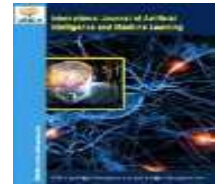




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Sensory-Friendly Dining and Inclusive Gastronomy: An Empirical Study of Food Preferences, Restaurant Accessibility, and Dining Satisfaction among Individuals with Autism Spectrum Disorder

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ABSTRACT

Sensory-friendly dining is an emerging dimension of inclusive gastronomy that seeks to make food-service experiences more accessible and comfortable for individuals with Autism Spectrum Disorder (ASD). This study empirically examines the relationships among Food Sensory Factors (FSC), Restaurant Accessibility/Environment (RAE), Dining Satisfaction (DS), and Dining Preference/Restaurant-related Intention (DPRI) from the perspective of parents and caregivers of individuals with ASD. A quantitative, cross-sectional research design was adopted, and data were collected through a structured questionnaire using a five-point Likert scale. A total of 100 valid responses were analysed using IBM SPSS. Descriptive statistics, Cronbach's alpha, exploratory factor analysis, Pearson correlation, multiple regression, independent-samples t-test, and one-way ANOVA were employed. The measurement scales demonstrated acceptable-to-good internal consistency, with Cronbach's alpha values ranging from 0.751 to 0.828. The results indicated that Dining Satisfaction was positively and significantly associated with Dining Preference/Restaurant-related Intention ($r = .312, p < .01$) and significantly predicted DPRI ($\beta = .312, p = .002$). Restaurant Accessibility/Environment also significantly predicted DPRI ($\beta = .224, p = .028$). However, Food Sensory Factors did not significantly predict Dining Satisfaction ($\beta = .078, p = .459$) or DPRI ($\beta = -.082, p = .414$), while RAE did not significantly predict DS ($\beta = .165, p = .118$). The overall regression model explained 14.2% of the variance in DPRI ($R^2 = .142, p = .002$). No statistically significant difference in dining satisfaction was observed by respondent gender or frequency of dining out. The findings highlight the relevance of accessible restaurant environments and satisfactory dining experiences in supporting restaurant-related preferences among individuals with ASD and their families or caregivers. The study contributes to the growing field of inclusive gastronomy by highlighting the importance of considering sensory, environmental, accessibility, and participation-related dimensions of dining experiences.

Keywords: Sensory-Friendly Dining; Inclusive Gastronomy; Food Preferences; Restaurant Accessibility; Dining Satisfaction; Accessible Tourism; Inclusive Tourism; Gastronomic Tourism; Sensory-Friendly Tourism; Inclusive Hospitality, Autism Spectrum Disorder.

Introduction

Food and dining are important components of everyday life and social participation. Restaurants, cafés, hotels and other food-service establishments provide not only nourishment but also opportunities for social interaction, recreation, family participation and cultural experiences. However, dining outside the home can present particular challenges for individuals with Autism Spectrum Disorder (ASD)[1]. Autism is associated with differences in sensory processing, communication, behaviour and responses to environmental stimuli. Consequently, factors that may appear routine to other customers, such as lighting, noise, crowding, food texture, smell, temperature, presentation and waiting time, may substantially influence the dining experience of an individual with ASD. Food preferences are particularly relevant in the context of autism. Some

individuals with ASD may demonstrate strong preferences or aversions related to food texture, colour, temperature, smell, taste or appearance. Such preferences can influence food acceptance and willingness to try unfamiliar foods. Consequently, restaurants that provide greater flexibility in food preparation and presentation may contribute to a more comfortable dining experience. The physical and sensory environment of restaurants is another important consideration. Excessive noise, bright lighting, crowded seating arrangements, strong food smells and unpredictable environments can create discomfort for individuals with sensory sensitivities. Restaurant accessibility should therefore be considered beyond conventional physical accessibility. An inclusive restaurant environment may include quieter seating areas, predictable layouts, appropriate lighting, reduced noise, clear menus, flexible ordering procedures and staff awareness of sensory needs[2]. The concept of sensory-friendly dining seeks to address these challenges by creating food-service environments that are more responsive to sensory and individual needs. Sensory-friendly practices can contribute to greater comfort and may encourage individuals with ASD and their families or caregivers to participate more frequently in restaurant dining. From the perspective of inclusive gastronomy, food experiences should be accessible and enjoyable to diverse groups of consumers. Gastronomy should therefore extend beyond food quality and culinary creativity to include accessibility, participation, comfort and social inclusion. Restaurants have an opportunity to become more inclusive by understanding the specific needs of customers with ASD and their families[3]. Dining satisfaction is particularly important because a positive dining experience may influence future restaurant choices, willingness to revisit and overall dining preferences. Therefore, understanding the relationships between food-related sensory factors, restaurant accessibility/environment, dining satisfaction and dining preference is important for developing more inclusive food-service practices. The present study consequently investigates these relationships from the perspective of parents and caregivers of individuals with ASD. The study attempts to determine whether sensory-related food considerations and restaurant accessibility/environment are associated with dining satisfaction and whether satisfaction contributes to dining preference and restaurant-related intentions.

