

The rise of solo dining: prediction and consumer profiling

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Abstract

The aim of this study is twofold: first, to investigate the factors that affect consumers' intentions to dine alone, drawing on the theory of planned behaviour (TPB); and second, to segment consumers based on their motives for solo dining. The TPB is chosen as the theoretical framework because it is regarded as a comprehensive social-psychological model that can explain an individual's intentions well. A total of 207 participants from Malaysia completed an online questionnaire using the convenience sampling method. The collected data were subjected to statistical analyses, including partial least squares structural equation modeling (PLS-SEM) and cluster analysis. Our findings show that only attitudes have a significant positive influence on intentions. Furthermore, entertainment and economic factors are found to be significant factors of attitudes. Findings from cluster analysis show four diverse groups: enjoyers, economical diners, socialisers, and relaxers. This study represents the first attempt to explore consumers' solo dining intentions through the lens of the theory of planned behaviour. Moreover, by identifying four distinct segments of solo dining consumers, the findings offer valuable insights for restaurant owners seeking to effectively target this growing market. Overall, this study not only examines the factors influencing consumers' solo dining intentions but also segments the types of solo diners, extending the utility of the TPB.

Keywords: Solo dining; Eating alone; Solitary dining; Theory of planned behaviour

1.0 Introduction

Many countries are experiencing a surge in the number of single-person households due to the growing prevalence of individualism and independence (Kim and Choi, 2019). As a result, it is now commonplace to dine alone in various parts of the world. Additionally, the increasing prevalence of solo dining may also be attributed to evolving demographics, changing educational and professional demands, and a shift towards more personalised lifestyles (Her and Seo, 2018). The practice of solo dining can be perceived differently across various countries. While eating alone is widely accepted in Western countries, it may not be looked upon favourably in some Asian countries such as Korea where it may be seen as less social. In addition, the practice of eating alone is prevalent in Japan, partly due to extended work hours and a growing population of individuals living independently. The Japanese language has a specific term, "mokushoku," to mirror the phrase "silent eating" or "eating alone" (Wen, 2022). Furthermore, following the COVID-19 pandemic, there has been a noticeable increase in the number of Malaysians who opt for solo dining (Salleh, 2022).

Traditionally, eating is considered a communal activity that helps individuals identify with specific groups such as co-workers, friends, or peers. However, with the rising number of people dining alone, the restaurant industry cannot afford to overlook this significant market segment and must strive to cater to their desires and requirements. In this research, solo dining refers to "dining in a public restaurant alone, either by choice or by circumstances, and it excludes eating carry-out or home-cooked food in a home or an office alone" (Her and Seo, 2018, p. 16). Although dining alone is often considered a lonesome and uneventful experience, research has revealed that it can be just as pleasurable as communal dining experiences (Ratner and Hamilton, 2015). Certain consumers opt for solo dining as it offers greater convenience in terms of time. For example, some employees may choose not to dine with co-workers because it could result in prolonged conversations and waiting for others to finish their meals. They may be required to extend their working hours in the office to compensate for the time lost during a long lunch break. There are consumers who may be hesitant to dine alone outside of their homes due to a fear of being judged unfavourably by others (Danesi, 2012; Brown et al., 2020; Jang et al., 2021). Some studies found that hedonic motives such as freedom and enjoyment are significant predictors of consumers' solo dining behaviour (Lahad and May, 2017; Moon et al., 2020; Takeda and Melby, 2017). A study by Yen et al. (2022) reported that escape and relaxation and enjoyment affect solo diners' satisfaction.

A survey found that 46% of all adult meals consumed in the United States are solitary occasions, with no one else present (The Hartman Group, 2017). Furthermore, a report showed that close to one-third of Europeans frequently have all their meals in solitude (Rama, 2019). In South

Korea, approximately one-third of the population dines alone for nearly half of their meals (Lazzaris, 2022). These statistics indicated that the solo dining industry represents a highly lucrative market, presenting an opportunity for restaurants to tap into this distinctive segment. Therefore, the primary purpose of this study is to understand consumers' motivation to engage in solo dining and segment consumers into market groups.

Numerous research efforts have explored the motivations behind consumers opting to dine alone (e.g., Choi et al., 2020; Chang, 2021; Yen et al., 2022). Despite these endeavours, our understanding of the determinants influencing consumers' choices to engage in solo dining remains relatively constrained. Notably, there is a notable scarcity of quantitative investigations dedicated to constructing a comprehensive model encompassing both cognitive and affective aspects to understand consumers' intentions for solo dining (Brown et al., 2020; Chang, 2021; Yen et al., 2022). For this reason, this study aims to fill the gap by developing and testing a research model based on the theory of planned behaviour (TPB). Being one of the most widely applied social-psychological models, the TPB postulates that an individual's intentions can be predicted by attitudes, subjective norms, and perceived behavioural control. This study further proposes six different types of solo dining motives to predict attitudes (Yen et al., 2022). Motives are underlying psychological states that motivate human actions in particular directions (Teng et al., 2022). Moreover, this study also aims to identify segments of solo diners based on their motives via cluster analysis. Our findings are anticipated to guide restaurant owners in devising more efficient marketing tactics aimed at appealing to a greater number of solo diners.

