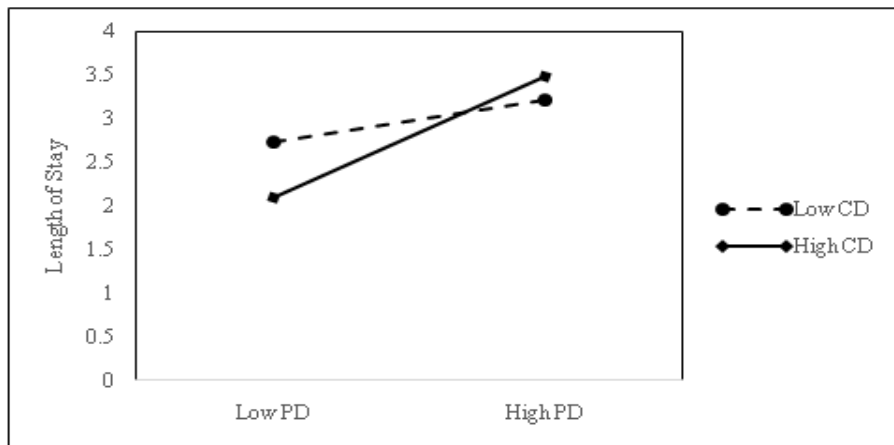


Figure 2. Moderation effect of cultural distance on the relationship between physical distance and tourist length of stay.

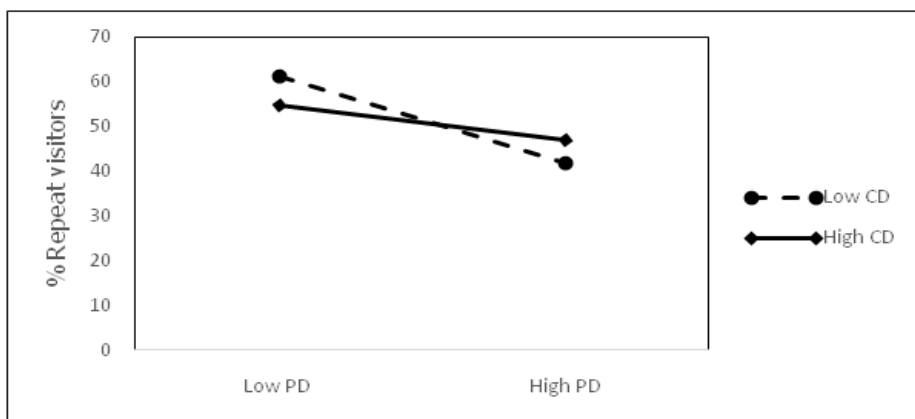


Figure 3. Moderation effect of cultural distance on the relationship between physical distance and % of repeat tourists

Tourist Characteristics

A total of 12 characteristics variables (e.g., average age and occupation etc.) were regressed with the independent variables, and seven of them returned significant results. According to Table 2, physical distance is included as an independent variable in the stepwise regression models for five characteristics variables. It is positively related to the proportion of male tourists ($\beta=0.54$, $p<0.05$), proportion of retired tourists ($\beta=0.66$, $p<0.01$), and proportion of tourists traveling alone ($\beta=0.77$, $p<0.01$). Physical distance is, however,

negatively related to the proportion of housewife ($\beta=-0.57, p<0.01$) and proportion of tourists traveling with children or grandchildren ($\beta=-0.33, p<0.1$). On the other hand, cultural distance is included as an independent variable explaining two characteristics variables. It is negatively related to the proportion of working tourists ($\beta=-0.58, p<0.01$) and the proportion of tourists traveling with children or grandchildren ($\beta=-0.49, p<0.05$). Despite physical distance appears to explain a larger number of tourist characteristics variables, cultural distance is shown to explain a different tourist characteristic, which is the proportion of working tourists. This implies that physical distance and cultural distance each have their distinctive impact on tourist characteristics.

