

Indirect customer-to-customer interactions and experiential value: examining solo and social diners

Wenjia Han and Wen Jiang

*William F. Harrah College of Hospitality, University of Nevada,
Las Vegas, Nevada, USA*

Jason Tang

Bissett School of Business, Mount Royal University, Calgary, Canada

Carola Raab

*William F. Harrah College of Hospitality, University of Nevada,
Las Vegas, Nevada, USA, and*

Anjala Krishen

College of Business, University of Nevada, Las Vegas, Nevada, USA

Abstract

Purpose – This study aims to examine whether indirect customer-to-customer interactions (CCI) affect consumers' behavioral intentions and how that effect is generated. It also explores the effect of dining experience on customer behavioral intentions and how that effect varies by party type.

Design/methodology/approach – The research consists of an experimental survey-based study of $n = 491$ real-world consumers from a marketing research panel. Structural equation models are analyzed to examine hypothesized relationships.

Findings – Indirect CCIs significantly affect all five dimensions of experiential value. Food and beverage (F&B) excellence, aesthetics and service excellence positively affect customer revisit intentions and word-of-mouth intentions via restaurant image. Furthermore, party type moderates the effect of aesthetics on behavioral intentions so that the effect is significant for the social diner group only. Customer return on investment and playfulness show non-significant impacts on behavioral intentions.

Practical implications – Managers should be aware that indirect CCIs influence all aspects of the restaurant experience. Since F&B excellence, aesthetics and service excellence affect restaurant image and behavioral intentions, management can operationalize these elements of service. The impact of aesthetics differs by consumers' party type, enabling management to create unique servicescapes based on their target customer segment.

Originality/value – The study pioneers an investigation of how indirect CCI is associated with behavioral intentions through the mediating effects of experiential value and restaurant image. It contributes to the literature by examining how the impact of diners' experiences differs by party type.

Keywords Solo diners, Customer-to-customer interaction, Experiential value, Restaurant image, Revisit intentions, Word-of-mouth intentions

Paper type Research paper



1. Introduction

Varying across service settings, customer experience is often affected by customers' relations to other customers sharing time and space during service encounters (Leith, 2020). A pleasant customer-to-customer interaction (CCI) could render a service experience more enjoyable, while an unpleasant interaction could damage it (Zhang *et al.*, 2010). Indirect CCI, defined as customers' observations of other customers and nonverbal interactions with others, is a common and critical element of a restaurant service experience (Nicholls, 2020; Sá and Amorim, 2017). As onsite self-service technologies (e.g. tabletop tablets and kiosks) proliferate, restaurant customers may experience more CCI than employee-customer interaction (Nicholls, 2020; Xu *et al.*, 2020). Despite the restaurant literature acknowledging the importance of other customers when dining (Jang *et al.*, 2015; Wu and Liang, 2009), only a handful of research has examined the impact of CCI on diners' experiences (Altinay *et al.*, 2019; Erkmen and Hancer, 2019; Lin *et al.*, 2020a, 2020b; Song *et al.*, 2018; Wu and Liang, 2009). Altinay *et al.* (2019) and Song *et al.* (2018) studied social interactions among senior cafe customers and found that CCI affected diners' experiences and social wellbeing. Wu and Liang (2009) indicated that disruptive behaviors from other customers (e.g. loud, rude or hitting tables) ruined customer experiences at luxury restaurants. Erkmen and Hancer (2019) and Lin *et al.* (2020a, 2020b) discovered that indirect CCI affects diners' emotions, perceived CCI quality and perceived brand image. While existing restaurant research has studied the impacts of direct CCI (Altinay *et al.*, 2019; Song *et al.*, 2018) and negative CCI (Wu and Liang, 2009) on dining experiences, the influence of indirect CCI on diners' experiences remains understudied. In addition, limited research has investigated the relationship between indirect CCI and diners' behavioral intentions. To bridge this gap, this current study examines the effect of indirect CCI, a prevalent form of restaurant CCI, on customers' dining experiences and behavioral intentions, including revisit and word-of-mouth (WOM) intentions.

Consumers' perceived consumption experiences vary across customer traits and service settings (Lin *et al.*, 2020a). As contemporary lifestyles evolve, dining alone represents an emerging trend (Her and Seo, 2018). Considering the significant purchasing power of solo diners, it is critical to better understand their dining experiences and how these experiences affect their behavioral intentions. While prior research extensively studied solo diners' attitudes, emotions and perceptions (Brown *et al.*, 2020; Choi *et al.*, 2020; Hwang *et al.*, 2020), their dining experience and behavioral intentions have not been thoroughly investigated. In addition, research exploring the differences between solo diners and social diners (customers eating in groups) is lacking. This current study fills this gap by exploring whether the impact of indirect CCI on behavioral intentions varies by party type (solo vs. social).

The current study addresses two central research questions: Does indirect CCI affect restaurant diners' behavioral intentions, and if it does, do diners' experiential value and restaurant image serve as mediators in these relationships? Will the CCI-affected dining experiences exhibit varied effects on guests' behavioral intentions across party types? This study bridges a gap in the literature by examining the associations among indirect CCI, dining experience and diners' behavioral intentions. It also investigates the differences between solo diners' and social diners' dining experiences.

2. Literature review

2.1 Indirect customer-to-customer interaction

CCI refers to the interpersonal exchange between fellow customers in service encounters (Wu, 2007). The interactive experience among customers is a critical element affecting customer engagement, which determines whether customers will participate in value co-creations (Hao, 2020). The service-dominant logic theory argues that customers are value co-creators and that their engagement behaviors are developed not only with the brand but also with other

stakeholders, such as service personnel and fellow customers (Brodie *et al.*, 2011). As customer engagement draws increased attention in the hospitality and tourism domain, scholars should go beyond the service organization and investigate the interactions among peer customers (So *et al.*, 2021). Existing research studied CCI based on different typologies, including positive CCI and negative CCI (Wu and Liang, 2009; Zhang *et al.*, 2010). Comparing 15 service settings, Zhang *et al.* (2010) suggested that CCI is acute in restaurants because of the high occurrence of both positive CCI and negative CCI, which result in delightful or undelightful dining experiences, respectively. Lin *et al.* (2020a) found that two types of nonverbal CCI, proxemics (distance between customers) and the physical appearance of other customers, directly influence restaurant diners' negative emotions. However, functional CCI, which refers to verbal information exchanged between customers regarding a product or service, was found to have a non-significant impact on diners' perceived CCI quality (Lin *et al.*, 2020b). Kim and Choi (2016) classified CCI into friend interaction, neighboring customer interaction and audience interaction. Friend interaction results from interactions with others in their party, and audience interaction refers to the delightfulness of being around other customers. Kim and Choi (2016) suggested that these two types of CCI positively affect customers' experiences in retail stores and movie theaters. However, no significant correlation was found between neighboring customer interaction and service experience (Kim and Choi, 2016). These findings support the notion that conversational interactions with customers who are strangers are not desired in certain service scenarios (Sá and Amorim, 2017). For services that require customers to gather at a public place (e.g. restaurants, retail stores, movie theaters), engaging in conversations with strangers in close spatial proximity might not be necessary. In such service establishments, the impact of other customers may be primarily attributed to nonverbal cues, such as eye contact and courtesy nods (Lin *et al.*, 2020a).

Onsite CCI can also be categorized into direct and indirect forms (Nicholls, 2020; Zhang *et al.*, 2010). Direct CCI covers direct conversations or confrontations with other customers (Zhang *et al.*, 2010). Indirect CCI consists of nonverbal elements of interaction with audience customers, such as perceived comfort level around other customers, observing other customers' behaviors and kinesics – customer interactions via body language, such as courtesy nods and greeting gestures (Nicholls, 2020; Zhang *et al.*, 2010). Zhang *et al.* (2010) found that indirect CCI is more common than direct CCI and that negative diners' emotions are more likely caused by indirect CCI than by direct CCI. Since negative emotions exert a stronger influence on diners' loyalty than positive emotions (Chen *et al.*, 2015), it is necessary to understand the mechanism by which indirect CCI affects restaurant customers' behaviors. Restaurant customers have explicit expectations of other customers' characteristics and behaviors but generally do not anticipate intense interactions with strangers (Sá and Amorim, 2017). Within a catering context, Kim and Lee (2012) found that other customers' appearance, attire, and behavior serve as informative cues for customers' perceived riskiness. Ji *et al.* (2018) suggested that indirect CCI contributes to consumer escape experience in full-service restaurants and positively affects consumers' attachment to the food, which leads to higher dining frequency. Prior research examined the impact of indirect CCI on diners' emotions, feelings about the restaurant and the food and sense of escape. However, past studies did not identify whether other aspects of a dining experience, such as perceived service quality and value, are affected by indirect CCI. In addition, limited research has quantitatively examined whether the effect of indirect CCI can be extended to customer behavioral intentions. Therefore, the current research examines the effect of indirect CCI on various dimensions of diners' experiences and behavioral intentions.

