

The influence of social interactions on senior customers’ experience and loneliness

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Abstract This study aims to understand how elderly consumers’ social interactions in small hospitality businesses (e.g. restaurants, cafes, and pubs) could promote their customer experience and alleviate their loneliness. Factor analysis and multiple regression analysis was performed using SPSS and AMOS to first identify different dimensions of the four constructs and then assess the significance of the relationship between these constructs. The results of the study show that the social interactions with employees (service manner and need identification) and social interactions with customers positively affect customer experience and the service manner of the employees has a positive influence on the reduction of loneliness of the elderly customers This study offered insights into how small hospitality organizations can facilitate elderly customers’ experience and help them to alleviate loneliness. The study will also demonstrate that loneliness as a social issue can not only be tackled by healthcare and psychological interventions but also with the help of commercial activities oriented towards experiential consumption.

Keywords Social interactions; Customer experience; Loneliness; Seniors; Small business

1 Introduction

Loneliness is one of the most serious societal issues among the elderly, with economic and socio-cultural implications both in many developed economies including Hong Kong (Windle et al., 2014). Loneliness leads to negative effects on physical and mental health; increased stress and mortality; poor sleep, and eventually increased health and social care service use (Ayis et al., 2003; Lauder et al., 2006). Given such individual wellbeing, health status, financial and wider community imperatives, there has been a national and international policy consensus that support must be provided to ameliorate social isolation and to help those elderly people living with, or on the brink of loneliness. A range of intervention activities have been developed with a view to preventing/alleviating loneliness, with variable success in achieving these goals (Masi et al., 2011). These include social care, mentoring, and volunteering, as well as practical help with tasks like gardening, intergenerational activities and transport, and other ways of helping the elderly to get out and about. There are also supportive group interventions that fall within group services such as lunch clubs and social group schemes like the use of libraries and museums that aim to help people widen their social circles. In particular, these activities help prevent the social isolation of elderly people, increase their quality of life and reduce public expenditure on medical costs for this group (Losada et al., 2012). There is a growing consensus in the literature

that leisure and leisure activities such as tourism, shopping, having a drink in a bar, visiting a festival, or going to a theatre help to increase satisfaction with the frequency of social contacts and reduce the social isolation of older people (Toepoel, 2013; Kim, Kanga and Kim, 2005). Pettigrew (2007), who drew upon continuity theory, found that older people who maintain an active leisure behaviour (e. g going out, and seeing other people as they age) tend to have higher level of well-being. In particular, eating and drinking rituals, reading, gardening, and shopping assist older people to remain socially active and act as a means of alleviating loneliness.

Although limited, previous research showed that leisure activities such as tourism, shopping, having a drink in a bar or going to a theatre help to increase satisfaction with the frequency of social contacts and reduce the social isolation of older people (Toepoel, 2013; Breen, 2009; Pettigrew, 2007; Kim et al., 2005). Collectively, these studies suggest that older consumers' consumption experience comes not from consuming for the sake of consumption but from such experiences of enjoyment and social interactions with employees and other customers in the consumption process. Such social interactions facilitates customer experience and thus alleviates loneliness. However, to date, there seems to be no systematic empirical study investigating the relationship between the social interactions, customer experience and loneliness constructs. By responding to this research gap, this study aims to evaluate how social interactions with employees and social interactions with other customers influence elderly consumers' customer experience and help them to tackle loneliness.

2 Literature Review

2.1 Relationship between social interactions and customer experience

Given that interactions are bound to happen in the consumption process, it is necessary to understand how these interactions influence customer experience. The positive predicting effect of social interactions on customer experience has been verified in several studies (Harris, 2007; Srivastava & Kaul, 2014). The entire consumer experience includes physical environment dimensions and human interaction dimensions, and is as important as product and service for a company (Yuan and Wu, 2008). That is supported by Carbone and Haeckel (1994), who agreed that the most effective interactions occur when the physical environment dimensions and human interaction dimensions work together. Pugh (2001) suggested that service interactions such as service employees' service manner can be observed and evaluated by customers, and the resultant impact on customers' comfort can influence their emotion and experience. According to Lloyd and Luk (2011), the overall customer experience can be shaped by social interactions with employees in the following process: social interactions with employees create a general sense of comfort for the customer and thus promote overall service quality and customer satisfaction.

It is understandable that market-related or consumer experiences can be influenced by consumers' encounters with both businesses and other consumers, because human interactions not only occur between customers and employees but also happen among customers themselves, (Fakharyan et al., 2014; Levy, 2010; Papathanassis, 2012; Edgall et al., 1997). Walls (2013) conducted 451 intercept interviews with adult hotels guests who stayed a minimum one night in a limited numbers of hotels in an international tourist destination in the United States. It was found that the four dimensions of human interactions including guest-to-guest relations have significant impact on hotel guests' experience. Other researchers like Baron et al. (1996) and

Martin and Pranter (1989) also reported that customer experience can be affected by interactions among customers. Thus, we can hypothesize that:

H1: Social interactions with employees has a positive influence on customer experience.