Table 2 Stepwise regression analysis for tourist characteristics

Dependent variable	PD		CD		PD*CD		R ²	Change in R ²	F
	β	t	β	t	β	t			
Tourist characteristic									
% male	0.54	2.71**	-	-	-	-	0.29	0.29	7.37***
% working	-	-	0.58	3.02***	-	-	0.34	0.34	9.13***
% housewife	-0.57	-3.00***	-	-	-	-	0.33	0.33	8.84***
% retired	0.66	3.89***	-	-	-	-	0.43	0.43	13.59***
% traveling alone	0.77	6.58***	-	-	-0.34	-2.92**	0.77	0.12	27.95***
% with children/grand children	-0.33	-1.88*	0.49	-2.74**	0.28	2.07*	0.72	0.062	13.55***

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

“-“ indicates that the independent variable was excluded in the stepwise regression analysis

Remarkably, cultural distance negatively moderates the relationship between physical distance and the proportion of tourists traveling alone ($\beta=-0.34, p<0.05$), as well as the relationship between physical distance and the proportion of tourists traveling with children or grandchildren ($\beta=0.28, p<0.1$). Figures 4 and 5 illustrate the interaction effects. As physical distance increases, the proportion of tourists traveling alone increases. However, the positive relationship between physical distance and proportion of tourists traveling alone is weaker as cultural distance increases. Thus, high cultural distance seems to increase the interest of tourists from proximate source markets in traveling alone. ($M_{lowPD, lowCD}=10.5\%, M_{lowPD, highCD}=18\%$), but reduce the interest of tourists from distant markets to do so ($M_{highPD, lowCD}=28.3\%, M_{highPD, highCD}=25.5\%$) By contrast, as physical distance increases, the proportion of tourists travelling with children or grandchildren decreases. However, this negative relationship becomes weaker when cultural distance increases, High cultural distance seems to greatly reduce the intention of tourists from proximate source markets traveling with children or grandchildren ($M_{lowPD, lowCD}=24.9\%, M_{lowPD, highCD}=12\%$), but its role on tourists from distant source markets is not prominent ($M_{highPD, lowCD}=9.3\%, M_{highPD, highCD}=9.9\%$),

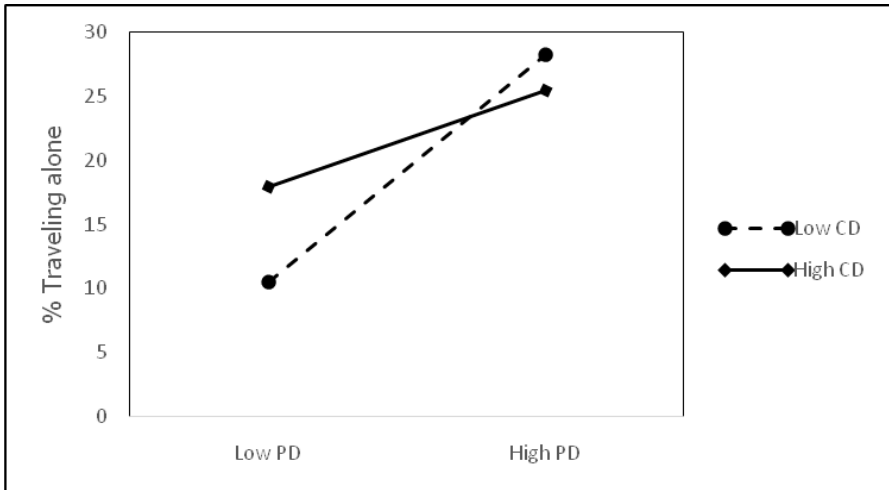


Figure 4. Moderation effect of cultural distance on the relationship between physical distance and % of tourists traveling alone.