2.2 Experiential value

Mathwick *et al.* (2001) developed the experiential value scale (EVS) to capture the multifaceted service experience. EVS divides experiential value into four dimensions classified as either active value or passive value. Consumer return on investment (CROI) and playfulness are dimensions of active values resulting from a collaboration between consumer and business. Aesthetics and service excellence are dimensions of passive values derived from consumers' comprehension of the consumption experience (Mathwick *et al.*, 2001). Notably, because the original EVS was developed in the retail setting and did not include elements critical to the foodservice industry, researchers added food and beverage excellence (F&B excellence) as an additional dimension of experiential value in restaurant studies (Jalilvand *et al.*, 2017; Taylor *et al.*, 2018). F&B excellence captures customers' evaluations of food and beverage consumed in restaurants (Taylor *et al.*, 2018). In the restaurant literature, CROI represents the perceived value of price – the benefits that customers receive compared to the resources they invest in the consumption process (Keng *et al.*, 2007; Taylor *et al.*, 2018). Playfulness signifies the emotional enjoyment of restaurant dining (Gallarza-Granizo *et al.*, 2020; Mathwick *et al.*, 2001). Aesthetics refers to the physical environment, describing the restaurant's ambiance, design, music and atmosphere (Chen *et al.*, 2014; Jin *et al.*, 2019; Wu and Liang, 2009). Service excellence reflects diners' appreciation of the service providers' expertise (Mathwick *et al.*, 2001). Research has found evidence that CCI positively influences dining experience when experiential value is examined as a single construct (Ji *et al.*, 2018; Song *et al.*, 2018; Wu and Liang, 2009). However, studies investigating how CCI affects each dimension of the dining experience are limited. Taylor *et al.* (2018) examined the sub-dimensions of experiential value separately and found that playfulness, service excellence and CROI significantly influenced a customer's relationship with a restaurant, while aesthetics and F&B excellence showed non-significant impacts. However, their research studied the five experiential value dimensions as exogenous variables. Unlike prior research that treats experiential value as a single construct or an exogenous variable, this current study models experiential value as endogenous and further investigates how CCI affects each dimension of experiential value. As indirect CCI affects diners' emotions and subsequently their evaluation of the product and service (Chen *et al.*, 2015; Lin *et al.*, 2020a), it is plausible that indirect CCI affects each experiential value dimension:

- H1*. Indirect CCI has a positive influence on diners' experiential values, i.e. food and beverage excellence (*H1a*), customer return on investment (*H1b*), playfulness (*H1c*), aesthetics (*H1d*), service excellence (*H1e*).

2.3 Image and behavioral intentions

The influence of dining experiences on restaurant customers' behavioral intentions has been empirically tested (Chen *et al.*, 2014; Ha and Jang, 2012; Jalilvand *et al.*, 2017; Jin *et al.*, 2019; Taylor *et al.*, 2018). Restaurant atmosphere, service quality and food quality were found to positively affect customers' revisit intention and WOM intention (Ha and Jang, 2012). Jalilvand *et al.* (2017) and Jin *et al.* (2019) found that the perceived value of dining experiences indirectly influences customer WOM intention. Similarly, Taylor *et al.* (2018) contended that experiential value indirectly affects WOM intention, revisit intention and willingness to pay at pop-up restaurants. Chen *et al.* (2014) suggested that restaurant image mediated the relationship between experiential value and behavioral intentions. On the one hand, experience-related factors such as food quality, service quality, physical environment and perceived trust were found to influence restaurant image (Erkmen and Hancer, 2019). On the

other hand, restaurant image is a key antecedent of customer loyalty and behavioral intentions, such as revisit intention and WOM intention (Ryu *et al.*, 2012). This study hypothesizes that customers' experiential value is positively related to restaurant image, which positively affects customers' revisit intention and WOM intention. As past research found that familiarity may be related to diners' behavioral intentions, the current study controls respondents' familiarity with restaurant dining (Ha and Jang, 2010):

- H2. Diners' experiential values, i.e. food and beverage excellence (H2a), customer return on investment (H2b), playfulness (H2c), aesthetics (H2d), service excellence (H2e), positively affect restaurant image.
- H3. Restaurant image positively affects customer behavioral intentions, i.e. revisit intention (H3a) and WOM intention (H3b).

2.4 The moderating role of party type

Active experiential values (CROI and playfulness) and passive experiential values (aesthetics and service excellence) are distinct in that active values rely on customers as value co-producers, while passive values are derived from the distanced appreciation of a business' offerings (Mathwick *et al.*, 2001). CROI depends on diners' price acceptance level, and playfulness incorporates diners' emotional status (Aroean and Michaelidou, 2014). In contrast, aesthetics and service excellence rely on contextual factors, such as surroundings and servers' performance. The positive impacts of active values on diners' satisfaction and behavioral intentions are well documented (Bae *et al.*, 2018; Chua *et al.*, 2014; Jalilvand *et al.*, 2017). However, ambivalent results were found regarding the effect of passive value dimensions on diners' behavioral intentions. Bae *et al.* (2018) examined the effect of dining experiences on solo diners' restaurant re-patronage intention and found no direct influence of service quality or physical environment. Similarly, Chua *et al.* (2014) observed no evidence of direct linkages among physical environment, service interaction and behavioral intentions in full-service restaurants. They suggested that the results might be attributed to nearly half of the respondents reported their dining purposes as "get a quick meal." In a lodging context, research studying hotel guests' behaviors during the COVID-19 pandemic showed that solo travelers tend to give lower ratings on their hotel stay than other types of travelers (Sun *et al.*, 2021). These findings suggest that experiential values relying heavily on contextual factors may be perceived differently by certain customer groups.

Extant literature documents the importance of aesthetics and service excellence in determining restaurant diners' behavioral intentions (Erkmen and Hancer, 2019; Ha and Jang, 2012; Ryu *et al.*, 2012). However, prior research has not distinguished customers by party type. Compared to those who visit restaurants with family or friends, people who eat alone may place less value on a restaurant's physical environment (Chua *et al.*, 2014). For example, solo customers prefer to locate themselves at the corner of a restaurant and avoid sitting at eye-catching seats (Goodwin and Lockshin, 1992). As a result, solo diners may perceive surroundings differently than social diners and may have different preferences regarding the frequency and the form of service interactions; therefore, a uniform service standard may not yield the best outcomes for restaurants (Goodwin and Lockshin, 1992). Existing literature implies that the effect of aesthetics and service excellence may be significant for social diners but may not be significant for solo diners. Therefore, the current study examines the moderating role of party type (solo vs. social) in the relationships between the two dimensions of passive experiential values and diners' behavioral intentions. Since restaurant image is the mediator between these relationships in the conceptual model,

it is hypothesized that the indirect effects of aesthetics and service excellence on revisit intention and WOM intention differ by party type (solo vs. social):

- H4.* Party type moderates the mediating effect of restaurant image in the relationship between aesthetics and diners' behavioral intentions [i.e. revisit intention (*H4a*) and WOM intention (*H4b*)], so that the indirect effect of aesthetics is significant for social diners only.
- H5.* Party type moderates the mediating effect of restaurant image in the relationship between service excellence on diners' behavioral intentions [i.e. revisit intention (*H5a*) and WOM intention (*H5b*)], so that the indirect effect of service excellence is significant for social diners only.

3. Methodology

3.1 Research model and hypotheses

The conceptual framework is presented in Figure 1. Indirect CCI is hypothesized to positively influence each of the five dimensions of diners' experiential value (*H1*), which, in turn, positively affects customer behavioral intentions via restaurant image (*H2* and *H3*). Party type is expected to moderate the indirect effect from aesthetics (*H4*) and service excellence (*H5*) on behavioral intentions.

