

Picky eating and its associated factors among children in Asia

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ABSTRACT

The transition in eating behaviour from infancy to toddlerhood can pose challenges for parents who are unfamiliar with strategies to address picky eating habits. This review aims to provide comprehensive studies on picky eating among children in Southeast Asia and its associated factors. Recent data from UNICEF in 2020 reveals a concerning 28% prevalence of stunting among Asian children, highlighting the need to address these dietary concerns. The increase in picky eating behaviors is closely linked to a lack of awareness regarding fundamental aspects of healthy eating habits, including portion control, balanced nutrition, and essential dietary principles. Furthermore, there is a lack of reliable questionnaires to assess children's food preferences in a manner suitable for their age. Recent research across different regions of Asia were examined, revealing diverse eating behaviours in children that impact their nutritional intake and may contribute to eating disorders, such as picky eating. It is crucial for parents to closely monitor their children's picky eating habits to gain a better understanding of their nutritional needs. Additionally, several family factors are identified as contributors to picky eating, including inconsistent meal preparation routines resulting in irregular eating patterns. Irregular mealtimes can disrupt hunger cues, while neglecting household chores may indirectly impact children's eating habits by creating a stressful environment that discourages them from eating. Identifying associated factors concerning picky eating among children in Asia is vital to highlight the need for developing suitable strategies and interventions that can effectively cater to the diverse needs across the region.

Keywords: Children; picky eating; Asia; parental influence and feeding practices

INTRODUCTION

The prevalent concern among parents regarding their children's picky eating habits and potential nutritional deficiencies has emerged as a significant societal issue. Children naturally experience a developmental phase characterized by selective eating behaviors. While such behavior may not inherently impede a child's growth or nutritional intake, research underscores the importance of addressing persistent picky eating tendencies. Samuel et al. (2018) have highlighted the elevated risk of developing eating disorders associated with unmanaged picky eating, which can profoundly impact overall health. Moreover, empirical observations suggest that as children advance in age, they often exhibit decreased appetite, contributing to slower growth rates (Lee et al., 2019).

Malnutrition continues to be a persistent problem across Asia in various forms. According to the United Nations Children's Fund, World Health Organization, and World Bank Group (2021), 28% of children in Asia suffered from stunting, highlighting the urgent need to address nutritional deficiencies and improve dietary practices from early childhood. Eating habits have a significant impact on children's growth and are closely related to stunting when children lack adequate nutrition and wholesome food. Therefore, it is essential to understand the factors associated with children's picky eating habits to address unhealthy eating habits and implement interventions at an early age.

Considering the high usage of technology among children, it is important to implement interventions through preschool programs and social media platforms. Authoritative parenting, which involves active involvement from both parents, is crucial for preventing malnutrition and stunted development in children, ultimately enhancing their long-term well-being (Khanna et al., 2021). The goal of this study is to investigate the eating habits of Asian children and the factors associated with picky eating.

UNRAVELLING CHILDREN PICKY EATING TRENDS

Some previous studies have defined picky eating using the Child-Feeding Questionnaire (CFBQ) (Birch et al., 1987; Galloway et al., 2003, 2005) by assessing parental concerns regarding whether they perceive their children as picky eaters (Carruth et al., 2004). However, various interpretations of the theoretical perspective on children's picky eating may somewhat contradict the evolving definition of picky eating itself over time (Potts & Wardle, 1998). While several definitions of picky eating exist, most experts agree that it occurs when children refuse to eat food that is likely healthy for them and consistently consume only one type without attempting anything new (Dovey et al., 2008).

Food neophobia refers to a child's tendency to reject new or unfamiliar foods based on their visual appearance or taste. While this behavior may reduce the likelihood of consuming unhealthy foods, it could also lead to a restricted and inadequate diet. Studies have shown that picky eating is a risk factor for being underweight and experiencing poor growth, with a strong correlation to unhealthy eating patterns (Viljakainen et al., 2019). In fact, a sedentary lifestyle has been found to correlate with children's lack of healthy eating behaviors, emotional states, and daily routines, highlighting the importance of maintaining a balanced and varied diet.

It has been observed that picky eating behavior among children aged 2 and 4 years old during mealtime at home results in more food refusals and greater difficulty in feeding (Powell et al., 2017). This shows that meal structures and the environment also play a role in determining children as picky eaters. However, since there is no clear and widely accepted definition of picky eating, further research is needed to establish a definitive measure to identify several associated factors in determining picky eaters.

