



**Daffodil**  
*International*  
**University**

**ASSESSMENT OF PARENT REPORTS OF THEIR PRESCHOOL  
CHILDREN'S SENSORY FOOD PREFERENCES**

**A Project Report  
By**

**SADIA AFRIN  
ID: 192-34-942**

Submitted to the Department of Nutrition and Food Engineering in the partial fulfillment of  
B.Sc. in Nutrition and Food Engineering

Supervised by  
**MR. MD. SHAMSUR RAHMAN**  
Senior Lecturer  
Department of Nutrition and Food Engineering

**Faculty of Health and Life Sciences (FHLS)**

**Daffodil International University**

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## APPROVAL

This Project titled “**Assessment of parent reports of their preschool children’s sensory food preferences**”, submitted by **Sadia Afrin** to the Department of Nutrition and Food Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Nutrition and Food Engineering and approved as to its style and contents.

## EXAMINING COMMITTEE

Chairmen of the Board \_\_\_\_\_

External Member \_\_\_\_\_

Internal Member-1 \_\_\_\_\_

Internal Member-2 \_\_\_\_\_

.....

**Dr. Nizam Uddin**

Associate Professor and Head

Department of Nutrition and Food Engineering

Faculty of Health and Life Sciences (FHLS)

Daffodil International University

## DECLARATION

We hereby declare that, this project has been done by us under the supervision of Md. **Shamsur Rahman**, Senior Lecturer, Department of Nutrition and Food Engineering, Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for the award of any degree or diploma.

**Supervised by:**



.....

**MR.Md. Shamsur Rahman**

Senior Lecturer

Department of Nutrition and Food Engineering

Daffodil International University

**Submitted by:**



.....

**Sadia Afrin**

Student ID # 192-34-942

Department of Nutrition and Food Engineering

Daffodil International University

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## ABSTRACT

This cross-sectional study aimed to explore the factors influencing the food preferences of preschool-aged children, aged 2 to 6 years old, in three preschools located in Dhaka. Parents of 200 selected children completed a semi-structured questionnaire regarding their children's food preferences. Analysis revealed dynamic changes in children's food tastes over time, particularly evident as they age, with peak picky eating behavior observed at 4 years old. Preferences for sweet, crunchy, rich, and chewy textures evolve with age, aligning with increased openness to new food experiences, notably peaking at around four years old. This period presents an opportune time to introduce a variety of healthy food options to children. Additionally, children across all age groups showed a preference for food presented in fun-shaped and colorful packaging, although this interest diminished as they aged. These findings underscore the importance of adapting food offerings to cater to evolving tastes and developmental stages, promoting healthier eating habits. Utilizing sweet tastes and appealing textures in healthy food options can be effective strategies. This study provides valuable insights into the changing eating habits of young children, informing future programs aimed at promoting well-balanced diets and overall health.

**Key Words:** Preschool-aged children, Food preferences, Developmental stages, Texture preferences, Healthy eating habits

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# CHAPTER 1

## INTRODUCTION

### 1.1 Introduction

A preschool, also referred to as a pre-school, is an educational setting dedicated to providing early childhood education to children before they embark on their primary school journey. It is also referred to as a nursery school, pre-primary school, play school, or creche. Before they become adults, kids may keep the eating habits they learn as kids (De Cosmi et al., 2017). This is a very important time for their growth. This is becoming more and more clear in both the classroom and therapy settings: kids learn and remember things in different ways. We still don't know how these differences in senses show up in kids' daily lives (Sleeman et al., 2022). There is a link between kids who have trouble understanding sensory information and kids who have trouble with their motor skills, balance, and stability. It can be hard for them to do well in school because they are easily stressed out, and loud noises, bright lights, and clothes that don't fit right can make it worse. If they get the right help, kids who have trouble understanding what their senses are telling them can still do well at school, on the field, and even at home. It goes into a lot of detail about a qualitative study that looked at how parents talked about their kids' sensory experiences (Turner et al. 2012).

Finding out which senses toddlers like best should be the main focus of study on how young children grow and learn if we want to make big progress toward better ways to teach, parent, and treat kids. As a kid grows physically, mentally, and socially, it is very important for them to be able to process sensory information (Ismael et al., 2012). Our study's goal is to help parents learn more about the senses that their preschool-aged children like best. This way, we can better meet their needs and help them learn and grow at this important age. Kids' sensory tastes can change how they act and how well they do in school. This has been studied for many years. The decisions someone makes about how to process sensory information show how likely they are to actively seek out or actively reject different types of sensory information (Little et al., 2022). This might make it harder for them to learn, make friends, and connect with the people and things around them. As you can see, hear, touch, smell, shake, and move around, this shows your likes.

Ismael et al. (2010) reported that each child connects with the world in their own special way because they all have different sensory interests. Some of these preferences can be very strong, like a strong need for physical experiences or a clear sensitivity to or dislike of certain triggers. Kids in preschool use a lot of different senses when they play, connect with others, and do schoolwork. They also change and grow quickly. Thompson et al. (2023) reported that parents should take care of, understand, and meet their children's physical needs because they are the ones who love them the most. Their reports are very helpful because they tell us the personal

details about how kids connect with the world around them. These facts can help you find early signs of sensory processing disorders, personality disorders, and other issues with growth. Reports from parents about their children's sensory tastes aren't always accurate or reliable. This can be a problem and a chance for more study. This way of reporting could be changed by family information, biases, and beliefs, as well as by how subjective sensory experiences are (Dean et al., 2022). This study checked to see if parent reports about their preschool-aged children's sensory choices are true and reliable, researchers, teachers, and therapists will be able to trust them. Barends et al. (2012) also wanted to fill in a gap in the research by looking at how parents talk about their kids' sensory preferences. A lot of reports from parents are used in this study to find out what toddlers like to do with their senses, if there are any patterns or differences, and how these choices might affect how they learn and act.