H2: Social interactions with other customers has a positive influence on customer experience.

2.2 Relationship between social interactions and loneliness

Loneliness has been commonly regarded as a feeling resulted from perceived deficits in social relationships (Dykstra and Fokkema, 2007). These deficits can appear to take on an almost physiological form as lonely individuals often describe themselves as feeling empty inside. Loneliness is especially prevalent in old age because of a decline in social integration that comes with the ageing process (Steed et al., 2007). Stalker (2008) and Orsega-Smith et al. (2007), among others, argue that the character of social engagement among the elderly needs to be more fully accounted for by demonstrating what patterns of social behaviour and network characteristics improve wellbeing in later life. Based on individual interviews, Pettigrew (2007) stated that the consumption behaviours and activities that facilitate social interaction can help older people to alleviate loneliness and contribute to a higher perceived quality of life. This can be explained by the fact the third places, such as taverns, second-hand clothing stores, restaurants and coffee shops can satisfy older consumers' companionship and emotional needs, as Pettigrew (2007) described, many of these older consumers enjoy seeking conversation and entertainment in third places, where they perceive the establishment as place-as-practical, place-as-gathering, or place-as-home. As has been found in previous studies, both quantity and quality of social interactions have a negative effect on loneliness (Dykstra, 1990; Pinqart & Sørensen, 2001). Specifically, Pinqart and Sørensen (2001) found that the quality of social interactions is more important for alleviating older adults' loneliness than the quantity, because interactions are not always supportive, but may also strain or hurt an individual (Rook and Pietromonaco, 1987). In the case of negative social interactions, the assumption "the more, the better" does not hold. However, because in the majority of social contacts, positive aspects outweigh the negative ones (Kim, et al., 2003), one can expect that, on average, more social interactions will be correlated with less loneliness. Aspects of the quality of contact (e.g., having a confidant, feeling loved and understood) should be more strongly related to positive emotions than quantity of contacts, whereas not being able to meet one's needs for emotional support should be related to more loneliness. Hence, the following hypothesis are proposed:

H3: Social interactions with employees has a positive influence on the reduction of loneliness.

H4: Social interactions with other customers has a positive influence on the reduction of loneliness

2.3 Relationship between customer experience and loneliness

Currently, there seems to be no study investigating the relationship between the seniors' customer experience and Loneliness, and customer experience and loneliness, but experimental marketing research suggests that consumers can gain conscious, emotional, cognitive, values which are created by experience providers through communication, vision, language, appearance, manner and media (Su, 2011; Schmitt, 1999), and there is evidence that older consumers prefer to interact with experience providers, at the same time they consume goods or

services to relieve their loneliness (Bloch et al., 1991; Forman & Sriram, 1991). Thus, we assume that when experience providers offer pleasurable experience to older consumers, they may feel more satisfied and less lonely. Based on the literature, we can hypothesize that:

H5: Customer experience has a positive influence on the reduction of loneliness.

2.4 Mediating effect of customer experience

Previous studies show that both social interactions with employees and social interactions with other customers can contribute to seniors' experience by creating a sense of comfort or satisfaction (Lloyd & Luk, 2011), and help them to alleviate their loneliness by satisfying their companionship and emotional needs (Pettigrew, 2007). Meanwhile, a positive customer experience brought by experience providers may help to alleviate seniors' loneliness (Bloch et al., 1991; Forman & Sriram, 1991). Therefore, the following hypothesis are proposed:

H6: Customer experience may mediate the relationship between social interactions with employees and the reduction of loneliness.

H7: Customer experience may mediate the relationship between social interactions with other customers and the reduction of loneliness.

According to the above discussion, the research framework are proposed (Figure 1).

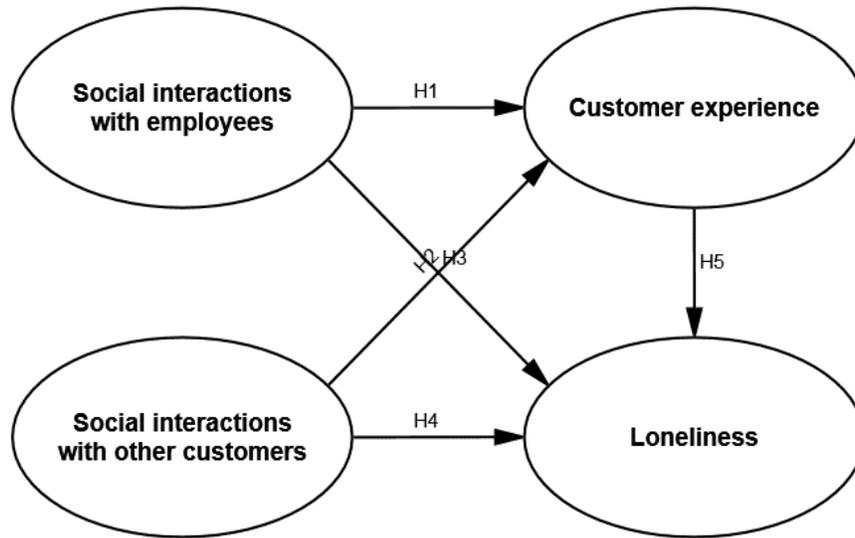


Fig.1. Research Framework

3 Research methodology

3.1 Data Collection

The target population of this study was people aged 60+ years living at home in various districts of Hong Kong. The sampling frame was comprised respondents who visited the local coffee shop (Cha Chuan Teng) more than once a year. In the case of a low response rate, access to the

elderly was facilitated through an online survey with a data caption company’s help. In total, 500 questionnaires were distributed and 411 valid responses were collected.