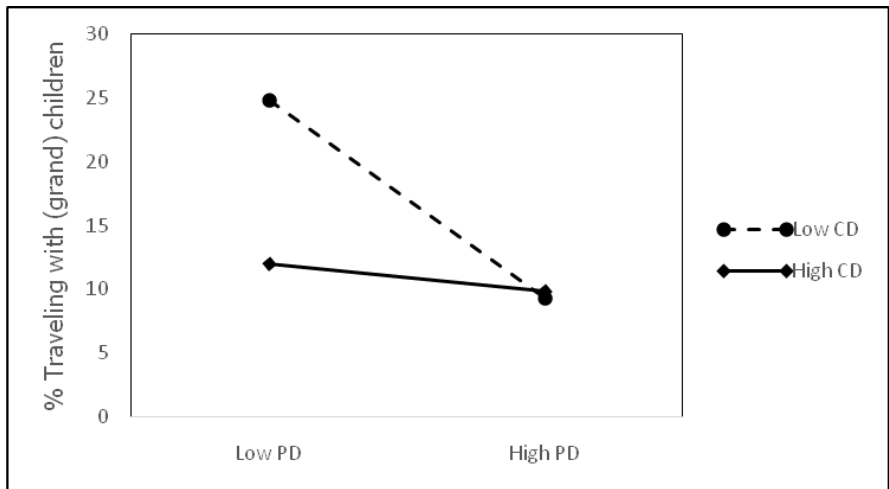


Figure 5. Moderation effect of cultural distance on the relationship between physical distance and % of tourists traveling with (grand) children.

Tourist Activities

A total of 17 activities (e.g., proportion of tourists visiting the Disneyland) were tested against the three independent variables for the stepwise regression analysis, and 13 of them showed significant results. According to Table 3, physical distance is included as an independent variable for most activities variables, except the proportions of tourists visiting Ocean Park and Symphony of Lights. Physical distance is positively related to the proportion of tourists

visiting such attractions as the Open Air Markets ($\beta = 0.43, p < 0.1$), Stanley Markets ($\beta = 0.63, p < 0.01$), Big Buddha and Po Lin Monastery ($\beta = 0.57, p < 0.01$), Victoria Peak ($\beta = 0.59, p < 0.01$), Lamma Island ($\beta = 0.64, p < 0.01$), Repulse Bay ($\beta = 0.39, p < 0.1$), Star Ferry ($\beta = 0.64, p < 0.01$), and TsimShaTsui Waterfront ($\beta = 0.74, p < 0.01$). The more distant the source market is, the higher the proportion of tourists visiting these attractions, which tend to be unique to Hong Kong, and not available elsewhere. Physical distance is, however, negatively related to the proportion of tourists that went shopping ($\beta = -0.76, p < 0.01$), visited the Disneyland ($\beta = 0.39, p < 0.1$) and Wong Tai Sin Temple ($\beta = -0.41, p < 0.1$). Tourists coming from more distant markets demonstrate less interests in these three attractions, and thus a smaller proportion of tourists performed these activities.

Table 3 Stepwise regression analysis for tourist activities

Dependent variable	PD		CD		PD*CD		R ²	Change in R ²	F
	β	t	β	t	β	t			
<i>Tourist activities</i>									
% went shopping	-0.76	-5.00***	-	-	-	-	0.58	0.58	25.02***
% Disneyland	-0.39	-2.07*	-0.49	-2.58**	-	-	0.64	0.09	15.31***
% Wong Tai Sin Temple	-0.41	-1.93*	-	-	-	-	0.17	0.17	3.71*
% Ocean Park	-	-	-0.60	-3.17***	-	-	0.36	0.36	10.07***
% Open Air Markets	0.43	2.02*	-	-	-	-	0.19	0.19	4.08*
% Stanley Markets	0.63	3.42***	-	-	-	-	0.40	0.49	11.71***
% Big Buddha & Po Lin Monastery	0.57	2.94***	-	-	-	-	0.33	0.33	8.65***
% Victoria Peak	0.59	3.11***	-	-	-	-	0.35	0.35	9.67***
% Lamma Island	0.64	3.58***	-	-	-	-	0.42	0.42	12.78***
% Repulse Bay	0.39	1.77*	-	-	-	-	0.15	0.15	3.14*
% Symphony of Lights	-	-	0.36	1.84*	0.42	2.11*	0.38	0.13	5.09**
% Star Ferry	0.64	3.57***	-	-	-	-	0.41	0.41	12.74***
% TST Waterfront	0.74	4.68***	-	-	-	-	0.55	0.55	21.87***

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

“-“ indicates that the independent variable was excluded in the stepwise regression analysis

Cultural distance is included in the stepwise regression models explaining three activities variables. It is negatively related to the proportion of tourists visiting the two theme parks in Hong Kong, including the Disneyland ($\beta = -0.49, p < 0.05$) and the Ocean Park ($\beta = -0.60, p < 0.01$). The larger the cultural distance, the smaller the proportion of tourists visiting these theme parks. On the other hand, cultural distance is positively related to the proportion of tourists visiting the Symphony of Lights laser light show ($\beta = 0.36, p < 0.1$). This implies that the more culturally distant a source market is, the higher the percentage of tourists visiting this attraction. Although physical distance is able to explain most tourist activities patterns, cultural distance is shown to explain two different activities variables, including the proportion of tourists visiting the Ocean Park

and the Symphony of Lights. Thus, physical distance and cultural distance each have their own unique impact on tourist activities, and should thus be considered simultaneously.