Statement Of The Problem

Although restaurants increasingly recognise the importance of customer experience and accessibility, sensory requirements associated with ASD are often insufficiently addressed in conventional food-service environments. Individuals with ASD may experience difficulties associated with food textures, smells, tastes, temperatures and visual characteristics. At the same time, environmental characteristics such as excessive noise, crowding, lighting and unpredictable service conditions may make restaurant dining uncomfortable. These challenges can affect not only the individual with ASD but also parents and caregivers accompanying them. Families may consequently avoid certain restaurants or reduce the frequency of dining outside the home. Despite the increasing discussion surrounding inclusive hospitality, there remains a need for empirical evidence regarding the relationships among food sensory factors, restaurant accessibility/environment, dining satisfaction and dining preference. In particular, it is important to understand whether improvements in restaurant accessibility and sensory-friendly practices are associated with more satisfactory dining experiences and stronger restaurant preferences. Therefore, the present study empirically examines these relationships and provides evidence that may assist restaurants and hospitality organisations in developing more inclusive dining environments.

Research Gap

The existing discussion surrounding autism and hospitality has generally highlighted sensory sensitivity, food selectivity, accessibility and social participation. However, there is comparatively limited empirical research that brings these dimensions together within a restaurant-dining framework. First, food-related sensory preferences are frequently discussed in relation to eating behaviour, but their relationship with restaurant dining experiences requires further investigation. Second, restaurant accessibility is commonly understood in terms of physical accessibility. For individuals with ASD, however, accessibility may also involve sensory and environmental characteristics such as noise, lighting, crowding, seating arrangements and predictability. Third, relatively limited empirical attention has been given to the relationship between sensory-friendly restaurant characteristics, dining satisfaction and subsequent dining preference. The present study addresses these gaps by developing an empirical framework incorporating Food Sensory Factors, Restaurant Accessibility/Environment, Dining Satisfaction and Dining Preference/Restaurant-related Intention.

Objectives Of The Study

- To identify the major food sensory factors influencing dining experiences among individuals with Autism Spectrum Disorder.
- To examine perceptions of restaurant accessibility and environmental conditions relevant to individuals with ASD.
- To assess the level of dining satisfaction experienced by individuals with ASD and their accompanying parents/caregivers.
- To examine the relationship between food sensory factors and dining satisfaction.

- To examine the relationship between restaurant accessibility/environment and dining satisfaction.
- To determine the effect of dining satisfaction on dining preference/restaurant-related intention.
- To examine the effect of food sensory factors on dining preference/restaurant-related intention.
- To determine the effect of restaurant accessibility/environment on dining preference/restaurant-related intention.
- To examine whether dining satisfaction differs according to respondent gender and dining frequency.

Research Questions

RQ1 What are the major food sensory factors influencing dining experiences among individuals with ASD?

RQ2 How do parents and caregivers perceive restaurant accessibility and environmental conditions for individuals with ASD?

RQ3 What is the level of dining satisfaction among individuals with ASD and their accompanying parents/caregivers?

RQ4 Is there a significant relationship between food sensory factors and dining satisfaction?

RQ5 Is there a significant relationship between restaurant accessibility/environment and dining satisfaction?

RQ6 Does dining satisfaction significantly influence dining preference/restaurant-related intention?

RQ7 Do food sensory factors significantly influence dining preference/restaurant-related intention?

RQ8 Does restaurant accessibility/environment significantly influence dining preference/restaurant-related intention?

RQ9 Does dining satisfaction differ significantly according to respondent gender?

RQ10 Does dining satisfaction differ significantly according to frequency of dining out?

Conceptual Framework

The study uses four principal constructs:

Independent Variables

- Food Sensory Factors (FSC)
- Restaurant Accessibility/Environment (RAE)

Dependent/Mediating Outcome

- Dining Satisfaction (DS)

Final Outcome

- Dining Preference/Restaurant-related Intention (DPRI)

The proposed conceptual relationship is:

Food Sensory Factors —————→ Dining Satisfaction —————→ Dining Preference/Restaurant Intention

Restaurant Accessibility/Environment —→ Dining Satisfaction

and direct relationships:

Food Sensory Factors —————→ Dining Preference/Restaurant Intention

Restaurant Accessibility/Environment —→ Dining Preference/Restaurant Intention

Thus, the conceptual model examines both the direct relationships and the role of dining satisfaction in explaining restaurant-related preferences.

Significance of the Study

The study contributes to the emerging literature on inclusive gastronomy, sensory-friendly hospitality and accessible food-service experiences. It integrates food sensory considerations with restaurant environmental characteristics and customer outcomes. The findings may assist restaurants, hotels, cafés and other food-service establishments in understanding the requirements of customers with ASD and their families. Sensory-friendly dining can facilitate greater participation in community and social activities. Inclusive restaurants can contribute to reducing barriers experienced by individuals with ASD and their families. The findings can help restaurant managers consider: quieter dining areas; appropriate lighting; reduction of excessive noise; clear and predictable menus; flexibility in food preparation; staff awareness; suitable seating arrangements; and sensory-friendly service practices.

Literature Review

Autism Spectrum Disorder and Food Behaviour

Autism Spectrum Disorder is a neurodevelopmental condition characterised by differences in social communication and restricted or repetitive patterns of behaviour and interests. Sensory processing differences are also frequently reported among individuals with ASD. Food and eating can be particularly important because sensory characteristics of food may influence food acceptance[4]. Texture, taste, smell, colour, temperature and appearance may contribute to food preferences and food refusal. Consequently, restaurant environments that offer limited food choices or lack flexibility may create challenges for individuals with strong food preferences. Food selectivity can also influence family dining behaviour. Parents and caregivers may select restaurants according to the availability of acceptable foods rather than solely on the basis of cuisine, price or food quality[5].