3.2 Measures

The questionnaire of this study consists of four variables. The customer experience construct was borrowed from Schmitt (1999), and it includes 5 dimensions: act (5 items), feel (5 items), sense (5 items), think (3 items) and relate (5 items). Social interactions with employees was adapted from Llyod and Luk (2011), and this scale included 2 dimensions: service manner (7 items) and need identification (4 items). Social interactions with other customers (4 items) was adopted from Walls (2013). Loneliness was measured using 6 items construct from Kim et al. (2005). These scale were selected because of high levels of reliability and validity, and all of them utilized a 7-point Likert-type scale with 1 equaling “strongly disagree” and 7 equaling “strongly agree”.

4 Findings

This section illustrates the results of the primary data analysis and covers descriptive statistics, individual measurement model, overall measurement model, structural model and hypotheses testing by using SPSS and AMOS.

4.1 Profile of the respondents

As noted in Table 1, 50.9% of respondents were male, and 49.1% were female. Approximately 58.4% of respondents were aged between 60 and 69, and 41.6% of respondents are aged 70+ years. The frequency of respondents visiting the coffee shop was divided into 7 groups, and the top three groups in terms of frequency of visiting Cha Chaan Teng are 2 or 3 times a week (30.9%), once a week (23.1%) and more than 3 times a week (21.9%). Among the respondents, more than 63.5% of them prefer to spend up to 1 hour in the coffee shop; about 71.3% of respondents tend to visit privately owned coffee shops, whereas only 28.7% prefer to some large, chain hospitality places such as restaurants. Compared with the use of public transport (5.1%), private car (0.2%) and other modes of transport (0.2%), 94.4% of the respondents prefer to go to the coffee shops by walking. Table 1 presents the profile of the respondents.

Table 1
Profile of the respondents

Characteristics	Frequency	Percentage
Gender		
Male	209	50.9%
Female	202	49.1%
Age		
60 – 69 yeas young	240	58.4%
70 – 79 years young	133	32.4%
80 – 89 years young	37	9.0%
90 years old and over	1	0.2%
The frequency of visiting the coffee shop		
Most days – more than 3 times a week	90	21.9%

About 2 or 3 times a week	127	30.9%
About once a week	95	23.1%
About 2 or 3 times a month	48	11.7%
About once a month	37	9.0%
Less than 2-3 times a year	12	2.9%
Less than once a year	2	0.5%
The time spent in the coffee shop for each visit		
Up to an hour	261	63.5%
1 - 1.5 hours	125	30.4%
1.5 - 2 hours	23	5.6%
2 - 2.5 hours	1	0.2%
2.5 - 3 hours	1	0.2%
Preference on large, chain hospitality places or privately owned places		
Chain	118	28.7%
Private, non-chain	293	71.3%
The main method of transport used to get to the coffee shop		
Own Car	1	0.2%
Public transport	21	5.1%
Walking	388	94.4%
Other	1	0.2%

Interestingly, Table 2 shows that the most popular time to visit the coffee shops is in the morning (26.0%, 23.8%, 25.3%, 23.1%, 24.3%, 20.0% and 16.5% for Monday, Tuesday, Wednesday, Thursday, Friday, Saturday and Sunday respectively) and afternoon (25.3%, 26.3%, 30.2%, 25.3%, 25.8%, 21.7% and 18.2% for Monday, Tuesday, Wednesday, Thursday, Friday, Saturday and Sunday respectively), and this is consistent with the Hong Kong residents' preference for the morning and afternoon teas.

Table 2
Distribution of Visiting Time

Characteristics	Option	Frequency	Percentage
When do you usually visit this place?	Monday Morning	107	26.0%
	Tuesday Morning	98	23.8%
	Wednesday Morning	104	25.3%
	Thursday Morning	95	23.1%
	Friday Morning	100	24.3%
	Saturday Morning	82	20.0%
	Sunday Morning	68	16.5%
	Monday Afternoon	104	25.3%
	Tuesday Afternoon	108	26.3%
	Wednesday Afternoon	124	30.2%
	Thursday Afternoon	104	25.3%
	Friday Afternoon	106	25.8%
	Saturday Afternoon	89	21.7%
	Sunday Afternoon	75	18.2%
	Monday Evening	8	1.9%

	Tuesday Evening	8	1.9%
	Wednesday Evening	12	2.9%
	Thursday Evening	8	1.9%
	Friday Evening	10	2.4%
	Saturday Evening	18	4.4%
	Sunday Evening	12	2.9%