3.2 Sample and construct measurement

Data were collected in October 2020 through a Qualtrics online panel. Participants were at least 18 years old and had patronized either a casual or a fast-casual restaurant 12 months before the data collection period. In the USA, restaurants are classified into quick-service restaurants, fast-casual restaurants, casual dining restaurants, family restaurants and fine dining restaurants (Dixon *et al.*, 2018). The casual and fast-casual restaurants were selected for this study as they offer a considerable amount of table service and have a high

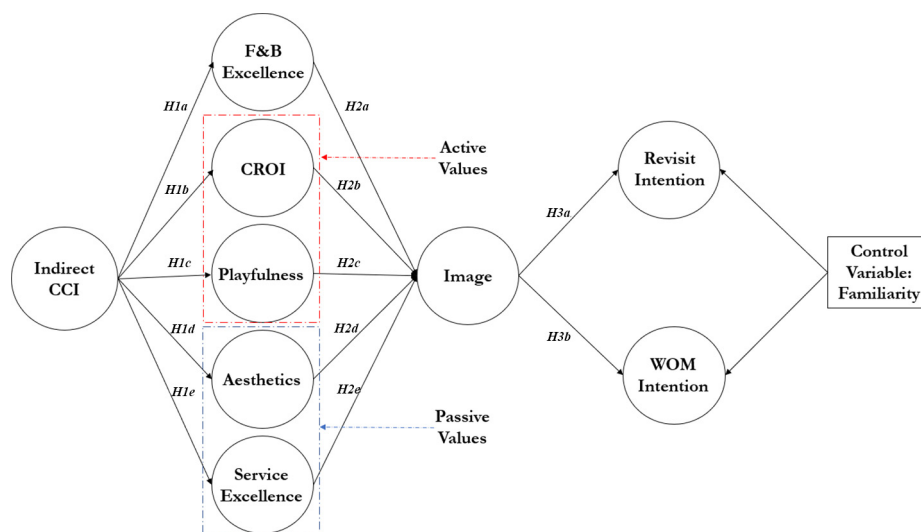


Figure 1.
Conceptual model

possibility of attracting solo diners. This study used a single factor between-subjects design to examine the differences between solo and social diners. Survey participants were randomly assigned to one of two scenarios, requiring them to recall one of their solo or social dining experiences in the past year. Respondents were asked to evaluate their perceived indirect CCI, experiential value, perceived restaurant image, revisit intentions and WOM intentions. Participants rated each item on seven-point Likert-type scales ranging from 1 = Strongly Disagree to 7 = Strongly Agree. F&B excellence was measured with five items. Indirect CCI, the other four dimensions of experiential value, restaurant image, revisit intention and WOM intention, were each measured using three-item scales. Measurement scales are provided in the Appendix. Participants' demographic information was recorded at the end of the survey.

A pilot study was conducted with 45 valid responses to test face validity and construct reliability. For the main study, 491 usable responses were collected, with 245 solo diners and 246 social diners. The sample size exceeded the recommended minimum sample size of 190 in detecting an anticipated medium effect size at a statistical power level of 0.8 (Soper, 2021). It also surpassed the widely accepted "10 observations per indicator" rule for structural equation modeling (Hair *et al.*, 2009) and exceeded the "100 observations per group" rule of thumb for multi-group modeling (Kline, 2010). Table 1 presents the sample profile. The demographics are roughly consistent with the 2019 U.S. population in terms of gender (sample: 49.08% males vs. census: 49.25% males), age (sample: 9.78% 18–24 years; 67.82% 25–64 years; 22.40% 65 years and over vs. census: 11.84% 18–24 years; 66.98% 25–64 years; 21.83% 65 years and over) and race (sample: 76.17% Caucasian vs census: 76.32% Caucasian) (U.S. Census Bureau, 2020).

3.3 Data analysis

The data were analyzed using confirmatory factor analysis (CFA) and structural equation modeling (SEM) in Mplus 8.3 with the two-step modeling approach (Anderson and Gerbing, 1988) and formal tests of mediation. First, the proposed measurement structure underlying the data was tested with the CFA model. Second, the SEM model was specified subject to an acceptable fit of the measurement model. For model fit evaluation, an inclusive approach was used involving consideration of fit indices and the theoretical consistency and admissibility of parameter estimates. As the χ^2 can be oversensitive to minor model misspecifications given even moderate-sized samples and contains a restrictive hypothesis test (i.e. exact fit), three approximate fit indices were used: root mean square error of approximation (RMSEA) ≤ 0.050 and 0.080 for close and reasonable fit, respectively; comparative fit index (CFI); and Tucker–Lewis index (TLI) ≥ 0.900 for acceptable fit (Hu and Bentler, 1999). For the test of indirect effects and the test of moderated mediation, the bootstrap resampling procedure was used with 1,000 resamples and bias-corrected confidence intervals (Williams and MacKinnon, 2008).

4. Results

4.1 Measurement model

The CFA model provided an acceptable and reasonable fit to the data, $\chi^2 = 1,274.752$ (450), $p < 0.001$, RMSEA = 0.061 (90% CI: 0.057, 0.065), CFI = 0.936, TLI = 0.924. As shown in Table 2, all factor loadings from the CFA were equal to or greater than 0.679 ($p < 0.001$), uniformly moderate-to-strong, and all indicators were loaded onto their respective proposed constructs, suggesting that the latent constructs were adequately indexed (Hair *et al.*, 2009).

	N	(%)	Examining solo and social diners
<i>Party type</i>			
Solo (1 diner)	245	50.10	
Social (2 or more diners)	246	49.90	
<i>Covid</i>			
No (dining before Covid-19 pandemic)	244	49.69	
Yes (dining amid Covid-19 pandemic)	247	50.31	1675
<i>Gender</i>			
Female	250	50.92	
Male	241	49.08	
<i>Age</i>			
18–24	48	9.78	
25–34	101	20.57	
35–44	122	24.85	
45–54	47	9.57	
55–64	63	12.83	
65 and above	110	22.40	
<i>Race</i>			
Caucasian	374	76.17	
Hispanic	31	6.31	
African American	42	8.55	
American Indian or Alaska Native	8	1.63	
Asian	46	9.37	
Other	5	1.02	
<i>Marital status</i>			
Married	280	57.03	
Widowed	29	5.91	
Divorced	49	9.98	
Separated	8	1.63	
Never Married	103	20.98	
Domestic partner	22	4.48	
<i>Employment status</i>			
Full-time employee	223	45.42	
Part-time employee	44	8.96	
Unemployed	65	13.24	
Self-employed	23	4.68	
Retired	120	24.44	
Student	16	3.26	
<i>Income level</i>			
Less than \$20,000	64	13.03	
\$20,000 to \$39,999	99	20.16	
\$40,000 to \$59,999	102	20.77	
\$60,000 to \$99,999	92	18.74	
\$100,000 and above	134	27.29	
Total	491	100	

Table 1.
Demographics

Table 3 shows the composite reliabilities, average variance extracted (AVEs) and squared correlations for the constructs in the measurement model. AVEs for all constructs except for indirect CCI were greater than the 0.500 thresholds suggested by Bagozzi and Yi (1988). Fornell and Larcker (1981) suggest that AVE less than 0.500

Table 2.
Unstandardized (and
standardized) factor
loading estimates
and residual
variances from the
CFA model

Item	CCI	F&B excellence	CROI	Playfulness	Aesthetics	Service excellence	Image	Revisit intention	WOM intention	Var(δ) ^b
x1	1.000 ^a (0.679)									0.539
x2	1.022 (0.716)									0.529
x3	1.096 (0.686)									0.487
x4		1.000 ^a (0.853)								0.465
x5		0.855 (0.752)								0.283
x6		0.858 (0.754)								0.344
x7		0.971 (0.844)								0.241
x8		0.849 (0.735)								0.234
x9			1.000 ^a (0.807)							0.445
x10			1.157 (0.846)							0.282
x11			0.976 (0.789)							0.246
x12				1.000 ^a (0.871)						0.256
x13				0.988 (0.875)						0.350
x14				1.025 (0.745)						0.284
x15					1.000 ^a (0.731)					0.378
x16					1.139 (0.847)					0.272
x17					1.023 (0.810)					0.434
x18						1.000 ^a (0.847)				0.432
x19						1.034 (0.868)				0.287
x20						1.092 (0.863)				0.460
x21							1.000 ^a (0.868)			0.247
x22							1.024 (0.792)			0.372
x23							0.900 (0.771)			0.406
x24								1.000 ^a (0.791)		0.198
x25								1.048 (0.766)		0.166
x26								1.055 (0.787)		0.318
x27									1.000 ^a (0.896)	0.374
x28									1.026 (0.913)	0.414
x29									0.972 (0.826)	0.381

Notes: ^aLoadings fixed to 1.000 to scale metric of latent variable variance. ^bEstimates of residual variances are from completely standardized solutions. Values in parenthesis are completely standardized loading estimates. All loadings are statistically significant at $p < 0.001$