2.0 Literature review

2.1 Theory of planned behaviour

The TPB is a social-psychological theory targeting to expound the relationship between human behaviour and attitudes, beliefs, and intentions (Ajzen, 2011; Leong and Koay, 2023). It posits that behaviour is a result of a person's intentions, which in turn are influenced by three key factors: attitudes, subjective norms, and perceived behavioural control (Ajzen, 1991). Attitudes refer to a person's positive or negative evaluations of the behaviour in question, while subjective norms are the social pressures that influence a person's behaviour (Ajzen, 1991; Koay et al., 2022). Finally, perceived behavioural control refers to a person's perception of their ability to perform the behaviour (Ajzen, 1991; Koay et al., 2020). According to TPB, a person is more likely to perform a behaviour if they have a positive attitude towards it, feel that it is socially acceptable, and believe that they have control over the situation (Ajzen, 1991). Several studies have tested the efficacy of

the TPB to predict different types of behaviours in the food and beverage context such as intentions to visit bubble tea stores (Koay and Cheah, 2023), food prevention behaviour (Teoh et al., 2022), buying behaviour toward organic food (Khan, 2022), and the purchase of blockchain traceable coffee (Dionysis et al., 2022).

2.1.1 Attitudes

Attitudes refer to the extent to which a consumer perceives dining alone as favourable (Ajzen, 1991). In general, people who positively evaluate solo dining are more likely to act on it. Different people view solo dining differently (Jang et al., 2021). Some consumers may feel comfortable dining alone in public, but some may not. If a consumer views solo dining as a positive or enjoyable experience, they may be more likely to feel comfortable and have a good time while dining alone. This positive experience could then lead to a greater intention to dine alone again in the future. Hence, we propose the following hypothesis:

H1: Attitudes towards solo dining have a positive influence on solo dining intentions.

2.1.2 Injunctive norms

Injunctive norms refer to the degree to which a consumer perceives dining alone as acceptable by his or her significant ones (Gavrilets, 2020). In Asian countries, dining alone has traditionally been viewed as less socially acceptable compared to dining with others. However, this attitude has been gradually changing since the outbreak of the COVID-19 pandemic (Tsuji et al., 2022). Due to the heightened awareness of the need to avoid contamination, it has become increasingly common for people to dine alone. As a result, the stigma attached to solo dining has been diminishing. Nonetheless, solo diners who feel stigmatised about solo dining may use various tactics to ease their discomfort while dining alone (Brown et al., 2020). According to Danesi (2012), individuals frequently dine alone as a result of their work schedules, living arrangements, a preference for solitary mealtime without disturbances, or other related factors. Past studies found that social norms greatly influence people's food consumption habits (Higgs et al., 2019; Sharps et al., 2021). Generally, consumers are less inclined to dine alone when others think such behaviour is not socially acceptable. We propose the following hypothesis accordingly:

H2: Injunctive norms have a positive influence on solo dining intentions.

2.1.3 Descriptive norms

Descriptive norms refer to the degree to which a consumer observes their significant ones dine alone (Rivis and Sheeran, 2003). In essence, when consumers observe their friends, family members, or colleagues frequently dining alone, they are more likely to adopt the same behaviour themselves. This is because they perceive this behaviour as being normal and acceptable within their social group. For instance, if consumers frequently see their friends dining alone during lunch breaks, they are more likely to follow suit and eat alone as well. This is because they believe that it is an acceptable behaviour within their social circle. Similarly, if someone observes his or her colleagues often eating alone during work hours, he or she may also adopt this behaviour as a norm. Hence, it is argued that when consumers' important and relevant ones frequently dine alone, the consumers are likely to replicate this behaviour as they perceive it to be socially acceptable. Eating alone has become increasingly common in the Western world. Fast-food chains have promoted the trend of "al desko," or eating quickly while working. This implies that individuals choose to forego dining with others and instead prioritise productivity (Her and Seo, 2018). Thus, the following hypothesis is postulated:

H3: Descriptive norms have a positive influence on solo dining intentions.

2.1.4 Perceived behavioural control

Perceived behavioural control refers to a consumer's perception of their ability to choose to eat alone or not (Ajzen, 1991). It encompasses consumers' beliefs about the availability of opportunities, resources, and skills needed to engage in solo dining. It encompasses consumers' beliefs about the availability of opportunities, resources, and skills required to engage in solo dining. Previous studies reported that perceived behavioural control is positively related to consumers' intentions to visit a restaurant (Koay and Cheah, 2023; Shin et al., 2018) or a food truck (Koay et al., 2023). Hence, we argue that consumers who have high levels of perceived behavioural control show a higher tendency to dine alone.