Interestingly, although physical distance does not explain the proportion of tourists visiting the Symphony of Lights, it negatively moderates the relationship between cultural distance and the proportion of tourists visiting the Symphony of Lights ($\beta = 0.42, p < 0.1$). Figure 6 denotes that the relationship between cultural distance and the proportion of tourists visiting the Symphony of Lights is positive when physical distance is low. However, the relationship seems to be insignificant when physical distance is high. In other words, the positive relationship between cultural distance and the proportion of tourists visiting the Symphony of Lights exists only for tourists coming from proximate countries. ($M_{low PD, low CD} = 15.8\%, M_{low PD, high CD} = 22\%$). Cultural distance does not affect the intention of tourists from distant markets to visit this attraction. ($M_{high PD, low CD} = 20.67\%, M_{high PD, high CD} = 19.9\%$),

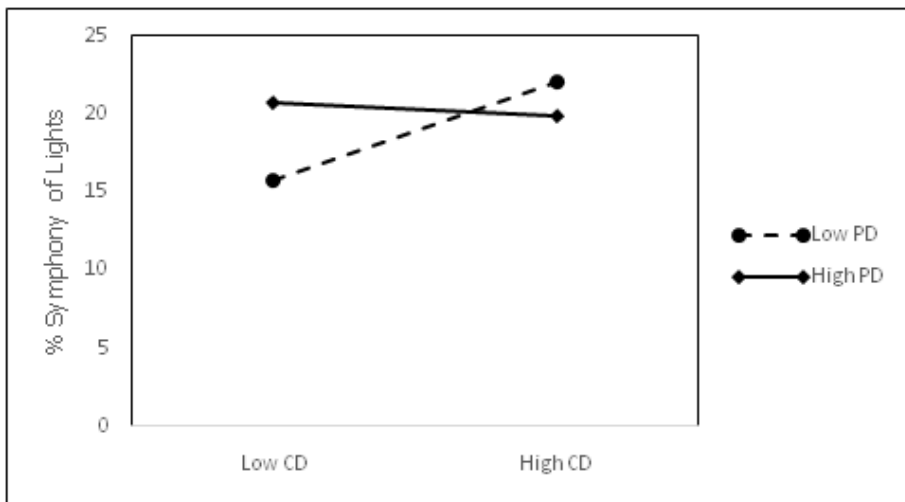


Figure 6. Moderation effect of physical distance on the relationship between cultural distance and the proportion of tourists visiting the Symphony of Lights

Tourist Expenditure

Seven items related to tourist expenditure at the destination were included in the stepwise regression analyses (e.g., proportion of expenditure on shopping, on tour, etc.), and six of them returned significant results. Referring to Table 4, physical distance is negatively related to average expenditure per night ($\beta = -0.43, p < 0.1$) and the proportion of expenditure on shopping ($\beta = -0.58,$

$p < 0.01$). The more distant the source market is, the smaller proportion the tourists spend on average per night and on shopping. On the other hand, physical distance is positively related to the proportion of expenditure on hotels ($\beta = 0.53$, $p < 0.05$) and other areas ($\beta = 0.66$, $p < 0.01$). Thus, the proportions of spending on hotels and other areas significantly increase as physical distance increases.