Understanding the developmental phases of picky eating

The phase of picky eating typically emerges in children between the ages of 1 to 3 years. Yet, precise determination of infants' dietary patterns during this period poses a challenge due to potential inaccuracies (Kauer et al., 2015). Similarly, Fernandez et al. (2020) identified distinct trajectories of picky eating among low-income children in the US, revealing that early patterns of pickiness can persist into later childhood, highlighting the importance of early interventions. Additionally, research by Chilman et al. (2021) suggests that picky eaters are influenced by intrinsic and extrinsic factors that impact caregiver responses. Unlike earlier studies, this research not only acknowledges the concept of picky eating in children but also categorizes it into various components, including characteristics, assessment tool usage, environmental factors, portrayal of a picky-eating child, and parental feeding practices. Sensory-related factors may also influence eating behaviour, as children who are sensitive to food textures and touch often reject certain foods, reinforcing persistent picky eating patterns (Smith et al., 2005).

Parents' ineffective use of basic feeding strategies often leads to young children under five years old being labelled as picky eaters (Saidah & Dewi, 2020). This habit of avoiding certain foods and meals among picky eaters can lead to stunting in children under five (Hermawati et al., 2020). A study conducted three phases to assess picky eaters among children aged 7 to 12. The first phase involved the development of a qualitative questionnaire, while the second phase validated the questionnaire. Finally, the third phase involved a quantitative taste sensitivity test. In contrast, Jani et al. (2020) employed a quantitative approach, utilizing two main questionnaires: the core-food Picky Eating Questionnaire (PEQ) and the Child-reported Food Preference Questionnaire (C-FPQ) to assess picky eaters among children aged 7 to 12.

It is important for parents to pay close attention to their children's eating habits, especially when it comes to consuming enough fruits and vegetables for a balanced diet as they grow up. Recent research shows that if left unaddressed from a young age, picky eating in children, which is characterized by low intake of raw vegetables, fruits, meat, fish, and dairy products, can have negative effects on children by the time they reach 14 years old (Pereboom et al., 2023).

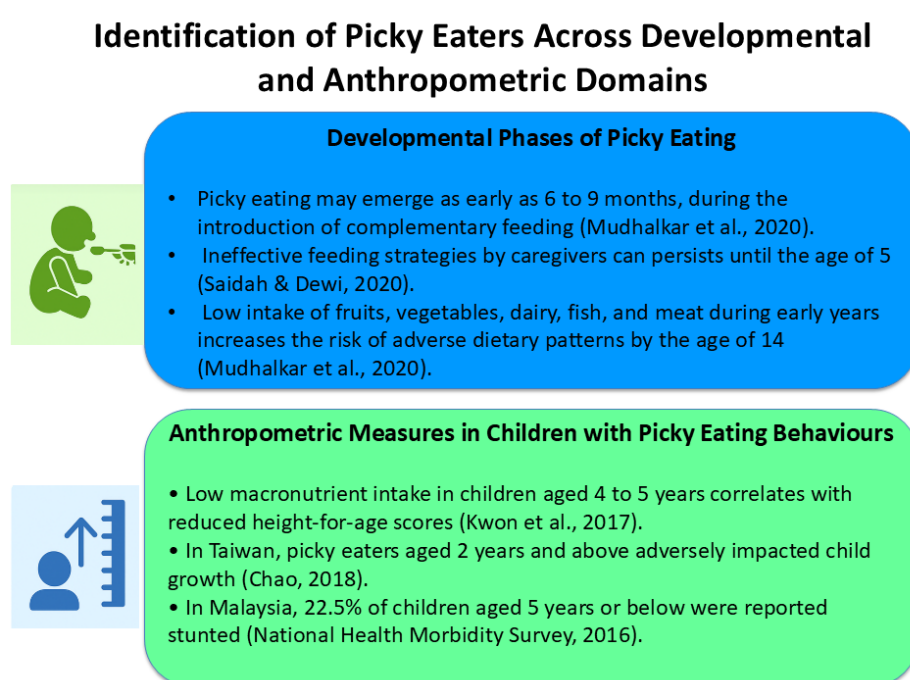
Exploring anthropometric measures in picky eaters

Anthropometric measurements serve as key indicators for identifying whether a child falls within the category of picky eaters. A study conducted in Seoul encompassed children aged 1 to 5 to assess their eating habits in relation to growth. Illustrated in Figure 1, findings revealed that 4 and 5-year-old children who exhibited food refusal tendencies had lower height-for-age, attributed to a poorer quality diet in terms of macronutrients (Kwon et al., 2017). Similarly, research conducted in China indicated that there was a high prevalence of fussy eating among toddlers aged 24 to 35 months, particularly when it came to vegetables (50.8%), meat (23.2%), and grains and grain products (10.7%) (Li et al., 2017). Vegetables were consistently rated as the most rejected food item among children, indicating a widespread pattern.

Picky eating emerges as a significant concern among pre-schoolers aged 2 to 4 years old, posing adverse effects on their development, growth, activity level, and overall health (Chao, 2018). Echoing recent findings by Logarajan et al. (2023), the 2016 National Health Morbidity Survey reported that 22.5% of Malay children aged 5 and below were stunted, necessitating prompt intervention. Consistent with prior research, inadequate nutrient intake and poor dietary habits were identified as primary contributors to childhood stunting. Therefore, it is imperative for parents to vigilantly monitor their children's eating behaviours to prevent the increase of eating disorders.