Sensory Sensitivity and Dining Experiences

Sensory sensitivity is an important consideration when examining restaurant experiences among individuals with ASD. Restaurants commonly contain multiple simultaneous sensory stimuli, including music,

conversations, kitchen sounds, lighting, smells, visual movement and crowding. For individuals with sensory sensitivities, these stimuli may become overwhelming[6]. Therefore, sensory-friendly dining requires consideration of the complete sensory environment rather than food alone. The present study consequently operationalises food-related sensory considerations through the Food Sensory Factors (FSC) construct[7].

Food Preferences among Individuals with ASD

Food preference can be influenced by sensory characteristics, previous experiences and familiarity. Individuals with ASD may prefer particular textures, colours, temperatures, flavours or methods of preparation. For restaurants, understanding such preferences is important because flexibility in food preparation may improve the customer's ability to participate in dining activities[7].

Food-service organisations may therefore consider providing:

- simple food descriptions;
- familiar food options;
- customisation;
- alternative textures;
- predictable presentation; and
- flexibility in preparation.

These practices may contribute to a more inclusive gastronomic experience.

Restaurant Accessibility and Inclusive Dining

Traditional accessibility is frequently associated with physical infrastructure such as ramps, accessible toilets and appropriate entrances. However, accessibility for individuals with ASD may also include sensory and cognitive dimensions[8].

Restaurant accessibility may involve:

- manageable noise levels;
- suitable lighting;
- adequate personal space;
- predictable seating arrangements;
- clear menus;
- reduced waiting time;
- staff understanding;
- availability of quiet areas; and
- flexible service procedures.

The present research therefore conceptualises restaurant accessibility more broadly as Restaurant Accessibility/Environment (RAE).

Sensory-Friendly Restaurants

A sensory-friendly restaurant attempts to minimise unnecessary sensory stimulation while maintaining a comfortable dining experience. Potential sensory-friendly interventions include quieter periods, reduced music volume, softer lighting, less crowded seating, visual menus and staff training. Such measures may benefit not only individuals with ASD but also customers with other sensory sensitivities, children, older adults and families. Sensory-friendly practices can therefore be viewed as part of a broader approach to inclusive hospitality[9].

Inclusive Gastronomy

Gastronomy traditionally focuses on food, culinary traditions, preparation, presentation and consumption. Contemporary gastronomy increasingly recognises the importance of experience and consumer participation. Inclusive gastronomy extends this concept by considering whether diverse consumers can comfortably participate in gastronomic experiences. From this perspective, an inclusive restaurant should not only provide high-quality food but also create an environment in which customers with different sensory, physical and cognitive requirements can participate. The inclusion of ASD within gastronomic research therefore expands the conventional understanding of restaurant experience[10].

Dining Satisfaction

Dining satisfaction represents the customer's overall evaluation of the dining experience. Satisfaction may be influenced by food quality, service, environment, accessibility, comfort and the degree to which individual expectations are fulfilled. For families dining with individuals with ASD, satisfaction may involve additional considerations such as whether the individual was comfortable, whether suitable food was available and whether the restaurant environment was manageable. Higher satisfaction may subsequently influence willingness to revisit a restaurant and recommend or prefer similar establishments[11].

Dining Preference and Restaurant-Related Intention

Dining preference represents the customer's inclination toward selecting particular restaurants or dining environments. Restaurant-related intention can include willingness to revisit, preference for accessible restaurants, recommendation intentions and willingness to choose restaurants offering sensory-friendly facilities. A satisfactory dining experience is expected to strengthen future restaurant preference. This theoretical expectation is tested empirically in the present study.

Relationship between Food Sensory Factors and Dining Satisfaction

Food sensory characteristics may influence whether individuals with ASD find a meal acceptable and comfortable. Greater compatibility between available food and sensory preferences may therefore contribute to satisfaction[12].

Accordingly, the study proposes:

H1: Food sensory factors have a significant positive effect on dining satisfaction.

Relationship between Restaurant Accessibility/Environment and Dining Satisfaction

A restaurant environment that is accessible, predictable and sensory-sensitive may reduce discomfort and improve the overall dining experience.

Therefore:

H2: Restaurant accessibility/environment has a significant positive effect on dining satisfaction.

Relationship between Dining Satisfaction and Dining Preference

Satisfied customers are generally more likely to develop favourable attitudes toward a restaurant and demonstrate stronger future intentions.

Therefore:

H3: Dining satisfaction has a significant positive effect on dining preference/restaurant-related intention.

Relationship between Food Sensory Factors and Dining Preference

If food sensory requirements are appropriately addressed, individuals with ASD and their families may be more willing to select restaurants offering suitable food choices.

Therefore:

H4: Food sensory factors have a significant positive effect on dining preference/restaurant-related intention.

Relationship between Restaurant Accessibility and Dining Preference

Accessible and sensory-responsive restaurant environments may encourage families to select such establishments for future dining occasions.

Therefore:

H5: Restaurant accessibility/environment has a significant positive effect on dining preference/restaurant-related intention.