	CR	CCI	F&BE	CROI	PL	AE	SE	IM	RV	WOM
CCI	0.736	<i>0.481</i>								
F&BE	0.892	0.459 (0.678)	<i>0.623</i>							
CROI	0.855	0.510 (0.714)	0.783 (0.885)							
PL	0.870	0.506 (0.711)	0.640 (0.800)	<i>0.663</i>						
AE	0.839	0.635 (0.797)	0.792 (0.890)	0.602 (0.776)	<i>0.693</i>					
SE	0.894	0.508 (0.713)	0.753 (0.867)	0.699 (0.836)	0.689 (0.830)	<i>0.636</i>				
IM	0.852	0.542 (0.736)	0.810 (0.900)	0.796 (0.892)	0.618 (0.786)	0.766 (0.875)	<i>0.739</i>			
RV	0.824	0.407 (0.638)	0.654 (0.809)	0.709 (0.842)	0.653 (0.808)	0.891 (0.944)	0.826 (0.909)	<i>0.658</i>		
WOM	0.911	0.424 (0.651)	0.716 (0.846)	0.656 (0.810)	0.560 (0.748)	0.569 (0.754)	0.590 (0.768)	0.686 (0.828)	<i>0.610</i>	
				0.682 (0.826)	0.575 (0.758)	0.663 (0.814)	0.697 (0.835)	0.746 (0.864)	0.674 (0.820)	<i>0.773</i>

Notes: CR = composite reliability. The diagonal values in italic are average variance extracted (AVE). The values in the off-diagonal are squared correlations. Correlations are in parenthesis. All correlations are statistically significant at $p < 0.001$

Table 3.
Reliability results,
validity results and
factor correlations
from the CFA model

but above 0.400 is also acceptable, and the convergent validity is adequate as long as the composite reliability of the construct is higher than 0.600. Indirect CCI had an AVE of 0.481 and a composite reliability score of 0.736, indicating adequate convergent validity. As Mathwick *et al.* (2001) acknowledged during the development of the EVS, discriminant validity is difficult to establish with multidimensional hierarchically organized constructs and subsequently demonstrated discriminant validity in a weak sense by examining confidence intervals ($\pm$ two standard deviations) around the factor correlations. In the retained measurement model, none of the confidence intervals ($\pm$ three standard deviations) surrounding pairs of constructs with squared correlations (R^2) less than their respective AVEs contained zero, suggesting discriminant validity (Anderson and Gerbing, 1988; Fornell and Larcker, 1981). Reliability values were above the suggested value of 0.700 (Hair *et al.*, 2009), indicating acceptable internal consistency. From the correlations shown in the parentheses in Table 3, all factor correlations were statistically significant and in the expected directions.

4.2 Common method bias testing

Using self-reporting surveys may introduce common method bias (CMB). To test for CMB, models were built according to Williams *et al.*'s (2010) comprehensive CFA marker technique, and incremental model fit indices were computed. Respondents' individualism served as the marker variable as it measured respondents' independence using four items and was theoretically unrelated to the substantive variables that reflected respondents' dining experience. The results in Table 4 indicate that the method factor loadings (assumed to be equal) were significantly related to substantive indicators (Baseline vs Method-C model, $\Delta\chi^2(1) = 58.013, p < 0.001$). This result supports the presence of method variance associated with the marker variable. The comparison of the Method-C and Method-R yielded non-significant results, implying that the correlations among factors were not significantly biased by the marker variable method effect (Method-C vs Method-R model, $\Delta\chi^2(77) = 29.391, p = 1.00$). The substantive reliability scores shown in Table 5 indicate that the measurement of all latent variables yielded adequate reliability results (ranging from 0.690 to 0.812). The method components accounted for 9.3% to 22.7% of the total reliability values for the substantive factors. Sensitivity analysis

Table 4.
Chi-square,
goodness-of-fit
values and model
comparison tests for
common method bias
testing

Model	χ^2	Df	CFI	TLI	RMSEA
1. CFA	1,508.893	574	0.932	0.921	0.058
2. Baseline	1,645.326	602	0.924	0.916	0.059
3. Method-C	1,587.313	601	0.928	0.920	0.058
4. Method-U	1,558.958	569	0.928	0.915	0.060
5. Method-R	1,588.349	646	0.931	0.929	0.055
<i>Chi-square model comparison tests</i>					
Δ Models	$\Delta\chi^2$	Δdf	Chi-square critical value; $\alpha = 0.05$		
1. Baseline vs Method-C	58.013***	1	3.84		
2. Method-C vs Method-U	28.355	32	46.19		
3. Method-C vs Method-R	29.391	77	96.22		
Note: *** $p < 0.001$					

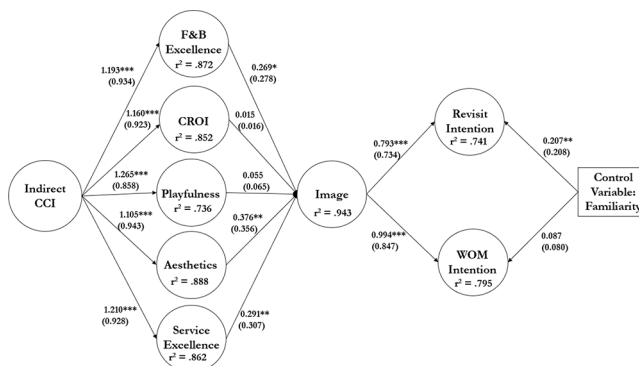
results suggest that the factor correlations only have a small corresponding change in value when method factor loadings were manipulated. In conclusion, although the model comparison results indicated the presence of CMB represented by the marker variable effects, these effects did not significantly bias factor correlation estimates (Williams *et al.*, 2010).

4.3 Structural model

After confirming the acceptable fit of the measurement model and accounting for CMB, SEM was used to test the overall fit of the proposed model and to examine the hypotheses. The full structural model indicated an acceptable and reasonable fit to the data, $\chi^2 = 1,466.640$ (479), $p < 0.001$, RMSEA = 0.065 (90% CI: 0.061, 0.069), CFI = 0.923, TLI = 0.915. Figure 2 shows the model with unstandardized and completely standardized estimates. Fully supporting *H1a*, *H1b*, *H1c*, *H1d* and *H1e*, indirect CCI was positively and significantly associated with each dimension of experiential value. Consistent with expectations, F&B excellence, aesthetics and service excellence were positively and significantly associated with restaurant image. Contrary to expectations, CROI and playfulness were not significantly associated with restaurant image. Accordingly, *H2a*, *H2d* and *H2e* were supported. Furthermore, and in line with predictions, restaurant image was positively and

Latent variable	R _{Total}	R _{Substantive}	R _{Method}	(%) R _{method}
CCI	0.778	0.690	0.088	11.3
F&BE	0.910	0.789	0.122	13.3
CROI	0.913	0.812	0.101	11.0
PL	0.876	0.783	0.094	10.7
AE	0.876	0.774	0.102	11.7
SE	0.881	0.784	0.097	11.0
IM	0.880	0.798	0.082	9.3
RV	0.846	0.761	0.085	10.1
WOM	0.916	0.708	0.208	22.7

Table 5.
Reliability
decomposition



Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 2.
Structural model with
unstandardized
coefficients and
standardized
coefficients in
parenthesis

significantly associated with revisit intention and WOM intention. Subsequently, *H3a* and *H3b* were supported. In total, the model explained 87.2% of the variance in F&B excellence, 85.2% of the variance in CROI, 73.6% of the variance in playfulness, 88.8% of the variance in aesthetics, 86.2% of the variance in service excellence, 94.3% of the variance in restaurant image, 74.1% of the variance in revisit intention and 79.5% of the variance in WOM intention.

Although mediating relationships were not hypothesized, the model suggests that image mediates the effect of experiential values on behavioral intentions. These indirect effects were tested using bootstrapping. The test results revealed a significant indirect effect of F&B excellence on revisit intention (F&BE-RV) and WOM intention (F&BE-WOM) via restaurant image (indirect effect $_{(F\&BE-RV)} = 0.213$, 95% CI = [0.049, 0.102]; indirect effect $_{(F\&BE-WOM)} = 0.267$, 95% CI = [0.051, 0.487]), a significant indirect effect of aesthetics on revisit intention (AE-RV) and WOM intention (AE-WOM) via restaurant image (indirect effect $_{(AE-RV)} = 0.298$, 95% CI = [0.145, 0.675]; indirect effect $_{(AE-WOM)} = 0.373$, 95% CI = [0.174, 0.780]), and a significant indirect effect of service excellence on revisit intention (SE-RV) and WOM intention (SE-WOM) via restaurant image (indirect effect $_{(SE-RV)} = 0.231$, 95% CI = [0.107, 0.421]; indirect effect $_{(SE-WOM)} = 0.289$, 95% CI = [0.128, 0.525]). However, the indirect effects of CROI and playfulness on revisit intention (CROI-RV, PL-RV) and WOM intention (CROI-WOM, PL-WOM) via image were not significant (indirect effect $_{(CROI-RV)} = 0.012$, 95% CI = [-0.175, 0.166]; indirect effect $_{(PL-RV)} = 0.044$, 95% CI = [-0.017, 0.120]; indirect effect $_{(CROI-WOM)} = 0.015$, 95% CI = [-0.206, 0.207]; indirect effect $_{(PL-WOM)} = 0.055$, 95% CI = [-0.022, 0.153]).