Figure 1

Identification of picky eaters



Notes: This figure illustrates the developmental timeline and contributing factors that help identify children categorized as picky eaters, based on age-specific behavioural traits and anthropometric measurements.

INVESTIGATING EATING PATTERNS AMONG ASIAN CHILDREN

Southeast Asia is renowned for its vibrant culinary and spice culture, owing to its rich history of spice trade (David & Kofahl, 2017). Despite this, there is a lack of research in Asia that focuses on children's picky eating behavior. Asian food traditions typically center around communal dining, with rice as the primary ingredient, accompanied by various condiments such as braised meats or chicken, curries, soups, and steamed vegetables (Tay et al., 2020). Moreover, due to its climate and geographical location, both wheat and rice are prevalent staple foods, ranging from regular rice to sticky and aromatic varieties (Santarita, 2022).

According to data from the Southeast Asian Nutrition Survey (SEANUTS), 56.1% of Malaysian youth have three main meals per day. Those who consume less frequent main meals tend to have lower micronutrient intake which can have a negative impact on their health (Chong et al., 2016). Furthermore, inadequate food intake during mealtime or irregular eating patterns can also lead to adverse effects. In Singapore, a study identified two dietary patterns: the "Unhealthy" cluster (43.9%) characterized by higher consumption of fries, processed meat, biscuits, and ice cream, and the "Healthy" cluster (56.1%) which preferred whole foods such as fish, fruits, and vegetables. However, broader epidemiological studies in Singapore have also pointed to the increasing prevalence of eating

disorders among children and adolescents, suggesting the potential progression of disordered eating habits from early picky eating behaviours (Chua et al., 2021). Similarly, research conducted in Japan involving 135 preschool children found that consuming vegetables at the beginning of meals was significantly associated with predicting a child's level of pickiness at a specific age (Yeung, 2022).

Parental impact on children's picky eating habits

Picky eating can be classified as a type of poor eating habit. Research conducted across Southeast Asian countries (Thailand, Vietnam, Singapore, Philippines, and Malaysia) shown in Figure 2 revealed unhealthy eating behaviors among children aged 2 to 12, particularly when their parents' feeding practices were non-responsive (Lindsay et al., 2017). Further insight from Pramesty et al. (2021) highlighted various factors influencing children's pickiness, including parental observation, education, income, and family size. Parental pressure on children aged 1 to 12 to eat well has been linked to the development of picky eating habits (Permatasari & Kurniawati, 2020). However, it remains unclear how picky eating affects children's nutritional status in terms of height and weight, as it may also reflect parental feeding practices (Yamborisut et al., 2018).

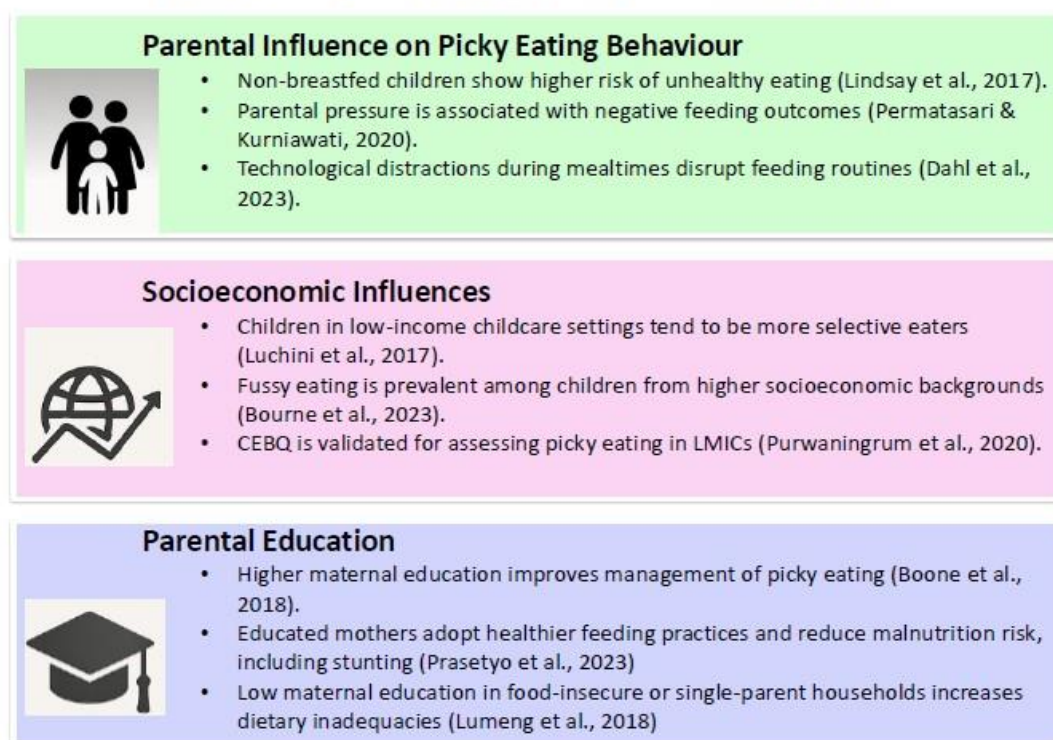
Recent studies examining the relationship between maternal feeding practices and children's body mass index (BMI) underscored the significance of parental influence. For instance, greater parental pressure on 5-year-olds was associated with lower BMI z-scores at age 6 (Quah et al., 2019). Additionally, a cross-sectional study evaluating children aged 1 to 7 found that severe food neophobia and picky eating were linked to a lack of healthy home food environments, emphasizing the role of parenting style and parental eating behavior in preschool-aged children's eating habits (Ariyanti et al., 2023). Moreover, parental history of picky eating may predict similar behavior in children (Mok et al., 2022), consistent with findings associating fussy eating with stunted growth in children under five (Hermawati et al., 2020).