Research Methodology

Research Design

The study adopted a quantitative, cross-sectional and empirical research design. Quantitative methods were selected because the study sought to measure perceptions and statistically examine relationships among food sensory factors, restaurant accessibility/environment, dining satisfaction and dining preference. Data were collected at one point in time using a structured questionnaire.

Study Population

The study focused on parents and caregivers of individuals with Autism Spectrum Disorder who had experience or knowledge of dining outside the home. Parents and caregivers were selected as respondents because they can provide information regarding food preferences, sensory considerations, restaurant accessibility and the overall dining experiences of individuals with ASD.

Sample Size

The final dataset consisted of 100 valid responses.

The dataset contained 100 observations for the principal questionnaire variables, and the statistical analyses were conducted using these valid cases.

Sampling Technique

A purposive sampling approach was adopted because the study required respondents who had direct experience with individuals with ASD. The inclusion of parents and caregivers ensured that respondents possessed relevant knowledge regarding the dining behaviour and requirements of individuals with ASD.

Data Collection Instrument

A structured questionnaire was developed for data collection.

The questionnaire consisted of two broad sections:

Section A – Demographic and Dining Profile

The section included:

- respondent type;
- respondent gender;
- respondent age;
- age of individual with ASD;
- gender of individual with ASD;
- frequency of dining out; and
- type of dining establishment.

Section B – Study Constructs

The questionnaire measured four principal constructs:

Construct	Code	Items
Food Sensory Factors	FSC	10
Restaurant Accessibility/Environment	RAE	10
Dining Satisfaction	DS	6
Dining Preference/Restaurant-related Intention	DPRI	6

The final questionnaire therefore contained 32 substantive Likert-scale items across the four principal constructs.

Measurement Scale

The substantive questionnaire items were measured using a five-point Likert scale.

The response categories were:

Score Response

- 1 Strongly Disagree
- 2 Disagree
- 3 Neutral
- 4 Agree
- 5 Strongly Agree

Higher scores indicate stronger agreement with the statements representing the relevant construct.

Operationalisation of Variables

Independent Variables

Food Sensory Factors (FSC)

FSC represents food-related sensory considerations relevant to individuals with ASD, including aspects associated with food characteristics and preferences.

Restaurant Accessibility/Environment (RAE)

RAE represents environmental and accessibility characteristics of restaurants that may influence comfort and participation in dining.

Outcome Variables

Dining Satisfaction (DS)

DS represents the respondent's overall evaluation of the dining experience.

Dining Preference/Restaurant-related Intention (DPRI)

DPRI represents preference and future-oriented restaurant-related responses associated with dining experiences.

Data Processing and Statistical Analysis

The collected data were coded and analysed using IBM SPSS Statistics.

The following statistical techniques were employed:

1. Descriptive Statistics

Frequency, percentage, mean and standard deviation were used to describe respondent characteristics and study variables.

2. Reliability Analysis

Cronbach's alpha was used to assess the internal consistency of the measurement scales.

3. Exploratory Factor Analysis

Principal Axis Factoring with Varimax rotation was used to examine the underlying factor structure.

The SPSS output reported a KMO of 0.582 and a statistically significant Bartlett's test, $\chi^2 = 1386.194$, $df = 741$, $p < .001$.

4. Normality Analysis

Normality was assessed through descriptive statistics, histograms, Q-Q plots and formal normality tests.

5. Pearson Correlation

Pearson's correlation coefficient was used to examine associations between FSC, RAE, DS and DPRI.

6. Multiple Regression Analysis

Multiple regression was used to examine:

FSC + RAE → DS

and:

FSC + RAE + DS → DPRI

7. Independent-Samples t-Test

An independent-samples t-test was used to examine whether dining satisfaction differed by respondent gender.

8. One-Way ANOVA

One-way ANOVA was used to determine whether dining satisfaction differed according to dining frequency.

3.9 Reliability of the Measurement Instrument

The reliability analysis demonstrated acceptable-to-good internal consistency.

Construct	Items	Cronbach's Alpha
FSC	10	.828
RAE	10	.797
DS	6	.759
DPRI	6	.751

All four constructs exceeded the minimum reliability level generally considered acceptable for social science research. Therefore, the constructs were retained for subsequent analysis.

Ethical Considerations

The study involved information concerning individuals with ASD and their dining experiences. Respondents were therefore informed about the purpose of the research and the voluntary nature of participation. The study focused on aggregated responses rather than identifying individual participants. Personal information unnecessary for the research objectives was not required.

Hypotheses of the Study

For consistency with the statistical analysis, the following hypotheses are proposed:

H1 Food Sensory Factors have a significant positive effect on Dining Satisfaction.

H2 Restaurant Accessibility/Environment has a significant positive effect on Dining Satisfaction.

H3 Dining Satisfaction has a significant positive effect on Dining Preference/Restaurant-related Intention.

H4 Food Sensory Factors have a significant positive effect on Dining Preference/Restaurant-related Intention.

H5 Restaurant Accessibility/Environment has a significant positive effect on Dining Preference/Restaurant-related Intention.