4.2 Individual measurement model

4.2.1 EFA of individual measurement model

Exploratory factor analysis (EFA) was first conducted using Principal Component Analysis (PCA) and Varimax Rotation method due to its simplicity in the interpretation of the factors identified (Field, 2005). Several criteria were considered for factor extraction. Firstly, for the number of factors, the most commonly adopted standard is to retain factors with eigenvalues above 1 (Kaiser, 1960). Secondly, a factor loading should exceed 0.50 (Stevens, 1992). Thirdly, although factor loadings are useful, it is not the only way for factor selection. Communality and screen plots should also be used for factor extraction. For a sample size more than 250, the average communality needs to be greater than 0.60 (Kaiser, 1974). Fourthly, the Cronbach's alpha of the each construct should have a value greater than 0.70 (Nunnally, 1978). Based on the criteria listed for EFA, an iterative process was conducted to obtain the acceptable factors.

Consistent with previous studies (Source, 2011), the EFA showed that social interactions with employees comprised two factors: service manner and need identification. The results of EFA analysis were: Kaiser-Meyer-Olkin (KMO) = 0.93, Bartlett's Test of Sphericity: Chi-square = 1819.73, degree of freedom (df) = 55, $p < 0.00$. The Bartlett test of Sphericity was significant and KMO was 0.84, indicating that the patterns of correlation were relatively compact and the factors identified were distinct and reliable. Cronbach's alpha of the total construct was 0.95, the scale reliability of each dimension was 0.94 and 0.90 respectively, indicating the construct was reliable and stable.

EFA analysis of social interactions with customers yielded the following results: KMO = 0.79, Bartlett's Test of Sphericity: Chi-square = 282.02, degree of freedom (df) = 6, $p < 0.00$. The Eigenvalue was 2.60, and all items explained 65.07% of the total variance. Cronbach's alpha of the total construct was 0.82.

EFA analysis of customer experience yielded the following results: KMO = 0.85, Bartlett's Test of Sphericity: Chi-square = 2842.81, degree of freedom (df) = 253, $p < 0.00$, which indicated that the factors were distinct and reliable. Four items of customer experience explained 64.98% of the overall variance. The Cronbach's alpha of the construct was 0.95 and the scale reliability of each dimension was from 0.81 to 0.90, suggesting satisfactory internal consistency.

In order to analyze the influence of social interactions and customer experience on the reduction of loneliness, the score of loneliness was reversed. EFA analysis of loneliness yielded the following results: KMO = 0.92, Bartlett's Test of Sphericity: Chi-square = 526.58, degree of

freedom (df) = 15, $p < 0.00$. The Eigenvalue was 3.65, and all items explained 60.86% of the total variance. Cronbach's alpha of the total construct was 0.90.

Table 3
Results of exploratory factor analysis (N = 196, KMO = 0.95)

	Factor loading	Initial Eigenvalues	Cumulative %	Squared Multiple Correlation	Cronbach's α if Item Deleted	α
Social interactions with employees						
Factor 1 - Service manner		7.24	65.85%			0.94
The service employee showed patience	0.78			0.81	0.93	
The service employee was helpful	0.82			0.80	0.93	
The service employee smiled at me	0.83			0.84	0.93	
The service employee was polite	0.84			0.84	0.93	
The service employee was relaxing to interact with	0.65			0.78	0.93	
The service employee showed passion for their job	0.75			0.79	0.93	
The service employee was cheerful	0.77			0.77	0.93	
Factor 2 - Need Identification		1.06	9.66%			0.90
The service employee asked for my preferences	0.81			0.72	0.90	
The service employee understood my needs	0.84			0.83	0.89	
The service employee was knowledgeable	0.73			0.83	0.88	
The service employee anticipated my needs	0.85			0.73	0.91	
Social interactions with other customers						
		2.60	65.07%			0.82
Customers display proper behaviour toward other guests	0.86			0.71	0.74	
Customers value the privacy of other guests	0.83			0.66	0.76	
Customers respect other guests by being peaceful and quiet	0.85			0.70	0.75	
Customers are of an appropriate socio-economic level	0.68			0.50	0.83	
Customer experience						
Factor 1 - Sense		10.64	46.27%			0.90
This place intends to produce perceptual reaction	0.53			0.61	0.90	
This place can make me learn something new	0.71			0.73	0.89	
This place makes me think some issues	0.65			0.58	0.90	
This place can stimulate my imagination	0.87			0.79	0.88	
This place offers variable stimulation on senses	0.77			0.75	0.88	
This place on sense induces my interest of spending time here	0.59			0.66	0.89	
This place makes me have deep affection	0.62			0.75	0.88	
This place attracts me	0.46			0.65	0.89	
Factor 2 - Relate		1.80	7.81%			0.86
This place makes me feel relaxed with its theme	0.52			0.67	0.83	
I think that other customers of this place are with the same lifestyle as mine	0.62			0.64	0.83	
This place can make me observe certain social norms and behaviours	0.76			0.66	0.83	
Eating and/or having a drink in this place makes me feel unusual	0.54			0.70	0.82	
I can establish a relationship with other people in this place	0.62			0.70	0.82	