Abnormally, some children struggle with consuming fruits and vegetables, preferring unhealthy options, underscoring the importance of addressing picky eating in childhood development. While time constraints and household chores may hinder meal planning and timely dining, parental observation remains crucial for understanding children's picky eating behaviors (Dahl et al., 2023).

Figure 2

Asia's children eating behaviour and associated parental factors.

Parental and Socioeconomic Factors Associated with Picky Eating in Asian Children



Notes: This figure summarizes the parental feeding styles and their influence on children's eating patterns across selected Southeast Asian countries.

Table 1

Summary of reviewed studies on parental influence on children's picky eating

No.	Author(s)	Year	Title	Pages	Main findings
1	Lindsay et al.,	2017	Non-responsive feeding practices, unhealthy eating behaviors, and risk of child overweight and obesity in Southeast Asia: A systematic review	1-18	The reviewed studies were analysed, considering both preschool- and school-aged children separately. The findings revealed a connection between parental feeding practices, child eating behaviours, and the risk of childhood overweight and obesity in various Southeast Asian countries.
2	Quah et al.,	2019	Longitudinal Analysis Between Maternal Feeding Practices and Body Mass Index (BMI): A Study in Asian Singaporean Preschoolers	1-13	Asian mothers tend to change how they feed their children based on their child's BMI, rather than the child's BMI changing because of how they're fed. This means they may adjust feeding practices in response to their child's weight, rather than the child's weight being influenced by how they're fed.
3	Hermawati et al.,	2020	Modeling Associated with Picky Eating Behavior on Stunted Children	84-89	All family members, knowingly or unknowingly, influence each other's food choices. They may model both healthy and unhealthy eating behaviours. For instance, parents might demonstrate healthy eating habits, but they could also unintentionally model unhealthy behaviours, such as emotional eating. Overall, the family environment significantly shapes individuals' dietary behaviours through the modelling of various food choices.
4	Permatasari & Kurniawati	2020	Peer support and the influence to student discipline	155-167	Parents often employ pressure to eat and restriction or control feeding practices in response to picky eating behaviour shown by their children, potentially impacting their eating habits, preferences, and attitudes towards food.
5	Pramesty et al.,	2021	Relationship Between Picky Eating and Nutritional Status in Preschool Children	201-209	Most children with picky eating habits are found to have normal nutritional status, suggesting no correlation between picky eating and nutritional status in preschool-age children. This may be attributed to the multifaceted nature of nutritional status, influenced not only by eating behaviours but also by factors such as parental monitoring of growth, parental education and occupation, family income, household structure, environmental hygiene, breastfeeding practices, nutrient intake, and various other factors.

Notes: This table compiles research evidence highlighting key findings on non-responsive feeding practices, parental pressure, and household factors influencing children's dietary behaviours.

Table 1 (continued)

Summary of reviewed studies on parental influence on children's picky eating

No.	Author(s)	Year	Title	Pages	Main findings
6	Mok et al.,	2022	Picky Eating Behaviour, Feeding Practices, Dietary Habits, Weight Status and Cognitive Function Among School Children in Kuala Lumpur, Malaysia	10-18	Approximately one third of the children were identified as picky eaters, showing reduced consumption of vegetables and fish, but increased intake of milk and dairy products, snacks, and fast food compared to non-picky eaters. Picky eaters tended to have a normal weight status based on weight-for-age, height-for-age, and BMI-for-age compared to non-picky eaters. They often belonged to households with other picky eaters and were frequently exposed to an instrumental feeding style by their parents. Additionally, picky eaters exhibited poorer cognitive function compared to their non-picky counterparts.
7	Ariyanti et al.,	2023	Factors Associated with Picky Eating in Preschool Children	8-11	The study findings did not reveal any significant association between exclusive breastfeeding history and picky eating among preschool-aged children. Nonetheless, a significant correlation emerged between parenting style and parental eating behaviour concerning picky eating tendencies in this demographic.
8	Dahl et al.,	2023	Dinner planning and preparation considerations of parents with children attending childcare.	2-10	Further investigation and interventions are needed to address the challenges of meal planning and preparation for working parents, with a focus on understanding the intricacies of meal provision tasks, navigating the time limitations for meal preparation, and implementing supportive measures.