To test *H4* and *H5*, multi-group structural models were fitted to the data to explore the moderating effect of party type (solo vs social) on the mediating effect of restaurant image on the relationships between aesthetics and diners' behavioral intentions and between service excellence and diners' behavioral intentions. Prior to testing the multiple-group structural models, analyses were conducted in two distinct phases to examine measurement invariance across party types. In the first phase, a CFA was estimated separately in the solo and social subsamples to examine whether the hypothesized factor structure provides an acceptable fit to each sample. Factor identification was achieved via the fixed-mean-fixed-variance approach. In the second phase of analysis, the retained model was subjected to multiple-group tests of measurement invariance across party types.

The test of the CFA model in the solo diner subsample provided an acceptable and reasonable fit to the data, $\chi^2(450) = 965.946$, $p < 0.001$, RMSEA = 0.068 (90% CI: 0.062, 0.074), CFI = 0.913, TLI = 0.897. Analogously, the test of the model in the social diner group provided a close and reasonable fit to the data, $\chi^2(450) = 949.418$, $p < 0.001$, RMSEA = 0.067 (90% CI: 0.061, 0.073), CFI = 0.931, TLI = 0.919. Factor loadings in both subsamples were uniformly moderate-to-strong and statistically significant. After confirming the acceptable fit of the CFA models in each subsample, formal multi-group tests of invariance were conducted. Table 6 shows the test statistics and fit indices for the models of invariance across party types. The configural invariance model provided an acceptable and reasonable fit to the data. Support was also found in the additive invariance of factor loadings, intercepts, residual variances, the factor variance-covariance matrix and the factor mean vector. The measurement model was found to be invariant across both solo diners and social diner groups at all levels. The $\Delta \chi^2$ tests for weak factorial invariance, strict invariance, factor variance-covariance invariance and factor mean invariance were significant. RMSEA values fell within the 90% confidence interval of the strong

Model	χ^2	df	CFI	TLI	RMSEA	90% CI	$\Delta\chi^2(df)$	ΔCFI	ΔTLI
MGM-A (Configural IN)	1,915.364	900	0.923	0.909	0.068	[0.064, 0.072]			
MGM-B (IN FL)	1,965.203	923	0.921	0.909	0.068	[0.064, 0.072]	49.839*** (23)	-0.002	0.000
MGM-C (IN FL + INT)	1,982.962	946	0.921	0.912	0.067	[0.063, 0.071]	17.759 (23)	0.000	0.003
MGM-D (IN FL + INT + U)	2,087.823	979	0.916	0.909	0.068	[0.064, 0.072]	104.861*** (33)	-0.005	-0.003
MGM-E (IN FL + INT + U + FVCV)	2,112.312	989	0.914	0.909	0.068	[0.064, 0.072]	34.489*** (10)	-0.002	-0.000
MGM-F (IN FL + INT + U + FVCV + FM)	2,151.149	999	0.912	0.907	0.069	[0.065, 0.073]	38.837*** (10)	-0.002	-0.002

Notes: $\Delta\chi^2$ = change in χ^2 relative to a more complex model computed; MGM = multiple-group model; IN = invariance; FL = factor loadings; INT = intercepts; U = uniquenesses; FVCV = factor variances and covariances; FM = factor means. *** $p < 0.01$, ** $p < 0.001$

Table 6.
Fit statistics for the
multiple-group
models of invariance
across the solo and
social subsamples

factorial invariance model, the Δ TLI were ≤ 0.05 (Tucker and Lewis, 1973) and the Δ CFI ≤ -0.01 (Hu and Bentler, 1998). Taken together, these results suggest that it is reasonable to assume there was not a significant loss in model fit (Wu *et al.*, 2007).

Given adequate measurement invariance, tests of moderated mediation effect were performed using the “model constraint” command in Mplus. Table 7 suggests that the moderated mediation model provided a close and reasonable fit to the data, $\chi^2(1024) = 2,326.793, p < 0.001$, RMSEA = 0.072 (90% CI: 0.068, 0.076), CFI = 0.901, TLI = 0.898. In line with expectations, bootstrap tests indicated that the indirect effect of aesthetics on revisit intention via restaurant image (z-score = $-2.773, p < 0.01$) and the indirect effect of aesthetics on WOM intention (z-score = $-3.298, p < 0.001$) via restaurant image were significantly different between the solo diner and social diner groups. The effect of aesthetics on revisit intention and WOM intention via restaurant image was significant for the social diner group ($B_{AE-IM} = 0.313, p < 0.001$; $B_{AE-WOM} = 0.457, p < 0.001$). However, the effect of aesthetics on the two behavioral intention constructs via restaurant image was not significant for the solo diner group ($B_{AE-IM} = 0.041, p = 0.510$; $B_{AE-WOM} = 0.049, p = 0.517$). Accordingly, *H4a* and *H4b* were supported. Contrary to expectations, bootstrap tests indicated that the indirect effect of service excellence on revisit intention via restaurant image (z-score = $0.771, p = 0.441$) and the indirect effect of service excellence on WOM intention (z-score = $0.395, p = 0.693$) via restaurant image were not significantly different between the solo diner and social diner groups. Thus, *H5a* and *H5b* were not supported.

5. Discussion
5.1 Conclusions

This research examined the impact of indirect CCI on restaurant diners’ experiential value and suggests that an enjoyable interaction between customers directly increases customer perception of every dining experience aspect. Successively, customer perception influences behavioral intentions, and this study verified the significant predictive effect of indirect CCI on revisit intention and WOM intention via the mediating effect of experiential values and restaurant image. Indirect CCI positively affected behavioral intentions by influencing aesthetics, service excellence and F&B excellence. The findings imply that increased positive perception of a restaurant’s physical environment, service quality and food quality can significantly improve restaurant image, which sequentially increases revisit intention and intention of recommending the restaurant to others. However, this study did not find

Table 7.

Moderated mediation of behavioral intentions regressed on aesthetics and service excellence via restaurant image

	Coefficients B		Δ B	Z-score
	Solo diner group (N = 245)		Social diner group (N = 246)	
Aesthetics → image → revisit intention	0.313***	0.041	−0.272	−2.773**
Aesthetics → image → WOM intention	0.457***	0.049	−0.408	−3.298***
Service excellence → image → revisit intention	0.132	0.208	0.076	0.771
Service excellence → image → WOM intention	0.192	0.246	0.054	0.395

Notes: N = 491; ** $p < 0.01$; *** $p < 0.001$

evidence supporting CROI and playfulness affecting behavioral intentions. For both results, the type of dining experience is likely the reason for the insignificant results. [Jin et al. \(2012\)](#) found differences in the environment as an antecedent to restaurant brand image based on whether the dining motivation is a quick meal versus a social occasion. The non-significant effect of CROI may be explained by the selection of casual and fast-casual restaurants as scenarios in the study design. As the prices of these restaurants are generally reasonable and affordable, customers' perceived value of the price may not be a salient factor in determining behavioral intentions. The non-significant effect of playfulness may be attributed to the varied dining purposes. If customers visit restaurants primarily for business meals, the value they place on the enjoyment of the dining process may not be aligned with customers who dine in restaurants for social or leisure purposes.

This study found that party type moderates the relationships between aesthetics and behavioral intentions so that the effect is significant only for social diners. For solo diners, aesthetics is not a predictive factor of behavioral intentions. However, the moderating effect of party type in the relationship between service excellence and behavioral intentions is not significant, suggesting that service excellence is an antecedent of revisit intention and WOM intention for both solo diners and social diners.