Table 4 Stepwise regression analysis for tourist expenditures

Dependent variable	PD		CD		PD*CD		R ²	Change in R ²	F
	β	t	β	t	β	t			
<i>Tourist expenditures</i>									
Average expenditure per night	-0.43	-2.00*	-	-	-	-	0.18	0.18	3.98*
% on others	0.66	3.72***	-	-	-	-	0.43	0.43	13.81***
% on hotels	0.53	3.79**	0.46	3.34***	-	-	0.81	0.13	36.01***
% on entertainment	-	-	-0.48	-2.33**	-	-	0.23	0.23	5.41**
							0.68	0.06	18.31***
% on shopping	-0.58	3.25***	-	-	-0.32	-1.79*			
% on tours	-	-	-	-	-0.44	-2.06*	0.19	0.19	4.22*

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

“-“ indicates that the independent variable was excluded in the stepwise regression analysis

On the other hand, cultural distance is positively related to the proportion of spending on hotels ($\beta = 0.46$, $p < 0.01$), but negatively related to the proportion of spending on entertainment ($\beta = -0.48$, $p < 0.05$). This implies that tourists coming from more distant countries tend to spend a larger proportion of their budget on hotel, but a smaller proportion on entertainment. Similar to tourist characteristics and activities, physical distance is more important than cultural distance in predicting tourist expenditures, yet these two variables each have a distinctive effect on tourist expenditure.

The interactive term of physical distance and cultural distance has a negative effect on the proportion of tourists spending on shopping ($\beta = -0.32$, $p < 0.1$) and on tours ($\beta = -0.44$, $p < 0.1$). Figure 7 denotes that cultural distance negatively moderates the relationship between physical distance and proportion of tourists spending on shopping. As physical distance increases, the proportion of spending on shopping decreases. However, the negative relationship between physical distance and proportion of spending on shopping becomes weaker as cultural distance increases. High cultural distance seems to reduce the interest of tourists from proximate source markets to spend on shopping. ($M_{low PD, low CD} = 36.63\%$, $M_{low PD, high CD} = 28.7\%$), but its role on tourists from physically distant source markets is not prominent ($M_{high PD, low CD} = 21.54\%$, $M_{high PD, high CD} = 22.2\%$),

While neither physical distance nor cultural distance alone can explain the proportion of tourist spending on tours, the interaction of these two variables negatively affect the proportion of tourist spending on tours. Figure 8 shows that the relationship between physical distance and the proportion of tourist spending on tours is negative when cultural distance is high, but the relationship is insignificant when cultural distance is low. In other words, the negative relationship between physical distance and the proportion of tourist spending on tours exists only for tourists coming from culturally distant countries ($M_{lowPD, highCD}=3.20\%$, $M_{highPD, highCD}=1.23\%$), but not for tourists coming from culturally proximate countries ($M_{lowPD, lowCD}=1.36\%$, $M_{highPD, lowCD}=1.37\%$),

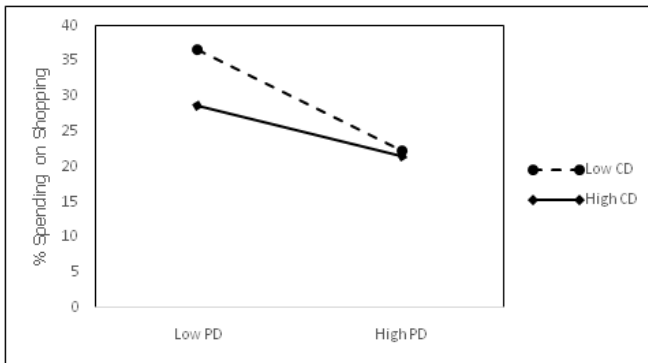


Figure 7. Moderation effect of cultural distance on the relationship between physical distance and the proportion of tourists spending on shopping

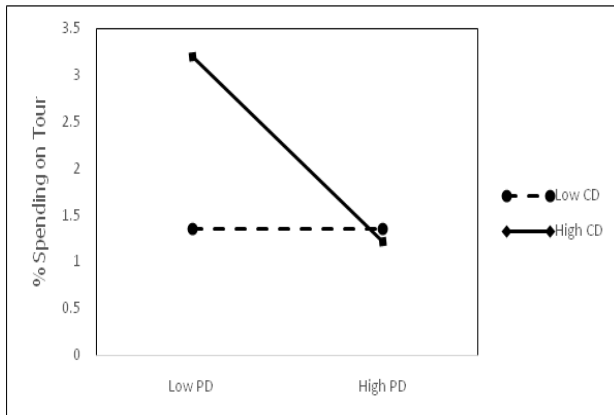


Figure 8. Moderation effect of cultural distance on the relationship between physical distance and the proportion of tourist spending on tour

Tourist Satisfaction

Ten items related to tourist satisfaction with the different aspects of Hong Kong