H4: Perceived behavioural control has a positive influence on solo dining intentions.

2.2 Motives

People have varying reasons for choosing to dine alone. Consumers may prefer to eat alone because they enjoy the solitary experience and the freedom from distractions or interruptions. Others may be obligated to eat alone due to their work schedules or living arrangements (Danesi,

2012). A study by Chang (2021) reported that students prefer to eat alone because of their desire for freedom. Choi et al. (2020) revealed the same that freedom of choice in dining is one of the main motivations for consumers' intentions to dine alone. In some situations, it can often be challenging for consumers to select the food they prefer when dining with a group of friends or colleagues because they need to take others' preferences into consideration, potentially compromising their own preferences (Takeda and Melby, 2017). Furthermore, some people dine alone to save time, as it is more convenient and efficient to find a seat and eat at their own pace. A qualitative study by Koponen and Mustonen (2022) revealed that some solo diners are adventurous and enjoy trying new and exciting restaurants, while others simply prefer to dine alone without social interaction to fully immerse themselves in the culinary experience.

As previously discussed, consumers' motives for solo dining can vary among different consumer groups. Yen et al. (2022) reviewed past research and identified six motives for solo dining: escape and relaxation, novelty seeking, social interaction, entertainment, perceived control, and economic factors. The authors investigated how these six motives influenced customer satisfaction by analysing two samples from Taiwan and the United States. They discovered that the motives of escape and relaxation, as well as enjoyment, were significant predictors of customer satisfaction in both samples. This study adapts the six motives for solo dining to predict consumers' attitudes towards solo dining.

H5: Escape and relaxation have a positive influence on attitudes.

H6: Novelty seeking has a positive influence on attitudes.

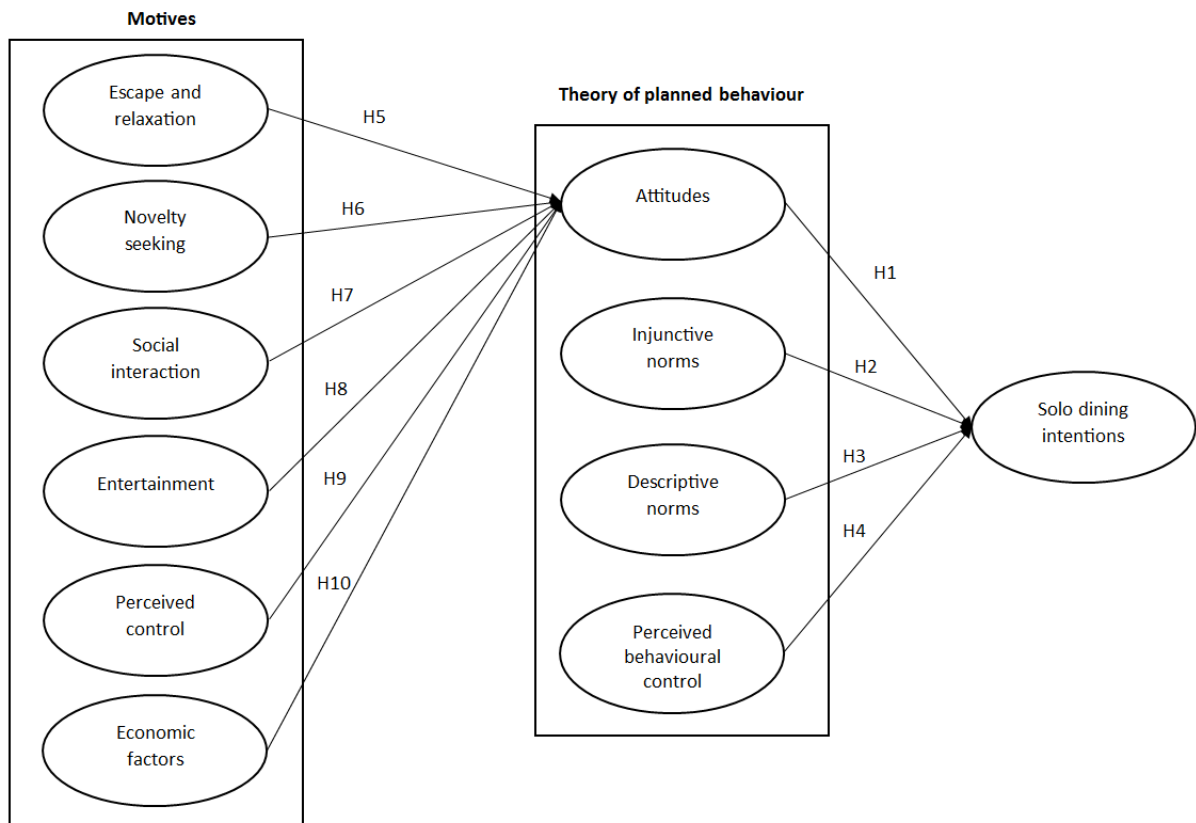
H7: Social interaction has a positive influence on attitudes.