I think that this place presents cultural value of this country	0.69			0.49	0.86	
Factor 3 - Feeling		1.31	5.67%			0.87
The staffs usually interacts well with me	0.83			0.72	0.84	
The staffs usually entertained me very warmly	0.84			0.74	0.83	
This place makes me feel warm and free	0.72			0.76	0.82	
This place is filled with very joyous atmosphere	0.53			0.69	0.85	
Factor 4 - Act		1.20	5.22%			0.81
The image of this place is very similar to my personal style	0.62			0.62	0.77	
This place presented certain lifestyle which I want	0.62			0.68	0.76	
The whole display of this place made me think what I should do	0.69			0.61	0.78	
This place reflects certain experience of my life	0.55			0.56	0.79	
The product and service made me rethink the habits of my life	0.69			0.55	0.79	
Loneliness (Reversed)		3.65	60.86%			0.90
I feel left out	0.74			0.44	0.86	
I am unhappy being so withdrawn	0.81			0.52	0.84	
My social relationships are superficial	0.67			0.32	0.87	
I am no longer close to anyone	0.81			0.53	0.84	
There is no one I can turn to	0.83			0.58	0.84	
I feel isolated from others	0.81			0.56	0.84	

4.2.2 CFA of individual measurement model

CFA was conducted to validate all the individual measurement models. The fit indices of each measurement model were as follows: (1) social interactions with employees model ($\chi^2 = 65.36$, $df = 42$, $CFI = 0.99$, $GFI = 0.95$, $RMSEA = 0.05$); (2) social interactions with customers model ($\chi^2 = 0.53$, $df = 1$, $CFI = 1.00$, $GFI = 0.99$, $RMSEA = 0.01$); (3) customer experience model ($\chi^2 = 217.46$, $df = 181$, $CFI = 0.99$, $GFI = 0.92$, $RMSEA = 0.03$); (4) loneliness model ($\chi^2 = 8.45$, $df = 7$, $CFI = 1.00$, $GFI = 0.99$, $RMSEA = 0.03$). The values suggested these models represents an acceptable fit to the data.

The critical ratio (C. R.) was used to test statistics in this study. It ratio operated as a z-statistic to test whether the estimate was statistically different from zero. The absolute value of the statistics should exceed 1.96 (Byrne, 2001). The C. R. value of social interactions with employees ranged from 12.86 to 19.23, whereas that of social interactions with customers, customer experience and loneliness ranged from 10.80 to 12.20, 7.80 to 14.82 and 8.05 to 9.85. All C. R. values were higher than 1.96, and standardized loading estimate exceeded 0.5, indicating statistically significant.

The measurement model validity depends on acceptable levels of goodness-of-fit, and construct validity (Hair et al., 2009). Construct validity may be explained by two components—convergent validity and discriminant validity. Average variance extracted (AVE) was used to test both convergent validity and discriminant validity. As shown in Table 4, the AVE values of the construct of the three constructs exceeded 0.50, confirming the convergent validity. The AVE value of each construct was greater than the squared correlation coefficients for the

corresponding inter-constructs, indicating satisfactory discriminant validity (Fornell and Larcker, 1981).

Table 4
Correlations (Squared Correlation), Reliability, AVE, and Mean (N=215)

	SM	NI	SIC	CE	L
SM	1.00				
NI	0.78** (0.61)	1.00			
SIC	0.73** (0.53)	0.74** (0.55)	1.00		
CE	0.82** (0.67)	0.78** (0.61)	0.72** (0.52)	1.00	
L	0.27** (0.07)	0.17* (0.03)	0.14* (0.02)	0.21** (0.04)	1.00
Reliability	0.94	0.89	0.86	0.96	0.85
AVE	0.94	0.89	0.87	0.97	0.85
Mean	4.77	4.33	4.68	4.53	5.38
Std.Dev.	0.87	1.06	0.82	0.76	0.68

SM = Service manner, NI = Need identification, SIC = Social interactions with customers, CE = Customer experience, L = Loneliness. Note: All are significant at the 0.01 level.

4.3 Overall measurement model

The overall measurement model was examined with all the sample data after each individual measurement model was examined and found to be reliable and valid. The fit indices ($\chi^2 = 510.19$, $df = 260$, $CFI = 0.97$, $GFI = 0.91$, $RMSEA = 0.05$) suggested that the model fit the sample data fairly well. As shown in Table 5, the AVE values of the overall measurement model exceeded 0.50, confirming the convergent validity. The AVE value of overall measurement model was greater than the squared correlation coefficients for the corresponding inter-constructs, indicating satisfactory discriminant validity (Fornell and Larcker, 1981).