5.2 Theoretical implications

This study theoretically contributes to the literature in several ways. First, the significant impact of indirect CCI on each dimension of diners' experiential value echoes [Hao \(2020\)](#), who suggested that CCI contributes to customer evaluation of their service experience. Second, the findings extend CCI research by identifying which customer experience variables eventually influence diners' revisit and WOM intention. Unlike prior research, this study examined subdimensions of EVS and found that only basic experiential value traits (F&B excellence, aesthetics, service excellence) affected restaurant image and behavioral intentions. Third, the results provide empirical evidence for the positive effect of restaurant image in mediating the relationship between indirect CCI and behavioral intentions. This finding is consistent with recent work highlighting the importance of CCI as a precursor to brand commitment and WOM ([An et al., 2019](#)). Fourth, this study adds to previous CCI research on perspectives of customer dissimilarities. By investigating the influence of different party types patronizing restaurants, this study shows that aesthetics play a significant role in assessing restaurant image and, ultimately, behavioral intentions for social diners. However, this is not the case for solo diners. The moderated effect of party type is partially consistent with [Chua et al. \(2014\)](#), who found that certain customer groups place less value on a restaurant's physical environment. Meanwhile, this study addressed previous research that called for the study of different segments of diners throughout the pandemic ([Tuzovic et al., 2021](#)). Since this study collected data during the COVID-19 pandemic, it may project insights on restaurant diners' post-pandemic behavior. The positive effect of service excellence on behavioral intentions was found to be consistent across party types. This result confirms the significant impact of service quality in the restaurant literature ([Kim et al., 2009](#); [Taylor et al., 2018](#)). It also supports the unwavering value of service excellence in achieving customer satisfaction during the global pandemic ([Hao and Chon, 2021](#); [Jiang and Wen, 2020](#); [Sun et al., 2021](#)).

Furthermore, this research extends the literature on experiential value by adding F&B excellence to Mathwick *et al.*'s (2001) experiential value measurement scale. Results indicate that F&B excellence is a dominant factor that significantly affects restaurant image and customer behavioral intentions. This corresponds to Jalilvand *et al.*'s (2017) findings that suggested food quality influences restaurant customers' WOM intention. However, it contradicts Taylor *et al.* (2018), who did not find a significant impact of F&B excellence on revisit intention. This study did not find significant impacts of playfulness on restaurant image and behavioral intentions. Customers' individual differences might explain this finding. For instance, the impact of enjoyment on customers' satisfaction for quick service restaurants highly depends on customers' cultural backgrounds (Gallarza-Granizo *et al.*, 2020).

5.3 Practical implications

In addition to the theoretical contributions, this research offers insights for restaurant industry practitioners regarding approaches to enhance customer engagement. It also identifies customers' needs according to party type and provides strategies for restaurant operation optimization (Her and Seo, 2018).

Indirect CCI often occurs when customers group together in situations such as in a queue or lobby (Lee *et al.*, 2018). Krishen *et al.* (2020) indicated that atmospherics during a pre-event (e.g. while waiting in line) could foster a positive attitude and build anticipation prior to the main event. As such, managers can control the environment in and around their restaurants with friendly hosting employees, proper signage and information, proactive messaging (e.g. employing technology for queueing times) and planning for crowds. Management needs to effectively address crowd management in their restaurants according to customer party type. For example, if the majority of customers are social diners, unproductive crowd management will have a more pronounced negative impact. If customers cannot be seated in a reasonable timeframe, restaurant managers should re-direct them to other venues or offer them bar seating with a complimentary snack or promotion. Management should have rigorous knowledge of their target market's differentiated needs and expectations. Strategies such as deliberately seating different types of guests to foster positive interactions should be considered. A harmonious atmosphere created by other customers should be fostered, and restaurant employees should be trained to give appropriate attention to different types of customers to afford a sense of responsiveness without being perceived as intrusive. To mitigate the effects of negative CCI, restaurant managers need to be actively involved in front-of-the-house activities and remain visible in the dining room to recognize and address troublesome customer behaviors. Proactively managing unruly and intruding customers in a professional and courteous manner will be appreciated by other customers and subsequently minimize the effects of negative indirect CCI. In addition, employees need to be confident in their management's support when dealing with difficult and disruptive customers. Finally, the restaurant's marketing communication should set the tone for an atmosphere of mutual respect.

Since this study found that F&B excellence, aesthetics and service excellence affected restaurant image and behavioral intentions, management can innovate and experiment with these constructs. Interestingly, the results indicated that aesthetics has the biggest impact on behavioral intentions via restaurant image. This construct, together with service excellence and F&B excellence to a lesser extent, significantly affects restaurant image, which suggests its importance to management.

Management should pay close attention to the physical aspects of their restaurant to ensure that an appropriate physical environment is maintained to reflect the image of the restaurant. It is imperative to note that perceptions of aesthetics differ by customer type. The study reveals that aesthetics are important to social diners but not to solo diners, further highlighting the need for managers to understand their customer segments. To maximize the value of a restaurant's physical attributes, managers should consider seating social diners in locations with higher aesthetic value since this party type places higher merit on this experiential value dimension. For new restaurants, tables in the dining room with the lower aesthetic value could be designed to accommodate solo diners because there is a lower associated increase in behavioral intentions resulting from aesthetics for this party type. Service excellence significantly affects restaurant image and behavioral intentions, and it is important to both solo and social diners. Management can assume that service quality is crucial to all customers and should provide high-quality service accordingly. Customized services such as communal tables, special table settings, or robotics could be adopted to boost customer satisfaction (Hao and Chon, 2021; Zhang *et al.*, 2021). In addition, the findings of this study are particularly important during the ongoing pandemic. Since service excellence remains constantly vital to customer loyalty, restaurateurs should be more attentive to hygiene and protective procedures to prevent service failure and promote overall health in the post-pandemic era (Jiang and Wen, 2020; Sun *et al.*, 2021).

5.4 Limitations and future research

Similar to other studies, the current research exhibits several limitations. First, it explored the linkage between indirect CCI and diners' behavioral intentions in the context of casual and fast-casual restaurants. The dining facilities were chosen for their high possibility of appealing to solo customers. Considering the impact of service settings on indirect CCI (Lin *et al.*, 2020a), future research could explore this relationship across different market segments, such as fine dining or fast-food restaurants. Second, since this study collected data during the COVID-19 pandemic, it provides insights for future research on restaurant diners' post-pandemic behaviors. For instance, it would be interesting to replicate the study in a post-pandemic setting and draw conclusions by comparing the results. Third, to enhance the conceptual model, the constructs in the EVS that were found to be insignificant in this current study could be removed in a future study. Fourth, respondents in this study answered questions related to their past experiences. This process may yield inaccurate information recall; as such, a field experiment could be conducted in the future to generate additional support for the relationships of interest. Finally, a different analysis technique could be used, such as fuzzy set qualitative comparative analysis (Krishen *et al.*, 2020).

References

- Altınay, L., Song, H., Madanoglu, M. and Wang, X. (2019), "The influence of customer-to-customer interactions on elderly consumers' satisfaction and social wellbeing", *International Journal of Hospitality Management*, Vol. 78, pp. 223-233.
- An, J., Ngo, L., Chylinski, M. and Tran, Q. (2019), "Customer advocates with a generous heart", *Journal of Services Marketing*, Vol. 33 No. 2, pp. 192-205.