## **1.2 Objective of the Study**

The primary objective of this study is to systematically evaluate and understand the sensory preferences of preschool-aged children as reported by their parents. This involves identifying patterns and variations in sensory processing preferences and sensitivities among children in the preschool age group (typically ages 2-6 years).

Specifically, the study aims to:

- Identify factors that influence food preference.
- Identify different preference levels for food texture.
- Identify different preference levels of food flavors.
- Identify how much the child's preference is influenced by the presentation of the food.
- Identify the food list that is most favorite of the child.

## **CHAPTER 2**

### **REVIEW OF THE LITERATURE**

A study by (Nekitsing et al.2018) suggests that preschool nutrition lessons could include ways for kids to learn through taste and other senses. This could help them eat more veggies. This review's purpose was to collect and rate studies that used teaching kids about nutrition, taste, and sensory learning to get children to eat more vegetables. To get kids to eat more veggies when they were young, it often worked best to give them new tastes. Seeing things and having experiences are two ways of learning that have worked well in the past. The main way that nutrition is taught in preschools is still through the program, but there are other parts that could make it even better at getting kids to eat more veggies. There is some proof that vegetables can help picky eaters, but it's not 100% sure. This review sorts different kinds of treatments by how important they are for getting people to eat more vegetables.

#### **Food Preference**

(Skinner et al., 2002) highlighted the crucial role of early childhood in developing food preferences that persist into later childhood. By understanding these dynamics, health professionals and parents can work together to foster healthier eating habits in children, potentially impacting their dietary choices and health outcomes throughout their lives. It's evident that early childhood food preferences play a significant role in shaping dietary habits into later childhood. This study emphasizes the importance of early childhood in shaping long-lasting food preferences, indicating that the dietary habits formed by age 4 are indicative of preferences at age 8. Key findings include the role of food neophobia in resisting new foods, the significant influence of parental (especially maternal) eating habits on children, and the importance of early exposure to diverse foods to combat decreasing food acceptance with age. Recommendations for health professionals and parents include educating parents on the benefits of early variety in diet, strategies to introduce new foods gently, nutritional advice to balance children's preferences with trying new foods, and the importance of parents modeling healthy eating behaviors.

#### **Effect of Sensory Education**

(Mustonen et al., 2009) investigated how sensory instruction affected school children's perceptions of taste, smell, and food ratings. Participants in the study were second and fifth graders (n = 244, 7–11 years old at the baseline) from two schools in the Helsinki area. There were 96 kids in the education group (school one) and 79 pupils in the control group (school two) at the end of the two-year trial. Both groups completed six tasks at baseline and in four follow-up assessments: (1) free odor naming (five odors); (2) taste identification (six solutions); (3) descriptive characterization of two breads; (4) ratings of the degree to which subjects looked at food's sensory qualities; (5) willingness-to-try ratings of unfamiliar versus familiar foods; and (6) assisted odor naming (five odors, ten verbal labels). The education group then received two

waves of sensory education: ten Classes du Taste classes in the first wave and five lessons in the second wave that introduced the kids to several food groups. Just two-thirds of the education group participated in the second wave. The educated kids got better at describing foods, recognizing flavors and scents, and distinguishing tastes, but the control group's performance remained unchanged. However, only the younger children's effects of education were noted. The overall direction of the changes was positive, despite the fact that they were modest and inconsistent throughout the study period: the sensory education enhanced children's capacity to describe the sensory qualities of food and activated their senses of taste and smell.

## **CHAPTER 3**

### **METHODOLOGY**

#### **3.1 Study Design**

This cross-sectional study was conducted among parents of preschool children from April 2023 to January 2024. The study included participants from Green Sprouts School in Dhanmondi, Little Learner International School in Mirpur, and Angel Day Care in Ashulia. A total of 200 parents were interviewed for the study, all of whom have children aged 2 to 6 years attending preschool.

#### **3.2 Sampling Techniques**

The purposive sampling technique was followed for this study.

#### **3.3 Data Collection Tools**

A structured questionnaire was prepared in the light of objectives of the study. The questionnaire was self-administered. Based on the experience and expert opinion of my project supervisor, the final questionnaire was prepared. It was pre-tested. The purpose of the study was explained clearly to the respondents before interviewed.

#### **3.4 Data Collection Method**

Data were collected through face-to-face interviews using a semi-structured questionnaire from parents.

#### **3.5 Data Analysis**

- After collection, answers to all interviewed questions were checked for completeness and correctness before it is entered into the computer for analysis.
- The data were analyzed by using the latest version of the software Statistical Package for Social Science (SPSS) Version-25.0.
- The data were presented in the form of tables, charts, and graphs.