H8: Entertainment has a positive influence on attitudes.

H9: Perceived control has a positive influence on attitudes.

H10: Economic factors have a positive influence on attitudes.

Figure 1: Research model



3.0 Methodology

3.1 Data collection

The study's data were gathered by administering an online questionnaire through Google Forms. The reasons for using the online survey method were easier access to data, lower cost, and a higher response rate. The survey was shared with a convenience sample of respondents recruited via social media platforms through personal connections. This method of collecting data enables us to more easily reach our intended respondents. Respondents were assured that their responses would remain confidential and anonymous when they completed the questionnaire, which took around 10 minutes or less. The researchers obtained approval from their university's research ethics committees before collecting data from the respondents. To ascertain the minimum required sample size for this study, a priori power analysis was conducted using GPower software, with the following settings: effect size = 0.15 (medium), alpha (α) = 0.05, number of predictors = 6, and power set at 80% (Faul et al., 2007). The analysis showed that the research model necessitated a minimum

of 98 samples. A total of 207 responses were collected over a two-month period from January to February 2023. All responses were deemed usable and retained for analysis.

The majority of participants were female (68.1%), with 31.9% male. The highest proportion of respondents belonged to the Chinese ethnic group (45.4%), followed by Malays (26.1%), Indians (16.9%), and others (11.6%). Most participants were employed (54.1%), with the rest being students (20.8%), retired (17.9%), or unemployed (7.2%). In terms of monthly income, the largest proportion of respondents had a monthly income of RM3,000 and above (55.6%), while only a minority had a monthly income of below RM1,000 (25.1%).

3.2 Measures

Solo dining intentions were assessed using 3 items adapted from Her and Seo (2018). Items pertaining to the construct measured on 7-point Likert scales (1 =strongly disagree, 7= strongly agree). The scales to measure attitudes (5 items), injunctive norms (3 items), descriptive norms (3 items), and perceived behavioural control (2 items) were adapted from Ajzen (1985). Solo dining motives including escape and relaxation (3 items), novelty seeking (3 items), social interaction (3 items), entertainment (4 items), perceived control (3 items), and economic factors (3 items) were measured using the scales adopted from Yen et al. (2022). To record respondents' agreement with all the statements, a seven-point Likert scale that ranged from 1 (strongly disagree) to 7 (strongly agree) was employed.

4.0 Data analysis

We chose to use partial least squares structural equation modelling (PLS-SEM) as the data analysis method for this study for several reasons, as recommended by Hair and Alamer (2022). One justification was that the study aimed to predict the intentions of consumers towards solo dining by incorporating six motive variables into a modified version of the TPB. The objective was not merely to confirm a theory but to enhance its applicability. Additionally, PLS-SEM is suitable for analysing small sample sizes and non-normal data. Finally, PLS-SEM allows the assessment of how well a model predicts the dependent variables. To perform the PLS-SEM analysis, we used the SMART-PLS software (version 4).

4.1 Common method bias

To ensure the validity of the results in this study, the researchers needed to examine the possibility of common method bias (CMB), which occurs when variables are measured with the same source or method and there is systematic error variance. To examine whether CMB poses a serious

validity threat to our findings, Harman's single-factor test was conducted because the data came from the same respondent using the same method. Based on the results, the initial factor explained 33.596% of the overall variance, which falls below the recommended threshold of 50% (Podsakoff et al., 2003). Furthermore, a full collinearity examination was conducted to detect the potential for CMB. We ran a regression analysis on all the variables, using a dummy dependent variable with random numbers, and obtained variance inflation factor (VIF) values. All VIF values were below 3.3 (Kock, 2015), indicating that CMB is not a significant concern for this study's validity.

4.2 Measurement model

To evaluate the measurement model's quality, we used three criteria: internal consistency, convergent validity, and discriminant validity (Hair and Alamer, 2022). To assess internal consistency, we examined Cronbach's alpha (CA) and composite reliability (CR), which were all greater than 0.7 for each construct, indicating no issues with internal consistency (Table 1). To establish convergent validity, the factor loadings and average variance extracted (AVE) should be above 0.7 and 0.5, respectively. we found no issue with convergent validity in this study (see Table 1). Finally, we evaluated discriminant validity using the Heterotrait-Monotrait ratio (HTMT). HTMT values should not exceed 0.85 (Henseler et al., 2015). We found no significant concerns with discriminant validity in our study, as shown in Table 2.