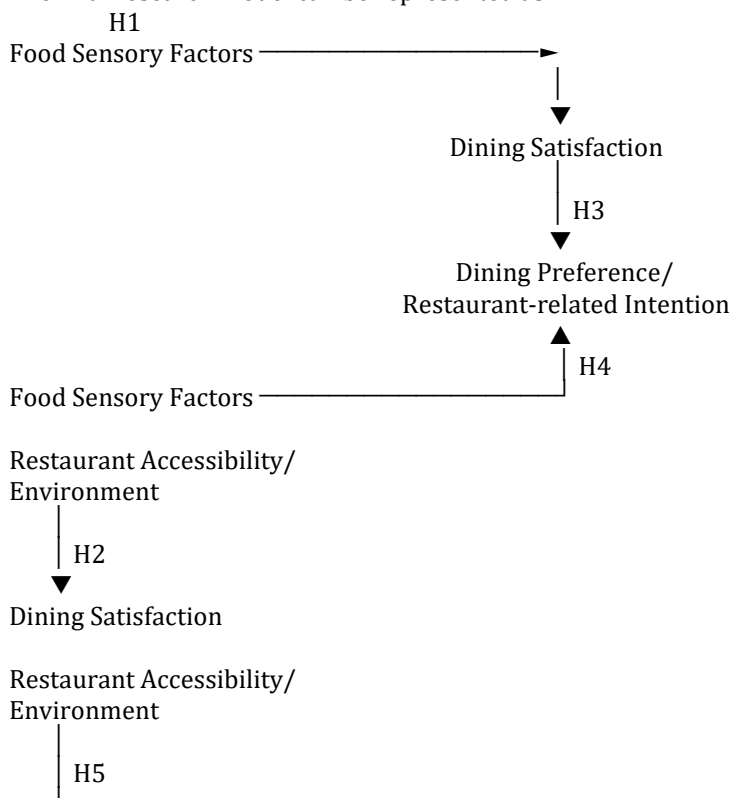
Additional Group-Difference Hypotheses

H6: There is a significant difference in dining satisfaction between male and female respondents.

H7: There is a significant difference in dining satisfaction according to frequency of dining out.

Final Conceptual Model

The final research model can be represented as:



Dining Preference/
Restaurant-related Intention

Model Variables

X1 = Food Sensory Factors (FSC)

X2 = Restaurant Accessibility/Environment (RAE)

M = Dining Satisfaction (DS)

Y = Dining Preference/Restaurant-related Intention (DPRI)

Data Analysis And Results

This chapter presents the empirical analysis of the data collected for the study titled "Sensory-Friendly Dining and Inclusive Gastronomy: An Empirical Study of Food Preferences, Restaurant Accessibility, and Dining Satisfaction among Individuals with Autism Spectrum Disorder." The purpose of the analysis was to examine the perceptions of respondents regarding food-related sensory considerations, restaurant accessibility and environment, dining satisfaction, and dining preferences/restaurant-related intentions. A total of 100 valid responses were available for analysis. The statistical analysis was conducted using IBM SPSS. The analysis included respondent profile analysis, descriptive statistics, reliability analysis, exploratory factor analysis, assessment of distributional characteristics, Pearson correlation analysis, multiple regression analysis, independent-samples t-test, and one-way analysis of variance (ANOVA). The results presented in this chapter are based on the actual SPSS output contained in the study's final analysis file.

Profile of Respondents

Type of Respondent

The respondents consisted predominantly of parents, followed by caregivers.

Respondent Type	Frequency	Percentage
Parent	85	85.0
Caregiver	15	15.0
Total	100	100.0

The results indicate that 85% of the responses were obtained from parents, while 15% were obtained from caregivers. Thus, parents constituted the principal source of information regarding dining experiences and food-related considerations.

Gender of Respondents

Gender	Frequency	Percentage
Male	33	33.0
Female	62	62.0
Other/Prefer not to say	5	5.0
Total	100	100.0

Female respondents represented the largest group at 62%, followed by males at 33%, while 5% selected other/prefer not to say.

Age of Respondents

The respondents' ages ranged from 25 to 60 years. The distribution covered a relatively broad adult age range, indicating that the study incorporated perspectives from respondents of different age groups.

Age of the Individual with ASD

The age of the individual with ASD represented in the responses ranged from 1 to 30 years. The dataset therefore includes respondents reporting experiences concerning children, adolescents, and adults with ASD.

Gender of Individuals with ASD

Gender	Frequency	Percentage
Male	78	78.0
Female	19	19.0
Other	3	3.0
Total	100	100.0

The results show that 78% of the individuals with ASD represented in the sample were male, while 19% were female and 3% were classified as other.

Dining Frequency and Type of Dining Establishment

Frequency of Dining Out

Dining Frequency	Frequency	Percentage
Never	13	13.0
Rarely	27	27.0
Sometimes	37	37.0
Often	12	12.0
Very often	11	11.0
Total	100	100.0

The largest proportion of respondents, 37%, indicated that they dine out sometimes. A further 27% reported

dining out rarely, while 13% never dined out. Only 23% reported dining out often or very often. This distribution is important because it indicates that dining outside the home is not an equally frequent activity for all respondents, potentially reflecting the importance of environmental, sensory, and accessibility considerations in restaurant selection.

Type of Dining Establishment

Dining Establishment	Frequency	Percentage
Restaurant	38	38.0
Hotel	19	19.0
Fast food	10	10.0
Café	30	30.0
Other	3	3.0
Total	100	100.0

Restaurants constituted the most commonly reported dining establishment (38%), followed by cafés (30%) and hotels (19%). Fast-food establishments accounted for 10%, while other establishments accounted for 3%.