#### **3.6 Ethical Consideration**

- Ethical clearance was obtained from the Research Ethics Committee of the Department of Nutrition and Food Engineering, Daffodil International University to conduct the study.
- Consent and permission were taken from the proper administrative authority of the selected school.
- Written Informed consent was taken from parents before data collection.
- Anonymity and confidentiality of information were maintained strictly.

## CHAPTER 4

### RESULT AND DISCUSSION

Parents of preschoolers enrolled at Green Sprouts, Little Learner International School, and Angel Day Care participated in this cross-sectional study that ran from April 2023 through January 2024. In all, 200 parents with preschool-aged children participated in the study through interviews. The result of study is presented in table 1.

**Table 1: Characteristics of 5 age group children**

|                      | 2-year-old | 3 years old | 4 years old | 5 years old | 6 years old |
|----------------------|------------|-------------|-------------|-------------|-------------|
| Number of Children   | 27         | 46          | 61          | 44          | 22          |
| <i>Male (%)</i>      | 55.6       | 52.2        | 39.3        | 50          | 50          |
| <i>Female (%)</i>    | 44.4       | 47.8        | 60.7        | 50          | 50          |
| Picky eater          |            |             |             |             |             |
| <i>Yes (%)</i>       | 85.2       | 82.6        | 47.5        | 88.6        | 95.5        |
| <i>No (%)</i>        | 14.8       | 17.4%       | 52.5        | 11.4        | 4.5         |
| Try new foods        |            |             |             |             |             |
| <i>Often (%)</i>     | 22.2       | 34.8        | 62.3        | 34.1        | 31.8        |
| <i>Sometimes (%)</i> | 59.3       | 23.9        | 24.6        | 36.4        | 50.0        |
| <i>Rarely (%)</i>    | 18.5       | 41.3        | 13.1        | 29.5        | 18.2        |

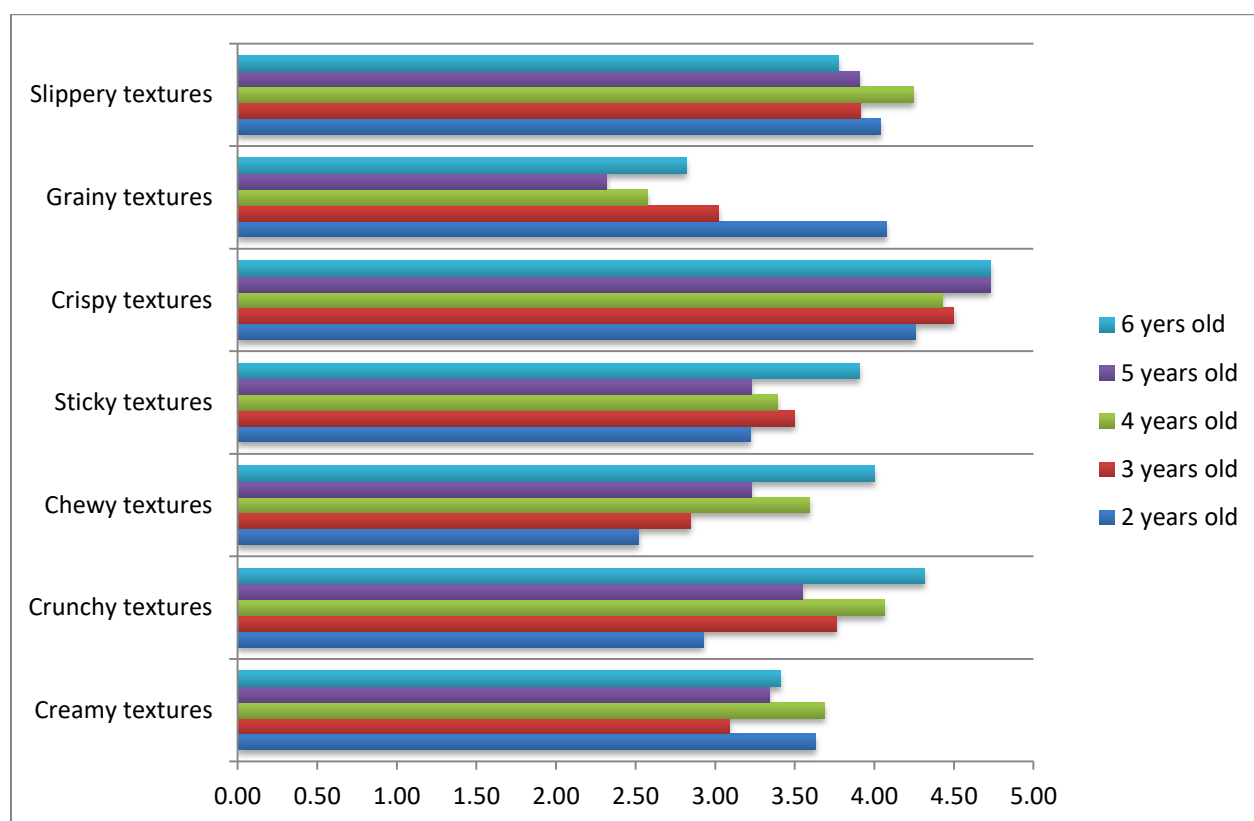
The table 1 reveals insights into the eating habits of children across five age groups (2, 3, 4, 5, and 6 years old), showing variations in picky eating behavior and willingness to try new foods. Notably, the highest number of children falls in the 4-year-old group, with a gradual decrease in numbers as age increases, potentially reflecting developmental stages and school entry age. Gender distribution shows almost equal representation across all age groups, with a slight increase in females at 4 years old. Picky eating tends to be more prevalent among younger children, with a notable decline in percentages as age increases until a slight rise in the 6-year-old group. Conversely, willingness to try new foods increases with age, peaking at 4 years old before slightly declining in the older age groups. Understanding these patterns can inform strategies for fostering healthier eating habits in children, emphasizing the importance of introducing diverse foods early and providing positive reinforcement for trying new foods, while also considering age-related variations and potential influencing factors.

