

## Factors predicting young children's purchase requests for food

**Dora Gaeša**

University of Zagreb/Faculty of Economics and Business

**Ruzica Brecic**

University of Zagreb, Faculty of Economics and Business

**Luca Panzone**

Newcastle University, School of Natural and Environmental Sciences

### Acknowledgements:

This research was supported by Croatian Science Foundation through the project "Math Attids" (PZS-2019-02-9814).

### Cite as:

Gaeša Dora, Brecic Ruzica, Panzone Luca (2022), Factors predicting young children's purchase requests for food. *Proceedings of the European Marketing Academy*, 50th, (111774)

Paper from the EMAC Regional 2022 Conference, Kaunas, Lithuania, September 21-23, 2022



## **Factors predicting young children's purchase requests for food**

### **Abstract:**

Children exert great influence on family purchases of food. Hence, it is important to understand how different factors predict children's purchase requests for food. This study investigated if food attitudes, media exposure, and food neophobia can predict purchase requests for food of young children ( $N=88$ ; ages 4–12), concerning age differences. Overall, all factors predicted children's purchase requests for food. Results further indicate that among younger children, only food neophobia predicted purchase requests for food. Food attitudes and media exposure predicted older children's purchase requests for food. Potential implications related to these age differences were identified and discussed.

*Keywords: children, purchase requests, age differences*

## **1. Introduction**

In modern economies, children have an important role in shaping the preferences of the household they live in (Albani, Butler, Traill, & Kennedy, 2018). Families make purchase decisions under the direct and indirect influence of children: they either verbally request products or parents make purchasing decisions based on children's preferences (Kaur & Singh, 2006). Notably, children play a particularly important role in food purchases (Vohra & Soni, 2015). According to Hunter (2002), they exert influence on approximately 80% of family purchases of food. Moreover, two-thirds of parents buy food accompanied by children (Drenten, Peters, & Thomas, 2008:832). Children, as regular supermarket visitors, actively participate in the selection and purchase of food by developed negotiation skills (Vohra & Soni, 2015). Probably, most readers of this article will have experienced situations where children strongly request the purchase of certain products or object to eating others.

Previous research on the factors influencing children's purchase requests for food revealed that in-store food promotions (e.g., product packages, the position of attractive packages on shelves), how often children shop for food along with their parents (Vohra & Soni, 2015), children's exposure to TV food ads (Lawlor & Prothero, 2011), sensory characteristics of food (Dallazen & Medeiros Rataichesk Fiates, 2014), and frequent consumption of unhealthy foods (Pettigrew, Jongenelis, Miller, & Chapman, 2017) all positively related to purchase requests for food during a shopping trip. Yet, the literature presents a rather limited understanding of children as actively influencing the household consumption process by manifesting their preferences.

This paper focuses on children's purchase requests for food and seeks to identify factors that predict these requests, with attention to food attitudes, media exposure, and food neophobia. While these factors have been previously linked to other food-related behaviors such as food choices and consumption (Cornwell, Setten, Paik, & Pappu, 2020; Marty, Nicklaus, Miguët, Chambaron, & Monnery-Patris, 2018; Proserpio et al., 2020; see Smith, Kelly, Yeatman, & Boyland, 2019), there is a lack of evidence regarding their relation to purchasing requests for food. Secondly, the paper investigates age differences in these relations. Children's purchase requests depend on age, with older children influencing families' purchase of food more than younger (see Vohra & Soni, 2015). However, there is little knowledge on how the relation of children's purchase requests for food with food attitudes, media exposure, and food neophobia may vary across different age groups, particularly among children in the perceptual and analytical stage of consumer socialization.

## **2. Literature Review**

The development of children as consumers follows their cognitive and social development and is described by stages commonly referred to as consumer socialization (John, 1999). There are three stages of development: perceptual (ages 3-7), analytical (ages 7-11), and reflective (ages 11-16). The first two stages are particularly important for this research since most changes in consumer development occur during the transition from the perceptual to the analytical stage. Children in the analytical stage have a greater ability in information processing, can consider more than one perceptual attribute, and have a greater ability to influence and negotiate with others compared to children in the perceptual stage (John, 1999). What is particularly interesting from the perspective of purchase requests, children in the perceptual stage verbally express purchase requests with methods such as begging and

whimpering, while children in the analytical stage use more sophisticated methods such as persuasion and negotiation.