Table 5
Correlations (Squared Correlation), Reliability, AVE, and Mean (N=411)

	SM	NI	SIC	CE	L
SM	1.00				
NI	0.76** (0.58)	1.00			
SIC	0.72** (0.52)	0.72** (0.52)	1.00		
CE	0.80** (0.64)	0.77** (0.59)	0.71** (0.50)	1.00	
L	0.25** (0.06)	0.15** (0.02)	0.22** (0.05)	0.16** (0.03)	1.00
Reliability	0.94	0.90	0.84	0.95	0.86
AVE	0.93	0.90	0.84	0.91	0.86
Mean	4.75	4.28	4.65	4.48	5.37
Std.Dev.	0.86	1.05	0.81	0.75	0.70

SM = Service manner, NI = Need identification, SIC = Social interactions with customers, CE = Customer experience, L = Loneliness. Note: All are significant at the 0.01 level.

4.4 Structural model

After the measurement model was found to be acceptable, the structural model was evaluated using all the sample data. The model fit indices ($\chi^2 = 510.19$, $df = 260$, $CFI = 0.97$, $GFI = 0.91$,

RMSEA = 0.05) indicated that the structural model represented a fairly good fit to the data. However, only the relationship between social interactions with employees and customer experience was significant in this model.

Table 6
Results of Structural Model and Hypotheses Testing

Hypotheses/ Path	Coefficient	C.R.	Results
H1: SIE has a positive influence on CE	0.61	8.08***	Supported
H2: SIC has a positive influence on CE	-0.07	0.37	Not supported
H3: SIE has a positive influence on the reduction of L	0.19	0.98	Not supported
H4: SIC has a positive influence on the reduction of L	0.08	0.69	Not supported
H5: CE has a positive influence on the reduction of L	-0.19	-0.88	Not supported
H6: CE may mediate the relationship between SIE and the reduction of L	-0.12	-0.90	Not supported
H7: CE may mediate the relationship between SIC and the reduction of L	0.01	0.63	Not supported

SIE = Social interactions with customers, SIC = Social interactions with customers, CE = Customer experience, L = Loneliness.
Note: ***: Correlation is significant at the 0.001 level; **: Correlation is significant at the 0.01 level; *: Correlation is significant at the 0.05 level.

As social interactions with employees comprises two factors, this study further explored the influence of social interactions with customers and the two factors of social interactions with employees on customer experience as well as loneliness, to help determine the different contributions of each factor. The model fit indices of the final structural model were as follows: $\chi^2 = 501.11$, $df = 258$, CFI = 0.97, GFI = 0.91, RMSEA = 0.05. The results reflected a good fit between the final structural model and the data. Figure 2 shows the final structural model as well as the standardized parameter estimates.

Table 7
Results of Structural Model and Hypotheses Testing

Hypotheses/ Path	Coefficient	C.R.	Results
H1: SIE has a positive influence on CE			
H1a: SM → CE	0.35	7.53***	Supported
H1b: NI → CE	0.14	3.76***	Supported
H2: SIC has a positive influence on CE	0.15	3.19**	Supported
H3: SIE has a positive influence on the reduction of L			
H3a: SM → L	0.22	2.30*	Supported
H3b: NI → L	-0.11	-1.62	Not supported
H4: SIC has a positive influence on the reduction of L	0.16	1.75	Not supported
H5: CE has a positive influence on the reduction of L	-0.09	-0.59	Not supported
H6: CE may mediate the relationship between SIE and the reduction of L			
H6a: SM → CE → L	-0.03	-0.83	Not supported
H6b: NI → CE → L	-0.01	-0.81	Not supported
H7: CE may mediate the relationship between SIC and the reduction of L	-0.01	-0.80	Not supported

SM = Service manner, NI = Need identification, SIC = Social interactions with customers, CE = Customer experience, L = Loneliness. Note: ***: Correlation is significant at the 0.001 level; **: Correlation is significant at the 0.01 level; *: Correlation is significant at the 0.05 level.