**Table 2: Preference for different textures among age groups**

|                 | 2 years old | 3 years old | 4 years old | 5 years old | 6 years old |
|-----------------|-------------|-------------|-------------|-------------|-------------|
| Creamy textures | 3.63        | 3.09        | 3.69        | 3.34        | 3.41        |

|                   |      |      |      |      |      |
|-------------------|------|------|------|------|------|
| Crunchy textures  | 2.93 | 3.76 | 4.07 | 3.55 | 4.32 |
| Chewy textures    | 2.52 | 2.85 | 3.59 | 3.23 | 4.00 |
| Sticky textures   | 3.22 | 3.50 | 3.39 | 3.23 | 3.91 |
| Crispy textures   | 4.26 | 4.50 | 4.43 | 4.73 | 4.73 |
| Grainy textures   | 4.07 | 3.02 | 2.57 | 2.32 | 2.82 |
| Slippery textures | 4.04 | 3.91 | 4.25 | 3.91 | 3.77 |

1= Dislike extremely, 2= Somewhat Dislike, 3= Neither Like or Dislike, 4= somewhat like, 5= Extremely Like



**Figure 1:** Preference of different texture among 5 age group children (1= Dislike extremely, 2= Somewhat Dislike, 3= Neither Like or Dislike, 4= somewhat like, 5= Extremely Like)

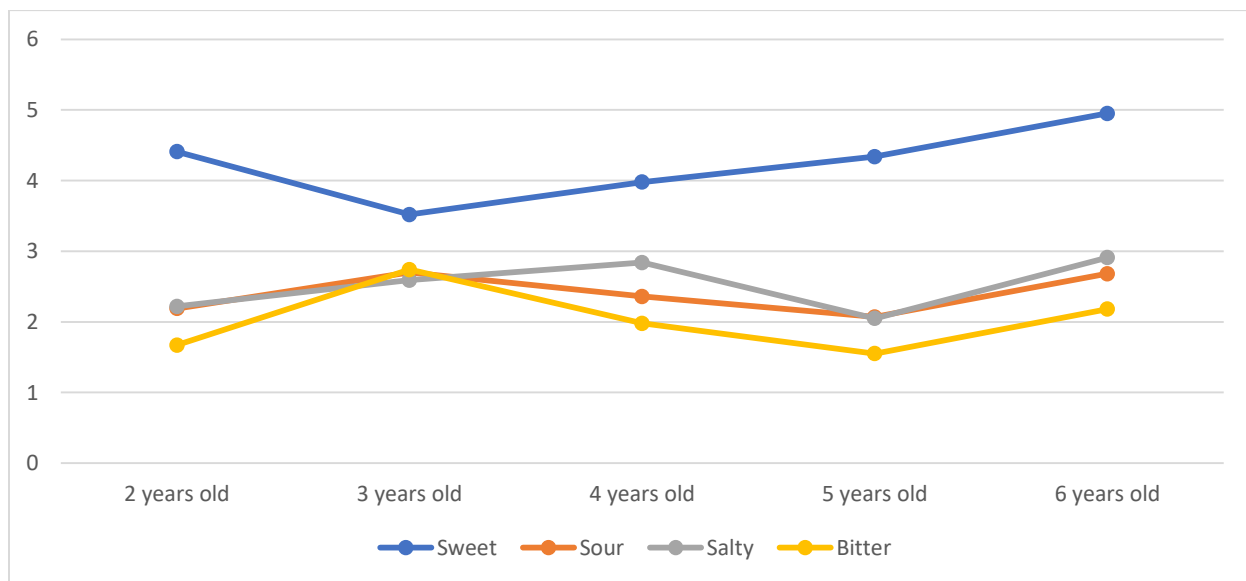
The insights gleaned from Table 2 offer a nuanced understanding of children's texture preferences across varying age brackets, spanning from 2 to 6 years old. Notably, a consistent preference for soft textures emerges, with a minor peak observed at the age of 4. However, as children progress in age, there's a discernible inclination towards chewy and crunchy textures, suggesting a developmental progression in taste preferences. Younger children exhibit a penchant for mild to extremely slippery surfaces, which gradually shifts with age. Interestingly, research by Chow et al. (2024) indicates that children's preference for soft textures increases with each

passing year, with a notable peak around age 4, coinciding with heightened affinities for crunchy and crispy textures, scoring at 4.07 and 4.43, respectively. This shift may imply a growing acceptance of complex textures with age. Surprisingly, despite this trend, children still maintain an enduring fondness for harder textures throughout childhood. Conversely, rough textures seem universally disliked among children, potentially posing challenges in introducing whole foods. Understanding these nuanced texture preferences can significantly inform meal planning and dietary choices, facilitating the incorporation of preferred textures into children's diets and potentially fostering healthier eating habits from an early age.