Table 1: Measurement model

Construct	Item	Factor loading	Cronbach's alpha	Composite reliability	Average variance extracted (AVE)
Attitudes	ATT1	0.855	0.946	0.959	0.823
	ATT2	0.922			
	ATT3	0.943			
	ATT4	0.908			
	ATT5	0.906			
Descriptive norms	DN1	0.760	0.784	0.870	0.692
	DN2	0.886			
	DN3	0.843			
Economic factors	EF1	0.897	0.777	0.871	0.694
	EF2	0.880			
	EF3	0.709			
Entertainment	EN1	0.917	0.948	0.962	0.865
	EN2	0.930			
	EN3	0.950			
	EN4	0.922			
Escape and relaxation	ER1	0.860	0.815	0.890	0.730
	ER2	0.829			

	ER3	0.874			
	IJN1	0.899			
Injunctive norms	IJN2	0.909	0.870	0.920	0.793
	IJN3	0.863			
	INT1	0.927			
Intentions	INT2	0.942	0.855	0.932	0.873
	NS1	0.942			
Novelty seeking	NS2	0.893	0.792	0.860	0.680
	NS3	0.597			
Perceived behavioural control	PBC1	0.918			
	PBC2	0.958	0.866	0.936	0.880
	PC1	0.889			
Perceived control	PC2	0.876	0.836	0.901	0.752
	PC3	0.836			
	SI1	0.991			
Social interaction	SI2	0.786	0.892	0.893	0.737
	SI3	0.782			

Table 2: HTMT criterion

Construct	1	2	3	4	5	6	7	8	9	10	11
1. Attitudes											
2. Descriptive norms	0.342										
3. Economic factors	0.793	0.311									
4. Entertainment	0.809	0.256	0.594								
5. Escape and relaxation	0.771	0.249	0.690	0.879							
6. Injunctive norms	0.577	0.584	0.480	0.387	0.370						
7. Intentions	0.793	0.286	0.608	0.758	0.714	0.494					
8. Novelty seeking	0.145	0.174	0.203	0.220	0.255	0.051	0.135				
9. Perceived behavioural control	0.351	0.216	0.381	0.238	0.273	0.229	0.159	0.080			
10. Perceived control	0.475	0.205	0.600	0.425	0.518	0.291	0.430	0.317	0.318		
11. Social interaction	0.046	0.179	0.176	0.229	0.200	0.163	0.094	0.253	0.188	0.098	

4.3 Structural model

The full structural model results are shown in Table 3. The findings from the bootstrapping analysis indicated that only attitudes have a significant positive influence on intentions, thus supporting H1. However, there was no evidence to support H2 and H3, as neither injunctive norms nor descriptive norms have a significant influence on intentions. Surprisingly, the study found that perceived behavioural control has a significant negative impact on intentions, contrary to what was hypothesised. Therefore, H4 was not supported. Next, in terms of solo dining motives, only entertainment and economic factors were found to have a significant positive influence on attitudes.

Social interaction was found to have a significant negative influence on attitudes, whereas escape and relaxation, novelty seeking, and perceived control were found to have no significant influence on attitudes. Hence, H8 and H10 were supported, but H5, H6, H7, and H9) were not. This study also conducted a post-hoc mediation test to explore the mediating effects of attitudes in the relationships between different motives and intentions. As shown in Table 4, attitudes mediate the relationships between 1) social interaction, 2) entertainment, and 3) economic factors and intentions. However, it is important to note that the indirect effect of attitudes between social interaction and intentions is negative. Next, in order to assess the research model's ability to make predictions, we performed a PLS-predict analysis that compared the PLS path model's prediction errors to those of a simple linear model (Hair et al., 2021). As illustrated in Table 5, the PLS path model has lower prediction errors than the linear regression model, suggesting that the research model has strong predictive power.

Table 3: Structural model

Relationship	Beta	STD error	t value	p value	BCCI 95%		Decision
H1: Attitudes -> Intentions	0.704	0.055	12.716	0.000	0.612	0.792	Supported
H2: Injunctive norms -> Intentions	0.071	0.059	1.193	0.117	-0.026	0.169	Not supported
H3: Descriptive norms -> Intentions	0.021	0.051	0.408	0.342	-0.066	0.098	Not supported
H4: Perceived behavioural control -> Intentions	-0.102	0.055	1.859	0.032	-0.196	-0.017	Not supported
H5: Escape and relaxation -> Attitudes	0.064	0.075	0.854	0.196	-0.057	0.187	Not supported
H6: Novelty seeking -> Attitudes	-0.012	0.049	0.251	0.401	-0.110	0.058	Not supported
H7: Social interaction -> Attitudes	-0.134	0.050	2.652	0.004	-0.213	-0.057	Not supported
H8: Entertainment -> Attitudes	0.545	0.076	7.150	0.000	0.417	0.668	Supported
H9: Perceived control -> Attitudes	0.013	0.038	0.347	0.364	-0.049	0.077	Not supported
H10: Economic factors -> Attitudes	0.387	0.057	6.747	0.000	0.298	0.484	Supported