Reliability Analysis

Cronbach's alpha was used to assess the internal consistency of the questionnaire constructs.

Reliability Statistics

Construct	No. of Items	Cronbach's Alpha	Interpretation
FSC	10	0.828	Good
RAE	10	0.797	Good
DS	6	0.759	Acceptable
DPRI	6	0.751	Acceptable

The FSC construct produced a Cronbach's alpha of 0.828, demonstrating good internal consistency. The RAE construct also demonstrated good reliability with an alpha of 0.797. The DS and DPRI constructs produced alpha values of 0.759 and 0.751, respectively, indicating acceptable internal consistency. Therefore, all four constructs exceeded the commonly used minimum threshold of 0.70 and were retained for subsequent analysis. Descriptive Analysis of Study Constructs The questionnaire items were measured using a five-point Likert scale. The descriptive results demonstrate generally positive responses across the four constructs.

Item-Level Descriptive Statistics

Construct	Item Mean Range	General Result
FSC	3.53–3.89	Moderately high
RAE	3.49–3.81	Moderately high
DS	3.58–3.71	Moderately high
DPRI	3.54–3.66	Moderately high

The FSC items recorded means ranging from 3.53 to 3.89. The highest mean was observed for FSC8 ($M = 3.89$, $SD = 0.863$).

For RAE, the item means ranged from 3.49 to 3.81, with RAE7 recording the highest mean ($M = 3.81$, $SD = 0.813$). The DS items recorded means between 3.58 and 3.71, while DPRI items ranged between 3.54 and 3.66. These findings suggest that respondents generally expressed moderately favourable perceptions regarding food-related sensory considerations, restaurant accessibility/environment, dining satisfaction, and dining preferences.

Construct-Level Descriptive Statistics

The individual items were aggregated into four composite variables:

- FSC_MEAN – Food Sensory/Preference construct
- RAE_MEAN – Restaurant Accessibility/Environment construct
- DS_MEAN – Dining Satisfaction
- DPRI_MEAN – Dining Preference/Restaurant-related intention

Construct-Level Descriptive Statistics

Construct	Mean	SD	Minimum	Maximum
FSC_MEAN	3.6720	0.54884	1.90	5.00
RAE_MEAN	3.6820	0.50680	1.70	4.90
DS_MEAN	3.6517	0.59322	1.67	4.67
DPRI_MEAN	3.6033	0.60663	1.50	4.83

The results show that RAE_MEAN recorded the highest overall mean (3.6820), followed by FSC_MEAN (3.6720), DS_MEAN (3.6517), and DPRI_MEAN (3.6033). Thus, perceptions of restaurant accessibility/environment were marginally more favourable than perceptions of the other constructs.

Exploratory Factor Analysis

Exploratory Factor Analysis (EFA) was performed using Principal Axis Factoring with Varimax rotation. The analysis included the questionnaire variables and background variables included in the SPSS factor procedure. The Kaiser-Meyer-Olkin (KMO) value was 0.582, while Bartlett's Test of Sphericity was

statistically significant: $\chi^2 = 1386.194$, $df = 741$, $p < 0.001$. Bartlett's test indicates that the correlation matrix was significantly different from an identity matrix and therefore contained relationships among variables suitable for factor analysis. However, the KMO value of 0.582 indicates only modest sampling adequacy. The analysis extracted 14 factors using the eigenvalue-greater-than-one criterion, with the extraction method being Principal Axis Factoring. The factor solution should therefore be interpreted cautiously. Importantly, the study's substantive analyses subsequently relied on the theoretically specified composite constructs rather than treating the 14 statistical factors as 14 independent theoretical dimensions.

Communalities

The communalities indicate the proportion of variance in each variable accounted for by the extracted factors. Several of the principal questionnaire items demonstrated reasonable extraction values. For example, FSC items showed extraction communalities ranging approximately from 0.386 to 0.725, while several RAE, DS, and DPRI items also demonstrated moderate to high extracted communalities. The results indicate that a meaningful proportion of variance in many questionnaire items was accounted for by the extracted factor structure.

Normality Assessment

Normality was examined using the Kolmogorov-Smirnov and Shapiro-Wilk tests together with histograms and Q-Q plots.

Normality Tests

Variable	Kolmogorov-Smirnov Sig.	Shapiro-Wilk Sig.
FSC_MEAN	0.012	0.043
RAE_MEAN	<0.001	<0.001
DS_MEAN	<0.001	<0.001
DPRI_MEAN	<0.001	<0.001

The formal normality tests were statistically significant. However, examination of the skewness statistics shows values of -0.412 for FSC_MEAN, -0.924 for RAE_MEAN, -1.266 for DS_MEAN, and -0.976 for DPRI_MEAN. The distributions therefore demonstrate some negative skewness, particularly for DS_MEAN and DPRI_MEAN. Given the 100 observations and the use of composite Likert-scale measures, the subsequent parametric analyses were retained, but the results should be interpreted with appropriate caution.

Pearson Correlation Analysis

Pearson's correlation coefficient was used to determine the direction and strength of associations among FSC_MEAN, RAE_MEAN, DS_MEAN, and DPRI_MEAN.