**Table 3: Preference for different taste among age group**

|        | 2 years old | 3 years old | 4 years old | 5 years old | 6 years old |
|--------|-------------|-------------|-------------|-------------|-------------|
| Sweet  | 4.41        | 3.52        | 3.98        | 4.34        | 4.95        |
| Sour   | 2.19        | 2.70        | 2.36        | 2.07        | 2.68        |
| Salty  | 2.22        | 2.59        | 2.84        | 2.05        | 2.91        |
| Bitter | 1.67        | 2.74        | 1.98        | 1.55        | 2.18        |

1= Dislike extremely, 2= Somewhat Dislike, 3= Neither Like or Dislike, 4= somewhat like, 5= Extremely Like



**Figure 2:** Preference of different taste among 5 age group children (1= Dislike extremely, 2= Somewhat Dislike, 3= Neither Like or Dislike, 4= somewhat like, 5= Extremely Like)

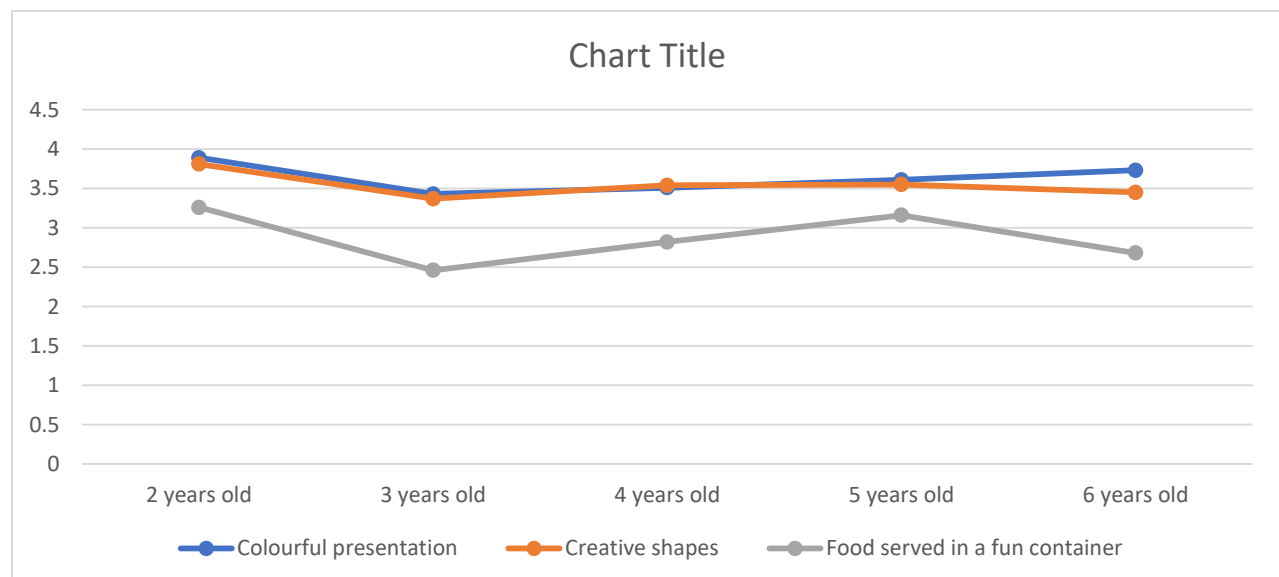
The data from Table 3 offers valuable insights into the taste preferences of children aged 2 to 6 years old. A strong preference for sweet tastes pervades across all age groups, reaching its peak among 6-year-olds, highlighting a consistent fondness for sweetness as children mature. In contrast, preferences for sour and salty tastes remain relatively subdued, with minor fluctuations

observed across different age brackets. Bitter tastes show more variability, with the youngest age group exhibiting the least preference, a slight increase among 3-year-olds, followed by a subsequent decline among 5-year-olds and a modest rise again among 6-year-olds. This nuanced understanding of taste preferences can inform dietary choices and meal planning for children, emphasizing the incorporation of sweet flavors while accommodating individual variations in preferences for other tastes. Further research into the underlying factors influencing taste preferences among children, such as taste sensitivity, can contribute to the development of targeted strategies aimed at promoting balanced and nutritious eating habits from an early age. Notably, studies like Fry et al, 2018, have found a negative association between sweetness sensitivity and preference for sweetness, shedding light on the complex interplay between taste perception and preference.