Table 4: Post-hoc mediation

Relationship	Indirect effect	STD	T value	P value	2.5%	97.5%	Remark
Escape and relaxation -> Attitudes -> Intentions	0.045	0.053	0.851	0.395	-0.057	0.153	Not significant
Novelty seeking -> Attitudes -> Intentions	-0.009	0.035	0.252	0.801	-0.092	0.052	Not significant
Social interaction -> Attitudes -> Intentions	-0.094	0.036	2.643	0.008	-0.161	-0.025	Significant
Entertainment -> Attitudes -> Intentions	0.384	0.063	6.128	0.000	0.268	0.511	Significant
Perceived control -> Attitudes -> Intentions	0.009	0.027	0.350	0.727	-0.042	0.062	Not significant
Economic factors -> Attitudes -> Intentions	0.272	0.044	6.228	0.000	0.195	0.366	Significant

Table 5: PLS-predict

Item	Q ² predict	RMSE	MAE	RMSE	MAE	RMSE	MAE
		PLS		LM		PLS-LM	

INT1	0.424	1.104	0.851	1.133	0.872	-0.029	-0.021
INT2	0.429	1.193	0.976	1.266	0.999	-0.073	-0.023

4.4 Cluster analysis

The purpose of employing cluster analysis, which has been used in many recent consumption consumer behaviour studies (Aşkan et al., 2021; Lunardo et al., 2021; Forleo et al., 2023) is to divide the data into homogenous clusters (Sugar and James 2003) by grouping and classifying similar observations in an iterative process until convergence is met, according to the Bayesian information criterion (BIC) (Norusis, 2011). The two-step cluster analysis is known as a reliable clustering method in terms of the detection of subgroups, classification of individuals, and reproducibility of the findings (Gelbard et al., 2007; Kent et al., 2014). To assess convergence, we utilised the BIC and the default BIC ratio benchmark as the convergence rule. All the continuous variables of escape and relaxation, novelty seeking, social interaction, enjoyment, perceived control, and economic factors were used as segmentation variables. Table 5 displays a four-cluster solution that was determined based on the interpretability and consistency of the clusters. The solution achieved an acceptable average silhouette measure of cohesion and separation, which was 0.3 (Norusis, 2011), and a ratio of cluster sizes of 2.45 with 36.7% accounting for the largest cluster. To examine the differences between the clusters, ANOVA was utilised, which indicated significant differences in the expectations of all variables among the clusters. Table 5 reveals that enjoyment ($F=163.005$, $p<0.01$) and novelty seeking ($F=14.184$, $p<0.01$) were the most and least significant variables, respectively, for segmenting the sample. Finally, crosstabulations revealed that all categorical variables except employment status ($\chi^2 = 22.063$, $p<0.01$) were not significant in terms of defining the cluster makeup.

We derived the different characteristics of each cluster based on the predictor variables by referring to the variable importance within each separate cluster. The combination of important variables allows for the unique characteristics of each cluster to be defined. The first cluster, labelled Enjoyers, comprised 15% of the total sample. This segment derives pleasure and contentment from dining solo and tends to live in the moment. The second cluster, named Economical diners, accounted for 36.7% of the total sample. Consumers in this cluster enjoy the experience of dining solo because they can save money by deciding what to eat without relying on others. The third cluster, Socialisers, represented 25.6% of the total sample. This consumer segment trusts that dining solo will enhance their chances of meeting new people and making friends. Lastly, the fourth cluster, Relaxers, constituted 22.7% of the total sample. This consumer segment values control over the dining experience to unwind and escape from the daily grind.

Table 5: Sizes and mean scores of the motives for solo dining and sociodemographic distributions among consumer segments

			Segment 1	Segment 2	Segment 3	Segment 4	
	χ^2^b	F-Value ^a	Total (%/n)	<i>Enjoyers</i> (n=31)	<i>Economical diners</i> (n=76)	<i>Socialisers</i> (n=53)	<i>Relaxers</i> (n=47)
Segment Size							
Share of the total sample (n=207)				15.0%	36.7%	25.6%	22.7%
Escape and Relaxation (mean/median)		146.456**		3.32/3.67	5.15/5.33	6.33/6.33	6.42/6.67
Novelty Seeking (mean/median)		14.184**		4.46/4.67	4.63/4.67	5.71/5.67	4.70/4.67
Social Interaction(mean/median)		50.757**		2.68/2.68	3.64/3.83	4.92/5.00	2.47/2.33
Enjoyment (mean/median)		163.005**		2.67/2.50	4.57/4.50	5.86/6.00	5.95/6.00
Perceived Control (mean/median)		24.557**		5.06/5.33	5.64/6.00	6.23/6.00	6.60/7.00
Economic Factors (mean/median)		40.954**		4.43/4.33	5.22/5.00	6.25/6.33	6.18/6.00
Intention for solo dining (mean/median)		38.268**		3.28/3.33	4.50/4.33	5.40/5.33	5.89/6.00
Age (mean)		6.063**		42.74	42.34	39.42	30.51
<i>Gender</i>	1.411						
Female (%/n)			68.1%(141)	71%(22)	64.5%(49)	73.6%(39)	66%(31)
Male (%/n)			31.9%(66)	29%(9)	35.5%(27)	26.4%(14)	34%(16)
<i>Ethnicity</i>	9.536						
Malay (%/n)			26.1%(54)	19.4%(6)	22.4%(17)	32.1%(17)	29.8%(14)
Chinese (%/n)			45.4%(94)	51.6%(16)	48.7%(7)	30.2%(16)	53.2%(25)
Indian (%/n)			16.9%(35)	16.1(5)	17.1%(13)	22.6%(12)	10.6%(5)
Others (%/n)			11.6%(24)	12.9%(4)	11.8%(9)	15.1%(8)	6.4%(3)
<i>Employment Status</i>	22.063**						
Unemployed (%/n)			7.2%(15)	12.9%(4)	3.9%(3)	7.5%(4)	8.5%(4)
Student (%/n)			20.8%(43)	9.7%(3)	21.1%(16)	17.0%(9)	31.9%(15)
Retired (%/n)			17.9%(37)	22.6%(7)	28.9%(22)	13.2%(7)	2.1%(1)
Employed (%/n)			54.1%(112)	54.8%(17)	46.1%(35)	62.3%(33)	57.4%(27)