Notes: This table compiles research evidence highlighting key findings on non-responsive feeding practices, parental pressure, and household factors influencing children's dietary behaviours.

Socioeconomic factors shaping children's picky eating preferences

It has been observed that children's eating habits differ between home-based and school-based childcare settings. Generally, those in home-based care tend to be pickier eaters compared to their peers in school-based care. This difference is thought to be due to the increased exposure school-going children must eating with their peers, which fosters a willingness to try new foods. To better understand children's eating behaviors, the Children Eating Behaviour Questionnaire was used to assess the nutritional needs of children in Low- and Middle-income Countries (LMICs). The results showed that an eight-subscale Confirmatory Factor Analysis Model effectively captured children's picky eating behaviors with a 90% confidence interval.

According to a recent study by Bourne et al. (2023), children from households with lower socioeconomic status tend to be fussy eaters more often. This is likely due to limited access to affordable and healthy food options. However, parents can join forces with schoolteachers to address this issue and help their children develop healthier eating habits. School programs that promote healthy eating habits and expand children's food preferences can be helpful, as well as broader health initiatives led by societal organizations and governmental health ministries. These initiatives may include community-based workshops, nutritional education campaigns, and initiatives that aim to increase access to affordable and nutritious foods for families. All these efforts play a crucial role in promoting positive eating behaviors and supporting children's overall health and well-being.

Factors of parental education and its influence on children's picky eating behaviour

As mothers achieve higher levels of education, they tend to show greater proficiency in managing their children's picky eating behaviors, as observed in the study. This educational advantage seems crucial for children hailing from food-insecure households, where larger family sizes, single-parent households, or even the absence of parents are more common. Moreover, these children often belong to families where parental education levels are secondary or below, and the primary caregiver is frequently not employed, resulting in household incomes falling within the lowest quartile, as highlighted in the research conducted by Chen and Yeung (2024).

Furthermore, the significance of maternal education extends beyond addressing picky eating behaviour. Their findings indicate that mothers who have received a higher education tend to adopt healthier nutritional practices, thereby reducing the likelihood of stunting in children. This highlights the essential role of maternal education in managing picky eating behaviors and promoting overall child health and well-being.

CONCLUSION

This article explores the common misunderstanding of picky eating behaviour among children in Asian communities. Its aim is to shed light on the challenges of this issue and its potential consequences for children's health and development. One of the key points emphasized is the critical importance of addressing picky eating habits early on to prevent the emergence of more serious eating disorders that could have long-term implications for children's growth and nutritional well-being.

The article presents research findings from contemporary studies and historical investigations to provide a comprehensive understanding of picky eating behavior. By presenting diverse literature, the article attempts to unravel the complex interplay of factors that contribute to picky eating across different age groups and cultural contexts. It portrays various instances of picky eating and delves into the underlying psychological, social, and environmental influences that shape children's attitudes and behaviors towards food.

Despite efforts to define picky eating, it remains subjective and varies among individuals. This article aims to highlight the diverse range of experiences and challenges faced by children and families dealing with picky eating behaviors. Through a thorough examination of existing research, we hope to shed light on the issue and provide insights on how to cope with it.

The article stresses the importance of creating awareness and providing support to parents and caregivers in dealing with picky eating behaviors. It advocates for the implementation of interventions that foster a positive and nurturing feeding environment. This, in turn, helps to promote healthy attitudes towards food and encourages children to explore and accept a diverse range of food options from an early age.

In conclusion, this article serves as a call to action for researchers, healthcare professionals, and policymakers to prioritize the issue of picky eating and invest in strategies that support the nutritional health and well-being of children in Asian communities and beyond. By addressing picky eating behaviour early and holistically, we can lay the groundwork for a future where all children can thrive and enjoy a healthy relationship with food.

AUTHOR CONTRIBUTIONS

Nur Shahirah Mohd Tahir was responsible for the conceptualisation, literature review, and drafting of the manuscript. Seok Tyug Tan provided methodological consultation and contributed to the review and editing of the manuscript. Yeow Nyin Ang was involved in the review and editing process. Maisarah Abdul Mutalib supervised the project and contributed to the manuscript's review, editing and final approval.

ETHICS APPROVAL

This study was approved by the Research Ethics Committee of Management and Science University, approval code: MSU-RMC-02/FR01/01/L1/031

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CONFLICTS OF INTEREST

The authors declare no conflict of interest in this work.