**Table 4: Influence of different presentation factors on food preference among age groups**

|                                | 2 years old | 3 years old | 4 years old | 5 years old | 6 years old |
|--------------------------------|-------------|-------------|-------------|-------------|-------------|
| Colourful presentation         | 3.89        | 3.43        | 3.51        | 3.61        | 3.73        |
| Creative shapes                | 3.81        | 3.37        | 3.54        | 3.55        | 3.45        |
| Food served in a fun container | 3.26        | 2.46        | 2.82        | 3.16        | 2.68        |

1= Dislike extremely, 2= Somewhat Dislike, 3= Neither Like or Dislike, 4= somewhat like, 5= Extremely Like



**Figure 3:** Influence of different presentation factors on food preference among age groups (1= Dislike extremely, 2= Somewhat Dislike, 3= Neither Like or Dislike, 4= somewhat like, 5= Extremely Like)

Table 4 provides illuminating insights into how children aged 2 to 6 years old make food choices based on its presentation. It's evident that colorful presentations consistently attract moderate to high preferences across all age groups, indicating the universal appeal of visually appealing displays, with scores ranging from 3.43 to 3.89. Similarly, creative shapes also wield a notable influence on food preferences, maintaining a moderate level of appeal among children, reflected in scores hovering around the mid-range. However, the impact of food served in fun containers appears to vary across age groups, with preferences displaying more variability, ranging from 2.46 to 3.26. This suggests that while young children may find food in fun containers intriguing, interest wanes as they grow older, indicating a shift in preferences over time. These findings underscore the importance of considering presentation factors in meal planning and food preparation to enhance children's acceptance and enjoyment of diverse foods. Further research into the underlying mechanisms driving these preferences can deepen our understanding of effective strategies for promoting healthy eating habits among children from an early age. Zampollo et al. (2011) highlight a noteworthy disparity between children's and adults' preferences regarding food presentation, emphasizing the need to tailor presentation strategies to suit children's unique preferences and developmental stages.

## **CHAPTER 5**

### **CONCLUSION AND RECOMMENDATION**

#### **5.1 Limitations of the Study**

As the study only looks at what parents say about their preschoolers' sensory decisions, it may not be generalizable in many ways. Memory bias, culture, and contextual factors, problems with generalizability, parental variability, and the chance of saying too much or too little are just some of the things that could go wrong with this report. Other ones are subjectivity and bias, as well as the lack of standard review tools. Parent-reported data on children's sensory tastes has these problems.

#### **5.2 Conclusion**

In conclusion, the cross-sectional study provides insights into children's eating behaviors and preferences. The data highlights a peak in picky eating behavior among younger children, with gradual declines as age increases. Sweet tastes consistently reign supreme, while preferences for sour, salty, and bitter tastes exhibit age-dependent variations. Texture preferences evolve from soft to chewy and crunchy textures as children mature. Moreover, colorful presentations and creative shapes significantly influence food preferences, although the impact of fun containers fluctuates across age groups. These precise findings underscore the necessity for tailored strategies to foster healthy eating habits in children, considering their specific tastes and developmental stages. Further research into the underlying mechanisms driving these preferences can inform targeted interventions to promote balanced and nutritious diets from an early age.

#### **5.3 Recommendation**

Because kids' tastes change, dietitians and other adults who care for them should change the foods they give them based on how they like them offered. This will help them eat better in the future. As people age, their taste buds become more sensitive to sugar. Also, people like textures that are crunchy and chewy more. It's possible that adding these textures to healthy foods will make them taste better. Fruits that are naturally sweet could be added to whole food snacks for younger kids. The snacks could be crunchy or chewy. It was found that people of all ages enjoy eating foods that are colorful, shaped in unique ways, and served in unique ways. Because of this, these tips can help get kids more interested in eating healthy foods. Useful containers become less interesting over time, so don't use them too often. Teaching kids about different tastes and textures when they are young can help them eat more things and make them less likely to become picky eaters as they get older. If we change the way we do things to fit these new results, we can get kids to eat better and help them keep up good eating habits for life.

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## APPENDICES

### INFORMED CONCENT

I am **Sadia Afrin** have read or had read out for me all the statements in the consent form and I agree voluntarily to participate as a subject in the study of **“Assessment of parent reports of their preschool children’s sensory food preference at Angel Day Care, Little Learner International School, and Green Sprouts School, Dhaka, Bangladesh”**. I am fully informed about the purpose, duration, and procedures of this research. I understand that all information will remain confidential, and I will not receive any financial benefits or incentives for this participating. I have the opportunity to ask questions about the research procedures and can contact the research workers for further clarification. I am aware of the risks and discomforts associated with participation and have the right to withdraw from the study at any time without penalty. I will receive a copy of the signed consent form for my records. I, the undersigned, certify that I am willingly participating in this research.

Name:.....

Signature:.....

Address:.....

Date:.....

Dear Respondents,

I am Sadia Afrin a post graduate student of Daffodil University of Bangladesh. As a part of my course, I am to conduct research my research topic is “Assessment of parent reports of their preschool children’s sensory preference at Angel Day Care, Little Learner International School, and Green Sprouts School, Dhaka, Bangladesh” This is purely academic. I would like to ask you some question related to this topic. All information provided by you will be kept confidential; it will be used only for research purpose. I will be obliged if you cooperate me.

Thank you

**APPENDIX-1**  
**Pre-schooler Food Sensory Preferences Questionnaire**

**[Instructions:** Thank you for participating in our study on preschooler food sensory preferences. Your input will help us better understand how sensory aspects influence children's food choices. There are no right or wrong answers, and your responses will remain confidential.]