(e.g., shopping, hotels, dining, etc.) were included for analysis, and seven of them returned significant results. Referring to Table 5, physical distance is included as an independent variable in the stepwise regression models for most satisfaction variables, except shopping value for money and proportion of tourists intending to return. Specifically, physical distance is positively related to tourists' satisfaction to the attitude of shop assistants ($\beta = 0.78, p < 0.01$), rating for shopping ($\beta = 0.49, p < 0.05$), hotels ($\beta = 0.61, p < 0.01$), dining ($\beta = 0.49, p < 0.05$), sightseeing ($\beta = 0.56, p < 0.05$), and overall rating ($\beta = 0.56, p < 0.05$). This suggests that tourists from physically distant markets tend to attribute higher overall ratings and specific rating on each attribute. On the other hand, cultural distance is also positively related to the rating of dining ($\beta = 0.36, p < 0.1$), and the proportion of tourists intending to return ($\beta = 0.60, p < 0.01$). The more culturally distant the countries are, the higher the satisfaction towards dining in Hong Kong, and the higher the proportion of tourists from those countries intending to return. Physical distance is more important than cultural distance in explaining tourist satisfaction, but cultural distance is more useful in explaining tourists' intention to return.

Table 5 Stepwise regression analysis for tourist satisfaction

Dependent variable	PD		CD		PD*CD		R ²	Change in R ²	F
	β	t	β	t	β	t			
<i>Tourist satisfaction</i>									
Shopping value for money	-	-	-	-	0.52	2.55**	0.27	0.27	6.48**
Attitude of shop assistants	0.78	5.22***	-	-	-	-	0.60	0.60	27.23***
Rating for shopping	0.49	2.40**	-	-	-	-	0.24	0.24	5.74**
Rating of hotels	0.61	3.28***	-	-	-	-	0.38	0.38	10.78***
Rating of dining	0.49	2.45**	0.36	1.80*	-	-	0.60	0.08	12.85***
Rating of sightseeing	0.56	2.90**	-	-	-	-	0.32	0.32	8.38
Overall rating	0.69	4.03***	-	-	-	-	0.47	0.47	16.21***
% intending to return	-	-	-	-	-	-	0.35	0.35	9.84***
			0.60	3.14***	-	-			

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

“-“ indicates that the independent variable was excluded in the stepwise regression analysis

Although both physical distance and cultural distance were excluded in the stepwise regression analysis for explaining the shopping value for money, the interactive term of physical distance and cultural distance has a negative effect on tourists' perception on shopping value for money ($\beta = 0.52, p < 0.05$). According to Figure 9, the relationship between physical distance and the shopping value for money is positive when cultural distance is high. ($M_{low PD, high CD} = 58.2, M_{high PD, high CD} = 64.35$), but the relationship turns into negative when cultural distance is low ($M_{low PD, low CD} = 64.14, M_{high PD, low CD} = 58.17$),

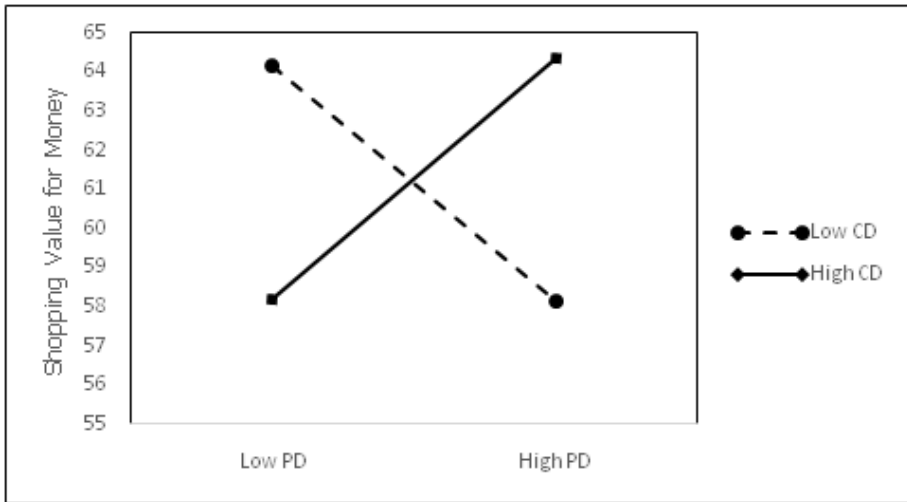


Figure 9. Interaction effect of physical distance and cultural distance on tourists' perception of shopping value for money

DISCUSSION & CONCLUSION

This study seeks to examine the distinctive effects of physical distance and cultural distance, as well as their collective effects on influencing tourist trip profiles, tourist characteristics, activities, expenditure, and satisfaction. Using the secondary data extracted from the Hong Kong Tourism Board in 2016, data related to 20 international source markets were analyzed.