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REFERENCES

- Ariyanti, F. W., Fatmawati, A., & Sari, I. P. (2023). Factors Associated with Picky Eating in Preschool Children. *Amerta Nutrition*, 7(1SP), 8–11.
<https://doi.org/10.20473/amnt.v7i1sp.2023.8-11>
- Birch, L. L., McPhee, L., Shoba, B. C., Pirok, E., & Steinberg, L. (1987). What kind of exposure reduces children's food neophobia?: Looking vs. tasting. *Appetite*, 9(3), 171–178.
[https://doi.org/10.1016/S0195-6663\(87\)80011-9](https://doi.org/10.1016/S0195-6663(87)80011-9)
- Bourne, L., Bryant-Waugh, R., Mandy, W., & Solmi, F. (2023). Investigating the prevalence and risk factors of picky eating in a birth cohort study. *Eating Behaviors*, 50, 101780.
<https://doi.org/10.1016/j.EATBEH.2023.101780>
- Carruth, B. R., Ziegler, P. J., Gordon, A., & Barr, S. I. (2004). Prevalence of picky eaters among infants and toddlers and their caregivers' decisions about offering a new food. *Journal of the American Dietetic Association*, 104(SUPPL. 1), 57–64.
<https://doi.org/10.1016/j.JADA.2003.10.024>
- Chao, H. C. (2018). Association of picky eating with growth, nutritional status, development, physical activity, and health in preschool children. *Frontiers in Pediatrics*, 6(February), 1–9.
<https://doi.org/10.3389/fped.2018.00022>
- Chen, X., & Yeung, W.-J. J. (2024). How food insecurity affects children's behavior problems in early childhood: The nutrition and family stress pathways. *PLOS ONE*, 19(1), e0294109.
<https://doi.org/10.1371/journal.pone.0294109>
- Chilman, L., Kennedy-Behr, A., Frakking, T., Swanepoel, L., & Verdonck, M. (2021). Picky eating in children: A scoping review to examine its intrinsic and extrinsic features and how they relate to identification. *International Journal of Environmental Research and Public Health*, 18(17).
<https://doi.org/10.3390/ijerph18179067>
- Chong, K. H., Wu, S. K., Noor Hafizah, Y., Bragt, M. C. E., & Poh, B. K. (2016). Eating habits of Malaysian children: Findings of the South East Asian Nutrition Surveys (SEANUTS). *Asia-Pacific Journal of Public Health*, 28(5), 59S–73S.
<https://doi.org/10.1177/1010539516654260>
- Chua, S. N., Fitzsimmons-Craft, E. E., Austin, S. B., Wilfley, D. E., & Taylor, C. B. (2021). Estimated prevalence of eating disorders in Singapore. *International Journal of Eating Disorders*, 54(1), 7–18.
<https://doi.org/10.1002/eat.23440>
- Dahl, A. A., Mayfield, M., Fernandez-Borunda, A., Butts, S. J., Grafals, M., & Racine, E. F. (2023). Dinner planning and preparation considerations of parents with children attending childcare. *Appetite*, 180, 106332.
<https://doi.org/10.1016/j.APPET.2022.106332>
- David, W., & Kofahl, D. (2017). *Food Culture of Southeast Asia: Perspective of Social Science and Food Science*. Kassel University Press.
<https://books.google.com.my/books?id=R0smDwAAQBAJ>
- Dovey, T. M., Staples, P. A., Gibson, E. L., & Halford, J. C. G. (2008). Food neophobia and “picky/fussy” eating in children: A review. *Appetite*, 50(2–3), 181–193.
<https://doi.org/10.1016/j.appet.2007.09.009>
- Fernandez, C., McCaffery, H., Miller, A. L., Miller, A. L., Kaciroti, N., Lumeng, J. C., Lumeng, J. C., Lumeng, J. C., & Pesch, M. H. (2020). Trajectories of picky eating in low-income US children. *Pediatrics*, 145(6).
<https://doi.org/10.1542/peds.2019-2018>
- Galloway, A. T., Fiorito, L., Lee, Y., & Birch, L. L. (2005). Parental pressure, dietary patterns, and weight status among girls who are “picky eaters.” *Journal of the American Dietetic Association*, 105(4), 541–548.
<https://doi.org/10.1016/j.JADA.2005.01.029>
- Galloway, A. T., Lee, Y., & Birch, L. L. (2003). Predictors and consequences of food neophobia and pickiness in young girls. *Journal of the American Dietetic Association*, 103(6), 692–698.
<https://doi.org/10.1053/JADA.2003.50134>
- Hermawati, B., Handayani, O. W., Umma, D., & Seftiani, A. (2020). *Modeling associated with picky eating behavior on stunted children*.
<https://doi.org/10.4108/eai.22-7-2020.2300257>
- Jani, R., Byrne, R., Love, P., Agarwal, C., Peng, F., Yew, Y. W., Panagiotakos, D., & Naumovski, N. (2020). The environmental and bitter taste endophenotype determinants of picky eating in Australian school-aged children 7–12 years—a cross-sectional pilot study protocol. *International Journal of Environmental Research and Public Health*, 17(5), 1–14.
<https://doi.org/10.3390/ijerph17051573>
- Kauer, J., Pelchat, M. L., Rozin, P., & Zickgraf, H. F. (2015). Adult picky eating: Phenomenology, taste sensitivity, and psychological correlates. *Appetite*, 90, 219–228.
<https://doi.org/10.1016/j.appet.2015.03.001>
- Khanna, D., Yalawar, M., Saibaba, P. V., Bhatnagar, S., Ghosh, A., Jog, P., Khadilkar, A. V., Kishore, B., Paruchuri, A. K., Pote, P. D., Mandyam, R. D., Shinde, S., Shah, A., & Huynh, D. T. T. (2021). Oral nutritional supplementation improves growth in children at malnutrition risk and with picky eating behaviors. *Nutrients*, 13(10), 1–15.
<https://doi.org/10.3390/nu13103590>