**A. Participant Information**

Name of Child: \_\_\_\_\_ Age: \_\_\_\_ (Years) \_\_\_\_ (Months)      Gender: Male  
/ Female

Name of Parent/Guardian: \_\_\_\_\_ Parent Education Level:  
\_\_\_\_\_

**B. General Information**

1. How often does your child try new foods?

- a) Very Often
- b) Often
- c) Sometimes
- d) Rarely
- e) Never

2. Is your child a picky eater? / (খাবারের প্রতি খুঁতখুঁতে)?

- a) Yes
- b) No

**C. Food Texture**

Please indicate how much your child enjoys the following food textures:

3. Soft and creamy textures (e.g., yogurt, mashed potatoes, vegetables)

|                      |                     |                            |                  |                   |
|----------------------|---------------------|----------------------------|------------------|-------------------|
| a. Extremely Dislike | b. Somewhat Dislike | c. Neither Like or Dislike | d. Somewhat like | e. Extremely Like |
|----------------------|---------------------|----------------------------|------------------|-------------------|

4. Crunchy textures (e.g., apple, carrots)

|                      |                     |                            |                  |                   |
|----------------------|---------------------|----------------------------|------------------|-------------------|
| a. Extremely Dislike | b. Somewhat Dislike | c. Neither Like or Dislike | d. Somewhat like | e. Extremely Like |
|----------------------|---------------------|----------------------------|------------------|-------------------|

5. Chewy textures (e.g., gummy candies, dried fruits)

|                      |                     |                            |                  |                   |
|----------------------|---------------------|----------------------------|------------------|-------------------|
| a. Extremely Dislike | b. Somewhat Dislike | c. Neither Like or Dislike | d. Somewhat like | e. Extremely Like |
|----------------------|---------------------|----------------------------|------------------|-------------------|

6. Sticky textures (e.g., peanut butter, honey)

|                      |                     |                            |                  |                   |
|----------------------|---------------------|----------------------------|------------------|-------------------|
| a. Extremely Dislike | b. Somewhat Dislike | c. Neither Like or Dislike | d. Somewhat like | e. Extremely Like |
|----------------------|---------------------|----------------------------|------------------|-------------------|

7. Crispy textures (e.g., fried foods, crackers)

|                      |                     |                            |                  |                   |
|----------------------|---------------------|----------------------------|------------------|-------------------|
| a. Extremely Dislike | b. Somewhat Dislike | c. Neither Like or Dislike | d. Somewhat like | e. Extremely Like |
|----------------------|---------------------|----------------------------|------------------|-------------------|

8. Grainy textures (e.g., Ground oatmeal, Berly)

|                      |                     |                            |                  |                   |
|----------------------|---------------------|----------------------------|------------------|-------------------|
| a. Extremely Dislike | b. Somewhat Dislike | c. Neither Like or Dislike | d. Somewhat like | e. Extremely Like |
|----------------------|---------------------|----------------------------|------------------|-------------------|

9. Slippery textures (e.g., noodles, jelly)

|                      |                     |                            |                  |                   |
|----------------------|---------------------|----------------------------|------------------|-------------------|
| a. Extremely Dislike | b. Somewhat Dislike | c. Neither Like or Dislike | d. Somewhat like | e. Extremely Like |
|----------------------|---------------------|----------------------------|------------------|-------------------|

### **C. Food Flavour**

10. How does your child respond to different flavors? Please use the scale below:

|                   |                      |                     |                            |                  |                   |
|-------------------|----------------------|---------------------|----------------------------|------------------|-------------------|
| <b>A. Sweet :</b> | a. Extremely Dislike | b. Somewhat Dislike | c. Neither Like or Dislike | d. Somewhat like | e. Extremely Like |
| <b>B. Sour:</b>   | a. Extremely Dislike | b. Somewhat Dislike | c. Neither Like or Dislike | d. Somewhat like | e. Extremely Like |
| <b>C. Salty:</b>  | a. Extremely Dislike | b. Somewhat Dislike | c. Neither Like or Dislike | d. Somewhat like | e. Extremely Like |
| <b>D. Bitter:</b> | a. Extremely Dislike | b. Somewhat Dislike | c. Neither Like or Dislike | d. Somewhat like | e. Extremely Like |

11. Does your child show interest in trying new flavors?

- a. Always                      b. Often                      c. Sometimes                      d. Rarely                      e. Never

12. Does your child's preference for specific flavors influence their food choices?

- a) Strongly Influences                      b) Moderately Influences                      c) Slightly Influences                      d) Does Not Influence

#### **D. Food Presentation**

13. Please indicate how much your child's preference is influenced by the presentation of the food

A. Colorful presentation (colorful food )

- a. Not Influenced at All                      b. Slightly Influenced                      c. Moderately Influenced                      d. Highly Influenced                      e. Extremely Influenced

B. Creative shapes or arrangements of food

- a. Not Influenced at All                      b. Slightly Influenced                      c. Moderately Influenced                      d. Highly Influenced                      e. Extremely Influenced

C. Food served in a fun container (e.g., colourful plate design)

- a. Not Influenced at All                      b. Slightly Influenced                      c. Moderately Influenced                      d. Highly Influenced                      e. Extremely Influenced

15. Does your child tend to eat more when the food is presented in a visually appealing manner?

- a. Yes, tends to eat more  
b. No, eating habits remain the same

#### **E. Food Preferences**

20. Please list three of your child's favorite foods or meals:

a) \_\_\_\_\_

b) \_\_\_\_\_

c) \_\_\_\_\_

21. Please list three foods or meals your child dislikes or refuses to eat:

a) \_\_\_\_\_

b) \_\_\_\_\_

c) \_\_\_\_\_

**F. Consent**

By completing this questionnaire, you are consenting to the use of the provided information for research purposes. Your responses will remain confidential.