- Anderson, J. and Gerbing, D. (1988), "Structural equation modeling in practice: a review and recommended two-step approach", *Psychological Bulletin*, Vol. 103 No. 3, pp. 411-423.
- Aroean, L. and Michaelidou, N. (2014), "Are innovative consumers emotional and prestigiously sensitive to price?", *Journal of Marketing Management*, Vol. 30 Nos 3/4, pp. 245-267.
- Bae, S., Slevitch, L. and Tomas, S. (2018), "The effects of restaurant attributes on satisfaction and return patronage intentions: evidence from solo diners' experiences in the United States", *Cogent Business and Management*, Vol. 5 No. 1, p. 1493903.
- Bagozzi, R.P. and Yi, Y. (1988), "On the evaluation of structural equation models", *Journal of the Academy of Marketing Science*, Vol. 16 No. 1, pp. 74-94.
- Brodie, R.J., Hollebeek, L.D., Jurić, B. and Ilić, A. (2011), "Customer engagement: conceptual domain, fundamental propositions, and implications for research", *Journal of Service Research*, Vol. 14 No. 3, pp. 252-271.
- Brown, L., Buhalis, D. and Beer, S. (2020), "Dining alone: improving the experience of solo restaurant goers", *International Journal of Contemporary Hospitality Management*, Vol. 32 No. 3, pp. 1347-1365.
- Chen, A., Peng, N. and Hung, K. (2015), "The effects of luxury restaurant environments on diners' emotions and loyalty", *International Journal of Contemporary Hospitality Management*, Vol. 27 No. 2, pp. 236-260.
- Chen, H.B., Yeh, S.S. and Huan, T.C. (2014), "Nostalgic emotion, experiential value, brand image, and consumption intentions of customers of nostalgic-themed restaurants", *Journal of Business Research*, Vol. 67 No. 3, pp. 354-360.
- Choi, S., Yang, E.C.L. and Saloomeh, T. (2020), "Solo dining in Chinese restaurants: a mixed-method study in Macao", *International Journal of Hospitality Management*, Vol. 90, p. 102628.
- Chua, B., Jin, N., Lee, S. and Goh, B. (2014), "Influence of mechanic, functional, and humanic clues on customers' experiential values and behavioral intentions in full-service restaurants", *Journal of Foodservice Business Research*, Vol. 17 No. 2, pp. 67-84.
- Dixon, D., Miscuraca, J. and Koutroumanis, D. (2018), "Looking strategically to the future of restaurants: casual dining or fast casual?", *Entrepreneurship Education and Pedagogy*, Vol. 1 No. 1, pp. 102-117.
- Erkmén, E. and Hancer, M. (2019), "Building brand relationship for restaurants", *International Journal of Contemporary Hospitality Management*, Vol. 31 No. 3, pp. 1469-1487.
- Fornell, C. and Larcker, D.F. (1981), "Structural equation models with unobservable variables and measurement error: algebra and statistics", *Journal of Marketing Research*, Vol. 18 No. 3, pp. 382-388.
- Gallarza-Granizo, M.G., Ruiz-Molina, M.E. and Schloesser, C. (2020), "Customer value in quick-service restaurants: a cross-cultural study", *International Journal of Hospitality Management*, Vol. 85, p. 102351.
- Goodwin, C. and Lockshin, L. (1992), "The solo consumer: unique opportunity for the service market", *Journal of Services Marketing*, Vol. 6 No. 3, pp. 27-36.
- Hair, J.F., Black, W.C., Babin, B.J. and Anderson, R.E. (2009), *Multivariate Data Analysis*, 7th Edition, Pearson Prentice Hall.
- Ha, J. and Jang, S. (2010), "Perceived values, satisfaction, and behavioral intentions: the role of familiarity in Korean restaurants", *International Journal of Hospitality Management*, Vol. 29 No. 1, pp. 2-13.
- Ha, J. and Jang, S. (2012), "The effects of dining atmospherics on behavioral intentions through quality perception", *Journal of Services Marketing*, Vol. 26 No. 3, pp. 204-215.
- Hao, F. (2020), "The landscape of customer engagement in hospitality and tourism: a systematic review", *International Journal of Contemporary Hospitality Management*, Vol. 32 No. 5, pp. 1837-1860.

-
- Hao, F. and Chon, K.K.S. (2021), "Contactless service in hospitality: bridging customer equity, experience, delight, satisfaction, and trust", *International Journal of Contemporary Hospitality Management*, Vol. 34 No. 1.
- Her, E. and Seo, S. (2018), "Why not eat alone? The effect of other consumers on solo dining intentions and the mechanism", *International Journal of Hospitality Management*, Vol. 70, pp. 16-24.
- Hu, L. and Bentler, P. (1998), "Fit indices in covariance structure modeling: sensitivity to underparameterized model misspecification", *Psychological Methods*, Vol. 3 No. 4, pp. 424-453.
- Hu, L. and Bentler, P. (1999), "Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives", *Structural Equation Modeling: A Multidisciplinary Journal*, Vol. 6 No. 1, pp. 1-55.
- Hwang, Y., Su, N. and Mattila, A. (2020), "The interplay between social crowding and power on solo diners' attitudes toward menus with popularity and scarcity cues", *International Journal of Contemporary Hospitality Management*, Vol. 32 No. 3, pp. 1227-1246.
- Jalilvand, M., Salimpour, S., Elyasi, M. and Mohammadi, M. (2017), "Factors influencing word of mouth behaviour in the restaurant industry", *Marketing Intelligence and Planning*, Vol. 35 No. 1, pp. 81-110.
- Jang, Y., Ro, H. and Kim, T. (2015), "Social servicescape: the impact of social factors on restaurant image and behavioral intentions", *International Journal of Hospitality and Tourism Administration*, Vol. 16 No. 3, pp. 290-309.
- Ji, M., Wong, I.A., Eves, A. and Leong, A. (2018), "A multilevel investigation of china's regional economic conditions on co-creation of dining experience and outcomes", *International Journal of Contemporary Hospitality Management*, Vol. 30 No. 4, pp. 2132-2152.
- Jiang, Y. and Wen, J. (2020), "Effects of COVID-19 on hotel marketing and management: a perspective article", *International Journal of Contemporary Hospitality Management*, Vol. 32 No. 8, pp. 2563-2573.
- Jin, N., Lee, S. and Huffman, L. (2012), "Impact of restaurant experience on Brand image and customer loyalty: moderating role of dining motivation", *Journal of Travel and Tourism Marketing*, Vol. 29 No. 6, pp. 532-551.
- Jin, N., Line, N.D. and Goh, B. (2013), "Experiential value, relationship quality, and customer loyalty in full-service restaurants: the moderating role of gender", *Journal of Hospitality Marketing and Management*, Vol. 22 No. 7, pp. 679-700.
- Jin, N., Merkebu, J. and Line, N. (2019), "The examination of the relationship between experiential value and price fairness in consumers' dining experience", *Journal of Foodservice Business Research*, Vol. 22 No. 2, pp. 150-166.
- Keng, C., Huang, T., Zheng, L. and Hsu, M. (2007), "Modeling service encounters and customer experiential value in retailing: an empirical investigation of shopping mall customers in Taiwan", *International Journal of Service Industry Management*, Vol. 18 No. 4, pp. 349-367.
- Kim, H.S. and Choi, B. (2016), "The effects of three customer-to-customer interaction quality types on customer experience quality and citizenship behavior in mass service settings", *Journal of Services Marketing*, Vol. 30 No. 4, pp. 384-397.
- Kim, N. and Lee, M. (2012), "Other customers in a service encounter: examining the effect in a restaurant setting", *Journal of Services Marketing*, Vol. 26 No. 1, pp. 27-40.
- Kim, W., Ng, C. and Kim, Y. (2009), "Influence of institutional DINESERV on customer satisfaction, return intention, and word-of-mouth", *International Journal of Hospitality Management*, Vol. 28 No. 1, pp. 10-17.
- Kline, R. (2010), *Principles and Practice of Structural Equation Modeling*, Third Edition, Guilford Publications.

- Krishen, A.S., Berezan, O., Agarwal, S. and Robison, B. (2020), "Harnessing the waiting experience: anticipation, expectations and WOM", *Journal of Services Marketing*, Vol. 34 No. 7, pp. 1013-1024.
- Lee, L., Boon, E. and McCarthy, I. (2018), "Managing customer-to-customer interactions in group services", Paper presented at the Academy of Marketing Science World Marketing Congress, Porto, Portugal, available at: http://irep.ntu.ac.uk/id/eprint/38362/1/1237531_Lee.pdf (accessed 16 April 2021).
- Leith, C. (2020), "An exploratory study of links between individuals' perceptions of solo tourism and their desires for social interaction and solitude", *In International Conference on Tourism Research*, pp. 132-138.
- Lin, H., Gursoy, D. and Zhang, M. (2020b), "Impact of customer-to-customer interactions on overall service experience: a social servicescape perspective", *International Journal of Hospitality Management*, Vol. 87, p. 102376.
- Lin, H., Zhang, M. and Gursoy, D. (2020a), "Impact of nonverbal customer-to-customer interactions on customer satisfaction and loyalty intentions", *International Journal of Contemporary Hospitality Management*, Vol. 32 No. 5, pp. 1967-1985.
- Mathwick, C., Malhotra, N. and Rigdon, E. (2001), "Experiential value: conceptualization, measurement and application in the catalog and internet shopping environment", *Journal of Retailing*, Vol. 77 No. 1, pp. 39-56.
- Namkung, Y. and Jang, S. (2007), "Does food quality really matter in restaurants? Its impact on customer satisfaction and behavioral intentions", *Journal of Hospitality and Tourism Research*, Vol. 31 No. 3, pp. 387-409.
- Nicholls, R. (2020), "What goes on between customers? A cross-industry study of customer-to-customer interaction (CCI)", *Journal of Service Theory and Practice*, Vol. 30 No. 2, pp. 123-147.
- Ryu, K., Lee, H.R. and Kim, W.G. (2012), "The influence of the quality of the physical environment, food, and service on restaurant image, customer perceived value, customer satisfaction, and behavioral intentions", *International Journal of Contemporary Hospitality Management*, Vol. 24 No. 2, pp. 200-223.
- Sá, P. and Amorim, M. (2017), "A typology of customer-to-customer interaction and its implications for excellence in service provision", *Total Quality Management and Business Excellence*, Vol. 28 Nos 9/10, pp. 1183-1193.
- So, K.K.F., Kim, H. and King, C. (2021), "The thematic evolution of customer engagement research: a comparative systematic review and bibliometric analysis", *International Journal of Contemporary Hospitality Management*, Vol. 33 No. 10, pp. 3585-3609.
- Song, H., Altinay, L., Sun, N. and Wang, X. (2018), "The influence of social interactions on senior customers' experiences and loneliness", *International Journal of Contemporary Hospitality Management*, Vol. 30 No. 8, pp. 2773-2790.
- Soper, D.S. (2021), "A-priori sample size calculator for structural equation models [software]", available at: www.danielsoper.com/statcalc (accessed 16 April 2021).
- Sun, S., Jiang, F., Feng, G., Wang, S. and Zhang, C. (2021), "The impact of COVID-19 on hotel customer satisfaction: evidence from Beijing and Shanghai in China", *International Journal of Contemporary Hospitality Management*, Vol. 34 No. 1.
- Taylor, S., Dipietro, R.B. and So, K. (2018), "Increasing experiential value and relationship quality: an investigation of pop-up dining experiences", *International Journal of Hospitality Management*, Vol. 74, pp. 45-56.
- Tucker, L. and Lewis, C. (1973), "A reliability coefficient for maximum likelihood factor analysis", *Psychometrika*, Vol. 38 No. 1, pp. 1-10.