Correlation Matrix

Variables	FSC	RAE	DS	DPRI
FSC	1	.306**	.128	.022
RAE	.306**	1	.188	.251*
DS	.128	.188	1	.312**
DPRI	.022	.251*	.312**	1

Note: $p < .05$; $p < .01$.

The strongest correlation was observed between DS_MEAN and DPRI_MEAN ($r = .312$, $p < .01$), indicating a positive and statistically significant relationship between dining satisfaction and dining preference/restaurant-related intention. A significant positive relationship was also found between FSC_MEAN and RAE_MEAN ($r = .306$, $p < .01$). RAE_MEAN was positively correlated with DPRI_MEAN ($r = .251$, $p < .05$). However, the relationship between FSC_MEAN and DPRI_MEAN was very weak and statistically non-significant ($r = .022$, $p = .825$). Similarly, the correlation between FSC_MEAN and DS_MEAN was not statistically significant ($r = .128$, $p = .205$), while RAE_MEAN and DS_MEAN also failed to reach significance ($r = .188$, $p = .061$).

Multiple Regression Analysis: Food Sensory Factors and Restaurant Accessibility Predicting Dining Satisfaction

A multiple linear regression analysis was conducted with DS_MEAN as the dependent variable and FSC_MEAN and RAE_MEAN as predictors.

Model Summary

R	R ²	Adjusted R ²	Std. Error	Durbin-Watson
.202	.041	.021	.58690	1.513

The model produced $R = .202$ and $R^2 = .041$, indicating that FSC_MEAN and RAE_MEAN jointly explained approximately 4.1% of the variance in dining satisfaction. However, the overall regression model was not statistically significant, $F(2,97) = 2.071$, $p = .132$.

Regression Coefficients

Predictor	B	SE	Beta	t	p
Constant	2.634	.514	—	5.129	<.001
FSC_MEAN	.084	.113	.078	.743	.459
RAE_MEAN	.193	.122	.165	1.576	.118

Neither FSC_MEAN nor RAE_MEAN significantly predicted dining satisfaction when both predictors were considered simultaneously. The regression equation is: $DS_MEAN = 2.634 + 0.084(FSC_MEAN) + 0.193(RAE_MEAN)$ Thus, the results do not provide sufficient statistical evidence that food sensory factors or restaurant accessibility/environment independently predict dining satisfaction in this sample. Regression Analysis: Dining Satisfaction Predicting Dining Preference A second regression analysis was conducted to examine whether dining satisfaction predicts dining preference/restaurant-related intention.

Model Summary

R	R ²	Adjusted R ²	Std. Error	Durbin-Watson
.312	.097	.088	.57937	2.082

The model produced $R = .312$ and $R^2 = .097$, indicating that dining satisfaction explained 9.7% of the variance in DPRI_MEAN. The ANOVA showed that the regression model was statistically significant: $F(1,98) = 10.535$, $p = .002$.

Regression Coefficient

Predictor	B	SE	Beta	t	p
Constant	2.440	.363	—	6.720	<.001
DS_MEAN	.319	.098	.312	3.246	.002

Dining satisfaction was therefore a positive and statistically significant predictor of dining preference/restaurant-related intention. The regression equation is: $DPRI_MEAN = 2.440 + 0.319(DS_MEAN)$ This finding indicates that higher levels of dining satisfaction were associated with higher levels of dining preference/restaurant-related intention.

Overall Regression Model

A final multiple regression model was estimated with DPRI_MEAN as the dependent variable and FSC_MEAN, RAE_MEAN, and DS_MEAN as predictors.

Overall Regression Model

Statistic	Value
R	.376
R ²	.142
Adjusted R ²	.115
F	5.279
df	3, 96
Sig.	.002
Durbin-Watson	2.100

The model was statistically significant, $F(3,96) = 5.279$, $p = .002$, and explained 14.2% of the variance in dining preference/restaurant-related intention.

Overall Regression Coefficients

Predictor	B	SE	Beta	t	p
Constant	1.904	.563	—	3.382	.001
FSC_MEAN	-.090	.110	-.082	-.821	.414
RAE_MEAN	.268	.120	.224	2.224	.028
DS_MEAN	.286	.099	.280	2.899	.005

The results reveal that restaurant accessibility/environment (RAE_MEAN) and dining satisfaction (DS_MEAN) were significant positive predictors of DPRI_MEAN. RAE_MEAN had a standardized beta coefficient of $\beta = .224$, $p = .028$, while DS_MEAN had a stronger standardized coefficient of $\beta = .280$, $p = .005$. In contrast, FSC_MEAN was not a significant predictor ($\beta = -.082$, $p = .414$). The overall regression equation is: $DPRI_MEAN = 1.904 - 0.090(FSC_MEAN) + 0.268(RAE_MEAN) + 0.286(DS_MEAN)$ The findings indicate that dining satisfaction was the strongest predictor among the three variables, followed by restaurant accessibility/environment.

Multicollinearity

Multicollinearity was examined using tolerance and Variance Inflation Factor (VIF).

Predictor	Tolerance	VIF
FSC_MEAN	.901	1.109
RAE_MEAN	.884	1.131
DS_MEAN	.959	1.043

The VIF values were close to 1 and the tolerance values were high, indicating that multicollinearity was not a concern in the final regression model. The Durbin-Watson statistic of 2.100 also indicates that serious first-order autocorrelation was not evident in the regression residuals.