It is evident that countries located physically distant to each other may not necessarily excel similar culture, and vice versa. Japan, for instance, is a nation that possesses distinctive norms and values, which are rather dissimilar to other nearby nations such as Korea (Lee and Lee, 2009). The present study shows that despite physical proximity, Japan is shown to have a fairly diverse culture from Hong Kong, compared to other closely located countries such as India, Indonesia and Singapore. Conversely, Germany, Italy and South Africa is characterized with culture rather close to that of Hong Kong despite their large physical distance. With this interesting dynamics observed, the present study seeks to empirically test the interactions between physical distance and cultural distance in order to better understand tourist features unique to countries with different combinations of these two variables.

Physical distance is found to predict trip profile, tourist characteristics, activities, expenditure, and satisfaction. Long-haul tourists tend to stay more nights in Hong Kong. These countries tend to have a smaller proportion of tourists being repeat visitors, joining guided tours, and taking Hong Kong as the

only destination. This aligns with existing literature that the more physically distant a destination is from the source market, the longer the tourists tend to stay and the more likely they are to engage in multi-destination trips, in order to reduce the risk involved, and justify the cost and time used in traveling to the destination (Ahn and McKercher, 2015; McKercher, 2008; McKercher and Lew, 2003; Tideswell and Faulkner, 1999). Furthermore, the proportions of male tourists, retired tourists, and tourists traveling alone increase as physical distance increases. Consistently, the proportions of housewife tourists and tourists traveling with children or grandchildren decrease with the rise of physical distance. Previous literature shows that men travel further distance for work than women (Johnston-Anumonwo, 1992). When making destination choice, female tourists tend to choose places that they feel safe, in contrast to fun and sense of achievement sought by male (Meng and Uysal, 2008). Thus male tourists may select destinations located farther away than female (especially housewives) in order to fulfill their travel motivation. In addition, retired adults have more discretionary time to travel than students and working adults, which encourages them to travel farther (Bao and McKercher, 2008).

It is evident that tourists seek for different experiences and thus perform different activities depending on the distance that they travel. Long-haul tourists are more interested in natural scenery (e.g., Lamma Island) and unique attractions (e.g., Victoria Peak) than hedonistic activities in Hong Kong (e.g., shopping and Disneyland), which may also be available at other destinations. Long-haul travelers tend to pursue unique experiences which they could not find in home, while short-haul travelers may just want a break from their routine and thus are more interested in pleasure-only activities. Consistent with the findings of Bao and McKercher (2008), long-haul travelers tend to spend less per night in Hong Kong, and they also spend less on shopping. However, they usually spend more on hotels and others areas. Moreover, long-haul travelers are more satisfied with their overall experiences in Hong Kong, especially on the service attitudes of shop assistants, their experiences in shopping, hotels, dining, and sightseeing.

As opposed to the findings of Crofts (2004) and Ahn and McKercher (2015), who found that cultural distance affect tourist trip profile, such as the tendency of tourists traveling alone and visiting less destinations, the present study did not find any significant relationship between cultural distance and trip profile. Instead, this study shows that physical distance is a better determinant of trip profile characteristics. Nevertheless, cultural distance is related to some of the tourist characteristics, tourist activities, expenditure, and satisfaction. Specifically, the proportion of tourists that are working and the proportion of tourists traveling with children or grandchildren decrease as