- Kwon, K. M., Shim, J. E., Kang, M., & Paik, H. Y. (2017). Association between picky eating behaviors and nutritional status in early childhood: Performance of a picky eating behavior questionnaire. *Nutrients*, 9(5).
<https://doi.org/10.3390/nu9050463>
- Lee, W. S., Tee, C. W., Tan, A. G., Wong, S. Y., Chew, K. S., Cheang, H. K., Lim, T., Lum, L. C., & Aw, M. M. (2019). Parental concern of feeding difficulty predicts poor growth status in their child. *Pediatrics and Neonatology*, 60(6), 676–683.
<https://doi.org/10.1016/j.pedneo.2019.04.004>
- Li, Z., van der Horst, K., Edelson-Fries, L. R., Yu, K., You, L., Zhang, Y., Vinyes-Pares, G., Wang, P., Ma, D., Yang, X., Qin, L., & Wang, J. (2017). Perceptions of food intake and weight status among parents of picky eating infants and toddlers in China: A cross-sectional study. *Appetite*, 108, 456–463.
<https://doi.org/10.1016/j.appet.2016.11.009>
- Lindsay, A. C., Sitthithongkram, S., Greaney, M. L., Wallington, S. F., & Ruengdej, P. (2017). Non-responsive feeding practices, unhealthy eating behaviors, and risk of child overweight and obesity in southeast asia: A systematic review. *International Journal of Environmental Research and Public Health*, 14(4), 1–18.
<https://doi.org/10.3390/ijerph14040436>
- Logarajan, R. D., Nor, N. M., Ibrahim, S., & Said, R. (2023). Social determinants of stunting in Malay children aged <5 years in Malaysia. *Nutrition*, 111, 1–8.
<https://doi.org/10.1016/j.nut.2023.112030>
- Luchini, V., Musaad, S., Lee, S. Y., & Donovan, S. M. (2017). Observed differences in child picky eating behavior between home and childcare locations. *Appetite* (116), 123–131.
<https://doi.org/10.1016/j.appet.2017.04.021>
- Lumeng, J. C., Miller, A. L., Appugliese, D., Rosenblum, K., & Kaciroti, N. (2018). Maternal feeding practices and children's picky eating behaviors: A longitudinal study. *Appetite* (123), 246–251.
<https://www.scrip.org/journal/paperinformation?paperid=93582>
- Mok, K. T., Tung, S. E. H., & Kaur, S. (2022). Picky Eating Behaviour, Feeding Practices, Dietary Habits, Weight Status and Cognitive Function Among School Children in Kuala Lumpur, Malaysia. *Malaysian Journal of Medicine and Health Sciences*, 18(4), 10–18.
https://medic.upm.edu.my/upload/dokumen/2022071815190403_MJMHS_0962.pdf
- Mudholkar, A., Korostenski, L., Blackwell, D., & Lane, A. E. (2023). Factors associated with the early emergence of atypical feeding behaviours in infants and young children: A scoping review. *Child: Care, Health and Development*, 49(1), 1–19.
<https://doi.org/10.1111/cch.13005>
- National Health and Morbidity Survey (NHMS) 2016. Maternal and child health (Vol. II: Findings). *Ministry of Health Malaysia*.
<https://iku.moh.gov.my/images/IKU/Document/REPORT/2016/NHMS2016ReportVolumeII-MaternalChildHealthFindingsv2.pdf>
- Pereboom, J., Thijs, C., Eussen, S., Mommers, M., & Gubbels, J. S. (2023). Association of picky eating around age 4 with dietary intake and weight status in early adulthood: A 14-year follow-up based on the KOALA birth cohort study. *Appetite*, 188(June), 106762.
<https://doi.org/10.1016/j.appet.2023.106762>
- Permatasari, S. M., & Kurniawati, F. (2020). Peer support and the influence to student discipline. *Psycho Idea*, 18(2), 155.
<https://doi.org/10.30595/psychoidea.v18i2.6293>
- Potts, H. W. W., & Wardle, J. (1998). The list heuristic for studying personality correlates of food choice behaviour: A review and Results from Two Samples. *Appetite*, 30(1), 79–92.
<https://doi.org/10.1006/APPE.1997.0087>
- Powell, F., Farrow, C., Meyer, C., & Haycraft, E. (2017). The importance of mealtime structure for reducing child food fussiness. *Maternal and Child Nutrition*, 13(2), 1–8.
<https://doi.org/10.1111/mcn.12296>
- Pramesty, R. A., Yunitasari, E., & Puspitasari, D. (2021). Relationship between picky eating and nutritional status in preschool children. *Indonesian Midwifery and Health Sciences Journal*, 4(3), 201–209.
<https://doi.org/10.20473/imhsj.v4i3.2020.201-209>
- Prasetyo, Y. B., Permatasari, P., & Susanti, H. D. (2023). The effect of nutrition education on mothers' knowledge and attitudes in preventing stunting in toddlers. *Food and Nutrition Sciences*, 14(3), 213–222.
<https://doi.org/10.4236/fns.2023.143013>
- Purwaningrum, D. N., Arcot, J., Hadi, H., Hasnawati, R. A., Rahmita, R. S., & Jayasuriya, R. (2020). A cultural adaptation and validation of a child eating behaviour measure in a low- And middle-income country. *Public Health Nutrition*, 23(11), 1931–1938.
<https://doi.org/10.1017/S136898001900510X>
- Quah, P. L., Fries, L. R., Chan, M. J., Fogel, A., McCrickerd, K., Goh, A. T., Aris, I. M., Lee, Y. S., Pang, W. W., Basnyat, I., Wee, H. L., Yap, F., Godfrey, K. M., Chong, Y. S., Lynette, L. P., Tan, K. H., Forde, C. G., & Chong, M. F. F. (2019). Validation of the children's eating behavior questionnaire in 5 and 6 year-old children: The GUSTO Cohort Study. *Frontiers in Psychology*, 10(APR), 1–9.
<https://doi.org/10.3389/fpsyg.2019.00824>
- Saidah, H., & Dewi, R. K. (2020). *Relationship between basic feeding rule applied by parents and eating difficulties of children under five years of age in Kediri, East Java*.
<https://doi.org/10.26911/the7thicph.03.81>
- Samuel, T. M., Musa-Veloso, K., Ho, M., Venditti, C., & Shahkhalili-Dulloo, Y. (2018). A narrative review of childhood picky eating and its relationship to food intakes, nutritional status, and growth. *Nutrients*, 10(12), 1–30.
<https://doi.org/10.3390/nu10121992>
- Santarita, J. (2022). Beyond Eating: Theorizing the Trinitas of Food in Southeast Asia. *Scientia - The International Journal on the Liberal Arts*, 11(2), 1–17.
<https://doi.org/10.57106/scientia.v11i2.1>