Gender Differences in Dining Satisfaction

An independent-samples t-test was conducted to determine whether dining satisfaction differed significantly between male and female respondents.

Gender-wise Dining Satisfaction

Gender	N	Mean	SD
Male	33	3.6061	.65989
Female	62	3.6747	.57848

Levene's test was non-significant, $F = 1.181$, $p = .280$, indicating no statistically significant evidence of unequal variances. The independent-samples t-test produced: $t(93) = -0.524$, $p = .601$. Therefore, there was no statistically significant difference in dining satisfaction between male and female respondents. Although females reported a slightly higher mean dining satisfaction score (3.6747) than males (3.6061), this difference was not statistically significant. The effect size was also very small, with Cohen's $d = -0.113$.

Dining Frequency and Dining Satisfaction

A one-way ANOVA was conducted to examine whether dining satisfaction differed according to frequency of dining out.

Table 4.13 Dining Satisfaction by Dining Frequency

Dining Frequency	N	Mean	SD
Never	13	3.5385	.81409
Rarely	27	3.6481	.69389
Sometimes	37	3.7117	.46256
Often	12	3.7639	.30533
Very often	11	3.4697	.69449
Total	100	3.6517	.59322

Respondents who dined out often reported the highest mean dining satisfaction ($M = 3.7639$), while those who dined out very often recorded the lowest ($M = 3.4697$). However, the one-way ANOVA was not statistically significant: $F(4,95) = 0.569$, $p = .685$. Therefore, dining satisfaction did not differ significantly according to frequency of dining out. The post-hoc comparisons likewise did not identify statistically significant pairwise differences.

Summary of Hypothesis Testing

Based strictly on the statistical results contained in the SPSS output, the findings can be summarized as follows.

Hypothesis Testing Summary

Hypothesis	Relationship Tested	Result	Decision
H1	FSC → DS	$\beta = .078$, $p = .459$	Not supported
H2	RAE → DS	$\beta = .165$, $p = .118$	Not supported
H3	DS → DPRI	$\beta = .312$, $p = .002$	Supported
H4	FSC → DPRI	$\beta = -.082$, $p = .414$	Not supported
H5	RAE → DPRI	$\beta = .224$, $p = .028$	Supported

The results demonstrate that dining satisfaction significantly predicts dining preference/restaurant-related intention, while restaurant accessibility/environment also has a significant positive influence on dining preference/restaurant-related intention. Conversely, food sensory factors did not demonstrate a statistically significant direct effect on either dining satisfaction or dining preference in the regression models.

Major Findings of the Study

The major findings emerging from the empirical analysis are:

The study was based on 100 valid responses, with no missing cases in the major analyses. Parents represented 85% of respondents, while caregivers represented 15%. Female respondents constituted the majority (62%). The individuals with ASD represented in the sample were predominantly male (78%). 37% of respondents reported dining out sometimes, making it the most common dining frequency category. Restaurants were the most frequently used type of dining establishment (38%), followed by cafés (30%). All four constructs demonstrated acceptable-to-good reliability, with Cronbach's alpha ranging from .751 to .828. Restaurant accessibility/environment recorded the highest composite mean ($M = 3.6820$), followed closely by FSC ($M = 3.6720$). Dining satisfaction had a significant positive relationship with dining preference/restaurant-related intention ($r = .312$, $p < .01$). Dining satisfaction significantly predicted dining preference/restaurant-related intention ($\beta = .312$, $p = .002$). The overall model containing FSC, RAE, and DS significantly predicted DPRI, explaining 14.2% of its variance ($R^2 = .142$, $p = .002$). Within the overall model, dining satisfaction ($\beta = .280$, $p = .005$) was the strongest predictor, followed by restaurant accessibility/environment ($\beta = .224$, $p = .028$). Food sensory factors did not significantly predict dining preference ($\beta = -.082$, $p = .414$). No significant gender difference was observed in dining satisfaction ($p = .601$). Dining satisfaction did not differ significantly according to dining frequency ($F = 0.569$, $p = .685$).

Chapter Summary

This chapter presented the empirical findings of the study concerning sensory-friendly dining and inclusive gastronomy. The analysis of 100 valid responses demonstrated that the measurement scales possessed acceptable-to-good internal reliability. The descriptive results showed generally favourable perceptions across food sensory factors, restaurant accessibility/environment, dining satisfaction, and dining preference. The correlation analysis revealed significant positive relationships between food sensory factors and restaurant accessibility/environment, between restaurant accessibility/environment and dining preference, and between dining satisfaction and dining preference. However, the regression analysis provided a more specific understanding of these relationships. Food sensory factors and restaurant accessibility/environment did not significantly predict dining satisfaction when considered simultaneously. In contrast, dining satisfaction significantly predicted dining preference/restaurant-related intention. The final regression model demonstrated that restaurant accessibility/environment and dining satisfaction were significant predictors of dining preference, while food sensory factors were not statistically significant. The results therefore suggest that creating accessible and satisfactory dining experiences may be more directly associated with continued dining preference and restaurant-related intention than food sensory considerations alone within this particular sample. At the same time, the relatively low explanatory power of the final model (14.2%) indicates that other factors not included in the present model may also influence dining preferences among individuals with ASD and their families/caregivers.

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