cultural distance increases. Consistent with the findings of Ahn and McKercher (2015), tourists with different cultural background tend to seek different experiences in Hong Kong. In particular, tourists coming from culturally distant markets, such as the United States, France, etc., are less interested in the theme parks in Hong Kong, including Disneyland and the Ocean Park. However, these tourists are more interested in the Symphony of Lights laser light show, which is rather unique and symbolic of Hong Kong as a cosmopolitan city. Similar to the findings related to physical distance discussed earlier, tourists coming from culturally distant locations tend to spend a larger proportion of their budget on hotels. However, they tend to spend a smaller proportion in the entertainment sector. Tourists traveling to a destination that is more culturally different may perceive higher risk due to the unfamiliarity of languages and traditions (Leep and Gibson, 2003). Thus, they tend to allocate a higher proportion of their budget for hotels to enhance the certainty on quality and reduce the overall risk of their travel decision. Furthermore, they are more satisfied with the aspect of dining in Hong Kong, and a higher proportion of them show the intention to return to Hong Kong.

The current study shows that physical distance is a better predictor than cultural distance for trip profiles of tourists, tourist characteristics, tourist activities, tourist expenditures, and tourist satisfaction. However, cultural distance is able to explain tourist characteristic (proportion of working "tourists") tourist activities (proportion of tourists visiting the Ocean Park and the Symphony of Lights), tourist expenditure (proportion on entertainment), and tourist satisfaction (proportion of tourists intending to return) that are different from those explained by physical distance. Thus, physical distance and cultural distance indeed project distinctive influences on tourists. As such, both factors should complement each other to help interpret tourist behaviors at a destination (Ahn and McKercher, 2015).

The second objective of this study is to investigate the collective effects of physical distance and cultural distance. The stepwise regression analyses showed that physical and cultural distance interact to affect a few variables, including the length of stay, the proportion of repeat visitors, the proportion of tourists traveling alone, the proportion of tourists traveling with children or grandchildren, the proportion of tourists visiting the Symphony of Lights, tourist spending on shopping, tourist spending on tours, and the shopping value for money.

High cultural distance generally represents lower level of shared language, understanding of signs and tradition, which tend to increase tourists' feeling of insecurity and unfamiliarity (Leep and Gibson, 2003). However, the significant interaction effects between cultural distance and physical distance found in

this study suggest that cultural distance influences short-haul and long-haul tourist differently. For example, high cultural distance maybe perceived as higher risk and thus reduces the interest of short-haul tourists to stay longer, travel with their children, and spend more on tours. By contrast, long-haul tourists may feel excited or even attracted by the unfamiliarity caused by the high level of cultural distance, which encourages them to perform risk-taking behaviors by staying longer to explore the city(Crotts, 2004; Leppand Gibson, 2003).

The Symphony of Lights is one of the most iconic attractions in Hong Kong. The interaction effects show that long-haul tourists show a rather constant interest in this attraction regardless of cultural differences. However, cultural difference significantly increases short-haul tourists' interest and participation in this attraction. Moreover, Hong Kong is renowned as the shopping paradise, especially for short-haul tourists. However, cultural differences appear to greatly reduce short-haul tourists' spending on shopping.

In conclusion, physical distance is a more significant indicator of trip profiles and tourist behaviors than cultural distance. The inclusion of cultural distance, however, is useful to explain additional attributes. Thus, physical distance and cultural distance each demonstrate distinctive impacts and excluding either one of them is insufficient to comprehensively understand tourist characteristics and behaviors. This study complements the existing literature by investigating the collective impacts of both distance variables. Essentially, high physical distance does not always imply high cultural distance. It is observed that cultural distance affect short-haul and long-haul tourists in a different way. As such, destination managers and marketers should not overlook the influence of the dynamic interplay between these two variables if they intend to better understand international tourists.

This study has two main limitations. First, the aggregated data obtained from the Hong Kong Tourism Board restricts the robustness of data analysis. Future studies are suggested to obtain raw data from tourists so as to verify the reliability and enhance the statistical significance of the present findings. Second, due to the limited sample size, the interaction effects were analyzed only by observing the graphical patterns of the mean values. Although this allows more straight-forward interpretations, future studies may follow more stringent procedures by testing the statistical significance in mean differences. This study represents the first attempt to identify the distinctive and collective impacts of physical distance and cultural distance on tourist behaviors at a destination. It is expected to stimulate more research efforts investigating the individual and combined effects of other distance variables, such as social distance and cognitive distance. In particular, it will be interesting to

understand how objective and subjective distance variables interplay to influence tourists.

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