- Tuzovic, S., Kabadayi, S. and Paluch, S. (2021), "To dine or not to dine? Collective wellbeing in hospitality in the COVID-19 era", *International Journal of Hospitality Management*, Vol. 95, p. 102892.
- U.S. Census Bureau (2020), "2019 Population estimates by age, sex, race and Hispanic origin", available at: www.census.gov/newsroom/press-kits/2020/population-estimates-detailed.html (accessed 16 April 2021).
- Williams, J. and MacKinnon, D. (2008), "Resampling and distribution of the product methods for testing indirect effects in complex models", *Structural Equation Modeling: A Multidisciplinary Journal*, Vol. 15 No. 1, pp. 23-51.
- Williams, L., Hartman, N. and Cavazotte, F. (2010), "Method variance and marker variables: a review and comprehensive CFA marker technique", *Organizational Research Methods*, Vol. 13 No. 3, pp. 477-514.
- Wu, C. (2007), "The impact of customer-to-customer interaction and customer homogeneity on customer satisfaction in tourism service-the service encounter perspective", *Tourism Management*, Vol. 28 No. 6, pp. 1518-1528.
- Wu, C. and Liang, R. (2009), "Effect of experiential value on customer satisfaction with service encounters in luxury-hotel restaurants", *International Journal of Hospitality Management*, Vol. 28 No. 4, pp. 586-593.
- Wu, A., Li, Z. and Zumbo, B. (2007), "Decoding the meaning of factorial invariance and updating the practice of multi-group confirmatory factor analysis: a demonstration with TIMSS data", *Practical Assessment Research and Evaluation*, Vol. 12 No. 3, pp. 1-26.
- Wu, L.Y., Chen, K.Y., Chen, P.Y. and Cheng, S.L. (2014), "Perceived value, transaction cost, and repurchase-intention in online shopping: a relational exchange perspective", *Journal of Business Research*, Vol. 67 No. 1, pp. 2768-2776.
- Xu, Y., Jeong, E., Baiomy, A.E. and Shao, X. (2020), "Investigating onsite restaurant interactive self-service technology (ORISST) use: customer expectations and intentions", *International Journal of Contemporary Hospitality Management*, Vol. 32 No. 10, pp. 3335-3360.
- Zhang, J., Beatty, S. and Mothersbaugh, D. (2010), "A CIT investigation of other customers' influence in services", *Journal of Services Marketing*, Vol. 24 No. 5, pp. 389-399.
- Zhang, C., Ma, S., Li, S. and Singh, A. (2021), "Effects of customer engagement behaviors on action loyalty: moderating roles of service failure and customization", *International Journal of Contemporary Hospitality Management*, Vol. 33 No. 1, pp. 286-304.

Appendix

Indirect CCI (Kim and Choi, 2016)

1. I felt good about the modest crowdedness of all the customers at the restaurant.
2. I interacted well with other customers at the restaurant.
3. I felt in harmony with all of the customers at the restaurant.

F&B excellence (Namkung and Jang, 2007)

1. The overall food quality was excellent.
2. The restaurant offered a variety of menu items.
3. The restaurant offered fresh food.

4. The restaurant served tasty food.
5. Food was served at the appropriate temperature.

CROI (Jin *et al.*, 2013)

1. The menus in this restaurant were a good value.
2. The restaurant offered such good service that it was worth its price.
3. The prices at this restaurant were acceptable.

Playfulness (Keng *et al.*, 2007)

1. Dining at this restaurant made me feel cheerful.
2. I felt happy when I dined at this restaurant.
3. Dining at this restaurant made me forget my troubles.

Aesthetics (Chen *et al.*, 2014; Jin *et al.*, 2019; Wu and Liang, 2009)

1. The furnishing of the restaurant was aesthetically appealing.
2. The atmosphere of the restaurant was appealing.
3. The food presented was visually appealing.

Service excellence (Wu and Liang, 2009)

1. The service in this restaurant was consistently reliable.
2. The service provided in the restaurant was attentive.
3. Whenever I think of this restaurant, I appreciate its excellent service quality.

Restaurant image (Erkmen and Hancer, 2019; Jang *et al.*, 2015)

1. This restaurant had a pleasant atmosphere.
2. This restaurant had a reputation for quality.
3. The restaurant was popular with customers.

Revisit intention (Wu *et al.*, 2014)

1. The probability that I will eat at this restaurant is high.
2. I consider myself a loyal patron of this restaurant.
3. I will choose this restaurant again for my next visit.

WOM intention (Jalilvand *et al.*, 2017)

1. I would say positive things about this restaurant to other people.
2. I would recommend this restaurant to someone who seeks my advice.
3. I would encourage friends and relatives to recommend this restaurant.

About the authors

Wenjia Han is a doctoral student in the William F. Harrah College of Hospitality at the University of Nevada, Las Vegas, USA. She has a bachelor's degree in Advertising and a master's degree in Hotel Administration. Her research interests include hospitality marketing, consumer behavior, and hospitality firm financial performance. Wenjia Han is the corresponding author and can be contacted at: hanw1@unlv.nevada.edu

Wen Jiang is a current PhD student in the William F. Harrah College of Hospitality at the University of Nevada, Las Vegas, USA. She has a bachelor's degree in Commercial Recreation, Park and Tourism and a master's degree in Hotel Administration. Her research interests focus on organizational behavior, sharing economy (P2P accommodations) and service marketing.

Jason Tang is a Senior Lecturer at the Bissett School of Business at Mount Royal University in Calgary, AB, Canada. He holds a PhD in Hospitality Administration from the William F. Harrah College of Hospitality at the University of Nevada, Las Vegas and is a Chartered Professional Accountant. His research interests include tipping and revenue management.

Dr Carola Raab, a Professor, has been employed at the William F. Harrah College of Hotel Administration at the University of Nevada, Las Vegas, since 2005. She holds a PhD in Hospitality Administration from UNLV and was promoted to full professor. She has published extensively on

topics applied to restaurants and hotels. Her research interests are in pricing, activity-based costing, customer loyalty and sustainability issues. She has a wide variety of industry experience and worked as a controller, internal auditor and owned a restaurant for 10 years.

Anjala Krishen, Professor of Marketing and Director of MBA Programs at the University of Nevada, Las Vegas (UNLV), has a BS in Electrical Engineering from Rice University, and an MS Marketing, MBA, and PhD from Virginia Tech. Krishen held management positions for 13-years before pursuing a doctorate. To date, she has published interdisciplinary research in journals including *Journal of Business Research*, *Psychology and Marketing*, *Journal of Services Marketing*, *European Journal of Marketing*, and *Journal of Marketing Education*. More information about Dr Krishen can be found at: <http://anjala.faculty.unlv.edu>.

Examining
solo and social
diners

1691

For instructions on how to order reprints of this article, please visit our website:

www.emeraldgroupublishing.com/licensing/reprints.htm

Or contact us for further details: permissions@emeraldinsight.com