<i>Monthly Income</i>	5.733					
Below RM1,000 (%/n)		25.1%(52)	19.4%(6)	25.0%(19)	24.5%(13)	29.8%(14)
RM1,000-RM2,000 (%/n)		6.8%(14)	3.2%(1)	5.3%(4)	7.5%(4)	10.6%(5)
RM2,001-RM3,000 (%/n)		12.6%(26)	12.9%(4)	13.2%(10)	17.0%(9)	6.4%(3)
Above RM3,000 (%/n)		55.6%(115)	64.5%(20)	56.6%(43)	50.9%(27)	53.2%(25)

Note(s): ** $p < 0.01$; * $p < 0.05$; a indicates significantly different means from Cross-tabulation with χ^2 tests; b indicates significantly different means from one-way ANOVA tests.

5.0 Findings

5.1 Theoretical implications

The findings of this study indicate that attitudes play a significant role in predicting consumers' solo dining intentions. Specifically, consumers are more likely to engage in solo dining if they hold a positive view of the activity. The finding is in line with the TPB and previous research that suggests consumers show a higher probability of visiting a particular establishment if they hold positive attitudes towards it. Next, we found that both injunctive norms and descriptive norms have no significant influence on solo dining intentions. One potential reason could be that solo dining has become more socially acceptable or even preferred due to the COVID-19 pandemic (Bühlmeier et al., 2022; Jang et al., 2021), resulting in a reduced impact of injunctive and descriptive norms on consumer behaviour. Despite the endemic nature of COVID-19, many individuals have become accustomed to eating alone and continue to do so. Another potential explanation is that some consumers prefer to dine alone, regardless of what others think or do. In this case, injunctive and descriptive norms may have little impact on their decision to dine alone. Surprisingly, our study found that perceived behavioural control has a significant negative influence on solo dining intentions. A potential reason is that consumers may feel self-conscious or anxious about dining alone (Kim and Choi, 2019), especially in busy or crowded places. This may lead to a perception of low control over their ability to dine alone, which in turn could negatively influence their intentions to do so.

Of the six solo dining motives, only entertainment and economic factors have a positive influence on attitudes. These findings suggest that consumers are more likely to perceive solo dining positively when they consider it to be both entertaining and economical (Lahad and May, 2017). For some, solo dining can provide a sense of personal freedom and the opportunity to indulge in activities without distraction (Choi et al., 2020). Thus, the entertainment factor may contribute to positive attitudes towards solo dining as it enables consumers to engage in activities they enjoy while also satisfying their hunger needs. Economic factors also play a role in solo dining. Solo dining can be a cost-effective way to satisfy hunger needs, especially if one is on a budget. For example, solo dining may mean that consumers can order a smaller portion of food or eat at a less expensive restaurant, which can save them money in the long run (Jang et al., 2021). This can contribute to positive attitudes towards solo dining as it allows people to enjoy a meal while also saving money. In addition, the current high inflation rates have led to a significant increase in the cost of dining out, prompting many consumers to seek out more affordable options (Moquin, 2023). Consequently,

when consumers perceive that dining alone can help them save on costs, they may be more inclined to do so.

Escape and relaxation, novelty seeking, social interaction, and perceived control were found to have no significant influence on attitudes. A possible explanation is that the concept of escape and relaxation may be interpreted differently by different consumers, and therefore, it may not have a consistent influence on attitudes towards solo dining. Next, novelty seeking does not have a significant influence on attitudes could be due to the fact that consumers may prefer familiar experiences and may not necessarily seek out novelty in their dining experiences. In addition, social interaction has no significant influence on attitudes because the COVID-19 pandemic has resulted in increased social isolation as individuals seek to limit their contact with others in order to avoid contamination. Therefore, consumers may not be motivated to dine alone in order to make new friends. Lastly, a possible explanation for the insignificant effect of perceived control on attitudes is that consumers who dine alone already have high levels of control over their behaviour. They can choose the food that they like and do not need to cooperate with others.