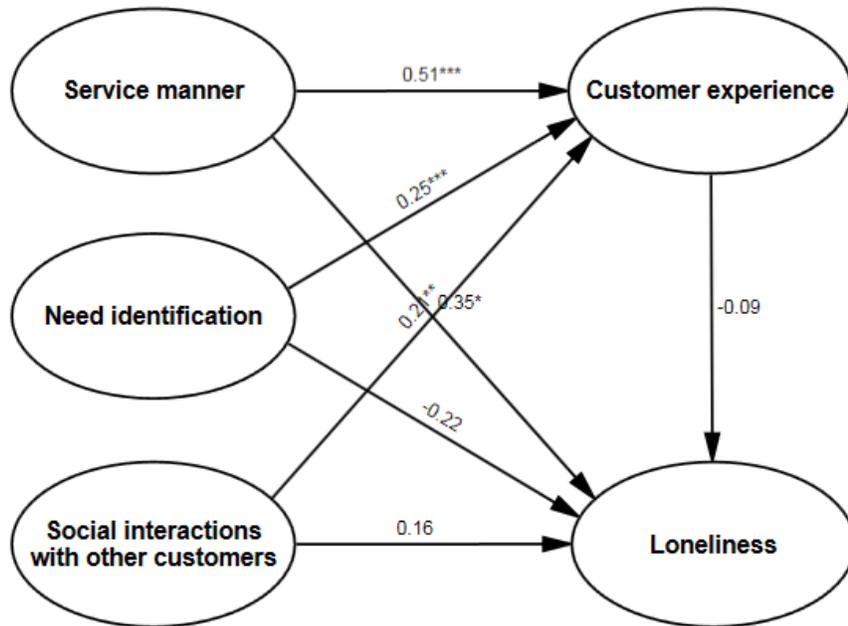


Fig. 2. Standardized path estimates for the structural model

4.5 Hypotheses testing

After all the models were examined, the proposed hypothesis as outlined in the model were examined by evaluating the path coefficient and significance levels. The statistic significant level used here was the critical ratio (C. R.), which indicated whether the parameter estimate is statistically different from zero (Byrne, 2001). The value of C.R. should be greater than 1.96.

H1: Social interactions with employees has a positive influence on customer experience. This hypothesis was tested by examining the path coefficient between the two dimensions of social interactions with employees (service manner and need identification) and customer experience. The results are presented in Table 7. The path coefficient from service manner and need identification to customer experience was 0.51 and 0.25 respectively, whereas C.R. was 7.53 and 3.76 respectively (above 1.96). The path coefficient value and significance level combined to prove that the effect of social interactions with employees on customer experience was both positive and significant; thus the hypothesis 1 was supported.

H2: Social interactions with other customers has a positive influence on customer experience. The path coefficient between social interactions with customers and customer experience was positive (0.15), and statistically significant (C. R. = 3.19 > 1.96). Thus, hypothesis 2 was supported.

H3: Social interactions with employees has a positive influence on the reduction of loneliness. The path coefficient between service manner and the reduction of loneliness was positive 0.22, and statistically significant (C. R. = 2.48 > 1.96). Whereas the path coefficient between need identification and the reduction of loneliness was negative -0.11, and not significant (C. R. = -1.62 < 1.96) Thus, hypothesis 3a was supported, while hypothesis 3b was not supported.

H4: Social interactions with other customers has a positive influence on the reduction of loneliness. The path coefficient between social interactions with customers and the reduction of loneliness was not significant ($C. R. = 1.75 < 1.96$). Thus, hypothesis 3 was not supported.

H5: Customer experience has a positive influence on the reduction of loneliness. The path coefficient between customer experience and the reduction of loneliness was not significant ($C. R. = -0.59 < 1.96$). Thus, hypothesis 3 was not supported.

H6: Customer experience may mediate the relationship between social interactions with employees and the reduction of loneliness. The mediation hypotheses were assessed using Sobel Test. Following the formula proposed by MacKinnon et al. (1995), the indirect effect was calculated as follows: Indirect effect = $a \times b$ (a is the path coefficient of the association between the exogenous variable and the mediator, whereas b is the path coefficient for the association between the mediator and the outcome). Significance level was calculated using Sobel test. The results of the mediating effect of customer experience on the relationship between the two factors of social interactions with employees (service manner and need identification) and the reduction of loneliness were as follows: indirect effect coefficient was -0.03 and -0.01 respectively, t -value was -0.83 and -0.81 , and p - value > 0.05 . Given that the indirect effect coefficient was not significant, hypothesis 6 was not supported.

H7: Customer experience may mediate the relationship between social interactions with customers and the reduction of loneliness. Using the same method, the study found that the mediating effect of customer experience on the relationship between social interactions with customers and the reduction of loneliness was not significant. As shown in Table 4-10, hypothesis 4 was not supported.

5 Summary and conclusions

5.1 Social interactions and customer experience

As expected, the two dimensions of social interactions with employees (service manner and need identification) have a significant and positive influence on the seniors' customer experience, which support previous studies (e.g. Harris, 2007; Srivastava & Kaul, 2014; Pugh, 2001; Lloyd and Luk, 2011). Similarly, respondents report that social interactions with other customers can enhance their customer experience, and this finding is consistent with those of other researchers (e.g. Harris, 2007; Srivastava & Kaul, 2014; Pugh, 2001; Lloyd and Luk, 2011). Interestingly, the study shows that compared with need identification, service manner is more effective in terms of promoting the seniors' customer experience. This result is similar to Lloyd and Luk (2011) who found that need identification showed less effect on comfort than service manner did. This is perhaps because service manner behavior is usually easier to be produced, performed and controlled by the service employee alone (van Dolen et al., 2004). Conversely, as need identification behaviour requires the service employee to anticipate the needs of the customers clearly and to give required feedback, the service employee may find it difficult to identify and

satisfy customers' needs without their cooperation or suggestive messages (Lloyd & Luk, 2011). Given that not all the customers are easy to define and share their needs or preferences precisely, the service employee's need identification behavior may not be accurate in turn or leave a deep impression on some customers, especially the inexperienced customers.

This study also shows that social interactions with other customers has a significant and positive influence on the seniors' customer experience, but its influence is less than service manner's influence. It is universally known that social interactions with employees is usually more frequently than with other customers, because the former is an essential part of service encounter in the service industry. So for promoting the seniors' customer experience, service manner should be a more effective strategy compared to need identification and social interactions with other customers.