\_\_\_\_\_

**Signature of the Participant with date**

17/05/2023

The Head

Department of Nutrition and Food Engineering

Daffodil International University

Daffodil Smart City, Birulia, Savar, Dhaka 1216, Bangladesh

Subject: Ethical Approval of Research Study

Dear Sir,

With due regards, I am Sadia Afrin, a student of the 192 batch; wish to submit the project titled "Assessment of parent reports of their preschool children's sensory food preferences" for ethical clearance.

I request you to kindly consider the project for review by the Ethical Committee. I shall be highly obliged for the same.

Kindly find attached the required documents regarding the project.

Sincerely,

*Sadia Afrin*

Sadia Afrin  
ID 192-34-942

*Permitted*  
*Niz*  
30.04.2024

## Appendix 2: Synopsis



### Daffodil International University

Department of Nutrition and Food Engineering (NFE) Faculty of Allied Health Sciences  
(FAHS)

Daffodil International University  
Daffodil Smart City, Birulia, Savar, Dhaka – 1216, Bangladesh

1. Student's Name: Sadia Afrin
2. ID: 192-34-942
3. Section: 192 (Day)

#### 1. Title:

**Assessment of parent reports of their preschool children's sensory food preference.**

#### 2. Introduction:

Sensory food preferences are particularly significant during the preschool years, typically spanning ages 2 to 6, as they often persist into adulthood. Understanding these preferences is crucial for promoting healthy eating and addressing issues like picky eating. This research focuses on how parents in Dhaka City perceive and report on their preschoolers' sensory food preferences. By examining parental perspectives on food textures, flavors, and presentations, it aims to inform interventions promoting nutritious eating habits among preschoolers in urban environments.

#### 3. Objectives:

The objectives of this study include exploring and parental perceptions and reporting of their young children's sensory food preferences, offering insight into dietary behaviors within an urban setting. By investigating parental views on food textures, flavors, and presentations, the research endeavors to guide interventions aimed at fostering healthy eating habits among preschoolers in specific institutions.

#### 4. Methodology:

This study, spanning from April 2023 to January 2024, focused on parents of preschoolers from three institutions. Using purposive sampling, 200 parents with children aged 2 to 6 were interviewed. Data collected through self-administered structured questionnaires underwent meticulous verification for integrity. Face-to-face interviews facilitated information gathering. SPSS Version-25.0 aided statistical analysis, presenting findings through tables, charts, and graphs.

#### 5. Expected Outcomes:

This study delves into parents' reports on children's food preferences to achieve multiple aims. It seeks to identify prevalent sensory food preferences, understand the factors influencing children's choices, and highlight opportunities for healthier eating. Additionally, the research aims to



develop targeted interventions for healthy habits, enhance mealtime experiences, support dietary diversity, and inform preschools for tailored food offerings, thereby fostering positive eating environments. Further research into underlying mechanisms can inform targeted interventions for balanced and nutritious diets from an early age.

## 6. Time Schedule of Activities:

Certainly, this table provides a clear overview of the tasks and their respective timeframes for completion.

| Task                                         | Activities by Months or Days (Starts to Ends) |    |    |   |    |   |    |   |   |    |    |    |
|----------------------------------------------|-----------------------------------------------|----|----|---|----|---|----|---|---|----|----|----|
|                                              | 1                                             | 2  | 3  | 4 | 5  | 6 | 7  | 8 | 9 | 10 | 11 | 12 |
| Literature research                          | ←→                                            |    |    |   |    |   |    |   |   |    |    |    |
| Study protocol and questionnaire development |                                               |    | ←→ |   |    |   |    |   |   |    |    |    |
| Ethical approval                             |                                               | ←→ |    |   |    |   |    |   |   |    |    |    |
| Data and sample collection phase             |                                               |    |    |   |    |   | ←→ |   |   |    |    |    |
| Data analysis & report writing               |                                               |    |    |   | ←→ |   |    |   |   |    |    |    |
| Report Submission                            | ←→                                            |    |    |   |    |   |    |   |   |    |    |    |

## 7. Reference:

- Brand, A., Gaudion, K., & Myerson, J. (2012). Exploring sensory preferences: Living environments for adults with autism. London, UK: Helen Hamlyn Centre for Design, Royal College of Art.
- Skinner, J.D. et al. (2002) 'Children's Food Preferences', Journal of the American Dietetic Association, 102(11), pp. 1638–1647. doi:10.1016/s0002-8223(02)90349-4.
- Sleeman, H. R., & Brown, T. (2022). An exploratory study of the relationship between typically-developing school-age children's sensory processing and their activity participation.
- Nekitsing, C., Hetherington, M.M. and Blundell-Birtill, P. (2018) 'Developing healthy food preferences in preschool children through taste exposure, sensory learning, and Nutrition Education', Current Obesity Reports, 7(1), pp. 60–67. doi:10.1007/s13679-018-0297-8.

Supervised by:

*Shamim*

**Md. Shamsur Rahman**

Senior Lecturer

Department of Nutrition and Food Engineering

Daffodil International University