- Smith, A. M., Roux, S., Naidoo, N. T., & Venter, D. J. L. (2005). Food choices of tactile defensive children. *Nutrition*, 21(1), 14–19.
<https://doi.org/10.1016/j.nut.2004.09.004>
- Tay, W., Kaur, B., Quek, R., Lim, J., & Henry, C. J. (2020). Current developments in digital quantitative volume estimation for the optimisation of dietary assessment. *Nutrients*, 12(4), 8–15.
<https://doi.org/10.3390/nu12041167>
- United Nations Children's Fund, Organization, W. H., & Bank, W. (2021). *Levels and trends in child malnutrition; UNICEF/WHO/World Bank Group-Joint child malnutrition estimates 2021 edition*. 32.
<https://data.unicef.org/resources/jme-report-2021/>
- Viljakainen, H. T., Figueiredo, R. A. O., Rounge, T. B., & Weiderpass, E. (2019). Picky eating – A risk factor for underweight in Finnish preadolescents. *Appetite*, 133(March 2018), 107–114.
<https://doi.org/10.1016/j.appet.2018.10.025>
- Yamborisut, U., Visetchart, P., Thasanasuwan, W., Srichan, W., & Unjana, R. (2018). Parental feeding practice is associated with child's body mass index in Thai school-aged children: A case study in Don Tum district, Nakhon Pathom, Thailand. *Journal of Health Research*, 32(1), 82–94.
<https://doi.org/10.1108/JHR-11-2017-010>
- Yeung, W.-J. J. (2022). Demographic and Family Transition in Southeast Asia. *Demographic and Family Transition in Southeast Asia*, 99–108.
<https://doi.org/10.1007/978-3-030-85679-3>

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