5.2. Managerial implications

Solo dining presents numerous opportunities for growth and adaptation within the restaurant and food service industry. Like many people today, individuals are seeking greater self-fulfillment in both their professional and personal lives, creating a strong desire for solo dining experiences. Restaurant owners and managers can benefit greatly from acknowledging this shift in the population's desires and needs. It is increasingly evident that many people are embracing the joy of single life, leading to more frequent solo outings, including dining experiences. Solo dining has become a trend that showcases maturity, and confidence, and even has positive effects on self-esteem (Shin et al., 2018), which individuals are proud to share on social media without hesitation (McKeown and Miller, 2020). Solo dining is a growing trend that has already gained popularity in Asian countries such as Japan and Taiwan (Chang, 2021), and even in traditionally group-oriented dining cultures like Macao, China (Choi et al., 2020). Solo dining provides consumers with new and unique experiences, particularly when they find themselves away from familiar surroundings, leading to an increased exploration of new sources of life satisfaction (Her and Seo, 2018).

Generally, solo diners are motivated by entertainment and economic factors motives. Restaurant owners and managers may host events that cater to solo diners, such as speed-dating events, book clubs, or cooking classes. These events can provide entertainment opportunities for solo diners, which can help attract more customers and create a loyal following. Additionally, solo

diners are often sensitive to pricing, as they may not want to spend as much money as a group dining out together. Therefore, restaurant owners and managers should consider offering affordable set meals that cater to solo diners, such as a single-person bento box or a lunch set that includes a drink and dessert.

Furthermore, our study identified four types of solo diners - Enjoyers, Economical diners, Socialisers, and Relaxers. Each has different solo dining motives when it comes to dining out alone. Here are some managerial implications for each segment:

- **Enjoyers:** Enjoyers are solo diners who view dining out as a pleasurable experience. They may be food enthusiasts who enjoy trying new dishes or exploring different cuisines. Restaurant owners and managers should cater to Enjoyers by offering a diverse and exciting menu with plenty of options for adventurous eaters (Hwang et al., 2020). Restaurant owners and managers should create a comfortable and welcoming atmosphere to enhance the Enjoyers' dining experience.
- **Economical diners:** Economical diners are solo diners who are conscious of their budget and look for cost-effective options when dining out. Restaurant owners and managers should offer Economical diners affordable meal options without compromising on the quality of food or service. This may include creating special meal deals, happy hour promotions, or discounts for solo diners.
- **Socialisers:** Socialisers are solo diners who enjoy the company of others and may seek out opportunities to socialise while dining out. Restaurant owners and managers can offer communal seating arrangements or organise social events such as networking dinners, wine tastings, or cooking classes. This will allow consumers to interact with others, increasing their attitudes towards solo dining.
- **Relaxers:** Relaxers are solo diners who seek a peaceful and relaxing atmosphere when dining out alone. They prefer to enjoy their meals in a serene environment, with soothing background music and comfortable seating arrangements. When targeting this segment of solo diners, restaurant owners and managers must ensure that the consumers are seated in a location where excessive noise from other patrons cannot be heard which can potentially affect their mood.

6.0 Conclusion

This study has confirmed that consumers' intentions to dine alone are mainly affected by attitudes but not by societal norms and perceived behavioural control. Furthermore, entertainment and economic reasons are the factors that drive consumers' attitudes towards solo dining. Solo dining is a common practice that is less associated with loneliness and more towards the desire for solitude. Some individuals find it enjoyable and consider it a valuable opportunity to indulge in a single culinary experience, explore different dining options, and order whatever they like without hesitation. Solo diners are self-assured and do not require the company of others, not because they cannot obtain it but rather because they prefer to be alone. They are confident in eating alone, participating in "social activities" alone, and being around other people independently. Dining alone offers numerous benefits, including the cultivation of mindfulness and gratitude. When it comes to targeting solo diners, there are four segments of solo diners including enjoyers, economical diners, socialisers, and relaxers, which have different motives for solo dining. Restaurant owners need to formulate marketing strategies accordingly.

This study is not without limitations. Firstly, the data were mainly collected from respondents in Malaysia only. It is crucial to acknowledge that diverse cultures may interpret solo dining distinctively. Hence, the findings may be different if the same model is tested using data from other countries. Future scholars are suggested to test the same model using samples from different countries. Secondly, this study used the TPB as the main theoretical lens to examine factors influencing consumers' solo dining intentions. Future scholars could explore other theories such as personality theory, perceived risk theory, and others.

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