5.2 Social interactions and loneliness

In terms of social interactions with employees, the result shows that the predicting effect of employees' service manner on the reduction of loneliness is significant and positive, this finding is consistent with Pinquart and Sörensen (2001) who found that quality of social interaction had a more significant effect on older adults' loneliness, because service manner can be regarded as an important factor of quality of social interactions in small hospitality businesses. However, the effect of employees' need identification on the reduction of loneliness is not significant. As mentioned above, need identification behaviour not only requires the service employee's keen observation and positive reaction, but also depends on customers' cooperation and suggestive messages about their preferences and requirements. So it is possible that when the service employees make more effort to educate customers and clarify their requirements, need identification may show a more significant effect on the reduction of loneliness.

Surprisingly, the effect of social interactions with other customers on the reduction of loneliness is insignificant. The possible reason may be due to the Chinese interpersonal values, namely family orientation / kinship. Family orientation / kinship refers to that a person stays close with his / her family and is family-oriented in his / her decision (Hsu & Huang, 2016). Therefore, compared with the elderly in western countries who pursue friendship ties rather than family ties (Kim et al., 2005), Chinese seniors may need family interaction more than social interactions with other customers in small hospitality businesses (e.g. restaurants, cafes, and pubs).

5.3 Customer experience and loneliness

The study shows that neither the effect of customer experience on the reduction of loneliness nor the mediating effect of customer experience on the relationship between social interactions and the reduction of loneliness is significant. This might be related to the Chinese seniors' family orientation / kinship as well. A study of Cheng et al. (2009) on older Chinese adults in Hong Kong reported that diverse and family-focused networks were most beneficial to seniors' well-

being. This suggests that family orientation / kinship may affect the relationship between customer experience and seniors' loneliness.

5.4 Implications and future research

5.4.1 Theoretical and managerial implications

This study investigated the role of social interactions in influencing the elderly customer experience and the reduction of loneliness. The first theoretical contribution is that it proposes a new structural model which investigates the relationship between the social interactions, customer experience and loneliness constructs systematically. The second one is that it first compare the difference between different kinds of social interactions' influence on customer experience and loneliness. Although some of the hypotheses are not approved by the test, the findings of this study will help hospitality SMEs, SME support organizations, elderly support organizations and government policy makers to work together in order to help the elderly become socially connected with the rest of the community and alleviate loneliness.

Firstly, it offers insights into how small hospitality businesses can facilitate elderly customers' experience and help them to reduce social isolation and alleviate loneliness. Specifically, it suggests some useful strategies for small hospitality organizations in terms of staff training. First, training should focus on how to make customers feel comfortable and relaxing to interact with service employees and other customers. Second, training should stress the importance of service employees' interaction skills. In other words, service employees should be trained to be professionally mannered and well-groomed. The results of this study suggest that small hospitality businesses may consider service manner as the top priority in terms of service employees' interaction skills. They not only need to treat customers with respect, patience and friendly manner, but also need to understand all kinds of customers' needs quickly and thus provide them with required considerate service. Third, it is necessary to suggest customers to value the privacy of other customers by behaving in a peaceful and quiet manner.

Secondly, this study also demonstrates that loneliness as a social issue can not only be tackled by healthcare and psychological interventions but also with the help of commercial activities oriented towards experiential consumption. It is noticeable that most seniors prefer to go to nearby cha chaan teng by walking (94.4%). Given that small hospitality businesses (e.g. restaurants, cafes, and pubs) can play a vital role in providing a potential avenue for alleviating seniors' loneliness by satisfying their socializing needs, more cheap restaurants, cafes, and pubs need to be explored next to the elderly community and be encouraged to offer older consumers a comfortable and relaxing environment for social contacts. Since there is evidence that lonely individuals prefer to attract personal attention though personal service in the retailing setting (Moschis, 2003), these businesses may also consider hiring older employees to increase the interactions with older customers.

Thirdly, this study also provide useful suggestions for encouraging elderly customer participation and involvement in the hospitality services, and placing emphasis on experiential consumption with a view to enhancing the quality of their social interactions both with service providers and other customers. It is very likely that such experiential consumption will increase the motivation of the elderly to visit the hospitality SMEs more often when they can be socially connected and help these businesses' revenue generation, and ultimately contributing to the growth of the local economy..

5.4.2 Limitations and future research

The findings of this study may be affected by several limitations. Although the sampling plan involved various districts of Hong Kong, it was limited to the use of a convenience sampling frame through online survey. Thus, quota sampling method could be adopted to reduce the possible bias in future research. A further limitation of this study is that it did not consider the effect of cultural differences and cultural values on the relationship between social interactions, customer experience and loneliness, which may potentially affect the findings. Future research is expected to make a comparative study on this topic across different central settings. Further, cultural values can be considered as a moderator in the proposed model to enhance the contribution of the study. In terms of mediator, the mediating effect of other variables (e.g. customer satisfaction, comfort, and service quality) on the relationship between social interactions and loneliness could also be tested in the future.

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