Children more frequently request the purchase of unhealthy foods than healthy ones (Dallazen & Medeiros Rataichesk Fiates, 2014). It is well documented that children have a greater tendency to accept and consume foods high in salt and sugar because of their innate predisposition for such tastes rather than fruits and vegetables that have a bitter or sour taste (Birch & Fisher, 1998). This draws attention to investigating the role of children's food preferences and attitudes in predicting purchase requests for food. It can be assumed that children's purchase requests for unhealthy food reflect their food preferences and attitudes, that is that children's food preferences and attitudes will predict their purchase requests for food. Additionally, younger children hold more positive attitudes toward unhealthy foods than older children (van der Heijden, de Molder, de Graaf, & Jager, 2020). Hence, we expect that the effect of food attitudes on purchase requests for food will be stronger among younger children than older.

Previous research has demonstrated a positive relation between children's purchase requests for food and tv advertising exposure (Dallazen & Medeiros Rataichesk Fiates, 2014). This positive relation could reflect a high prevalence of advertisements for unhealthy foods (Marshall & O'Donohoe, 2010). Given the massive spread of children's use of devices (e.g. smartphones) nowadays (Lukavska et al., 2021), children are being exposed to media even more. Children are surrounded by food advertisements that could in turn influence their purchase requests for food. Accordingly, children's media exposure could predict purchase requests for food: Buijzen and Valkenburg (2003) found this effect stronger among younger children than among older. On the other hand, children only from the age of seven begin to understand the intent of advertising (John, 1999). Hence, we cannot predict whether the effect of media exposure on purchase requests for food will be stronger among older or younger children.

Food neophobia, the fear or avoidance of trying new foods (Birch & Fisher, 1998), negatively affects children's food choices and consumption (see Laureati et al., 2015). Given that children with high levels of food neophobia consume fewer certain foods, such as fruits and vegetables than children with low levels of food neophobia, we expect that higher levels of food neophobia will positively affect purchase requests for food. After reaching a peak at the age of 2–6 years, food neophobia decreases and stabilizes over time (see Laureati et al., 2015). Hence, it is proposed that food neophobia will affect purchase requests for food among younger children, whereas the effect will vanish among older children.

### **3. Methodology**

Data collection took place in two supermarkets of Croatian leading retail chain Konzum, both of which are located in Zagreb. In total, data were fully collected for 88 children (4-12-year-olds; mean age = 7.63 years). The sample comprised 57 girls and 31 boys. Children's purchase requests for food, food attitudes, media exposure, and food neophobia data were collected. The researcher gave verbal instructions to the children throughout filling out the questionnaires. All questionnaires were presented to a child on a tablet. Given the cognitive abilities of children in this sample, parents completed a questionnaire on media exposure. Additionally, parents provided data on their children's age. Parents agreed that they and their children participate in the research with written consent, while children agreed to participate with oral consent.

### 3.1. Purchase requests for food

Children were asked to indicate how often they ask their parents for food shown in the pictures on a 3-point scale (*never*=0, *sometimes*=1, *often*=2). The scale consists of 8 items: four items showed pictures of healthy foods (apple, broccoli, fish, salad), and four unhealthy foods (pizza, donuts, fries, and chips). All of the chosen healthy foods are available for purchase in Croatia throughout the year (e.g. some varieties of apples are always available). Measurement of children's purchase requests for food was adopted from Buijzen and Valkenburg (2003).

The score for purchase requests for food was computed by summing the four healthy food items, and then four unhealthy food items. After that, the mean score for healthy food was calculated, as well as for unhealthy food. The final score was calculated by subtracting the mean of the four healthy food requests and the mean of four unhealthy food requests. Positive scores indicated more frequent requests for healthy food, and negative scores indicated more frequent requests for unhealthy food.

### 3.2. Food attitude

Children completed a variant of the forced-choice categorization task developed by Monnery-Patris, Marty, Bayer, Nicklaus, and Chambaron (2016), and Marty, Chambaron, Bournez, Nicklaus, and Monnery-Patris (2017) to measure their food attitudes toward healthy and unhealthy food. The scale consists of 8 questions asking children to rate how much they like the food shown in the pictures. The same pictures of healthy and unhealthy food as in the food purchase requests scale were used. Children were provided with four response options: I really dislike this food (1), I neither like nor dislike this food (2), I really like this food (3), and I have never tried this food (0). Each response option was followed up by an emoji face representing (dis)liking.

The food attitude score was computed in two steps. First, the values of four healthy food ratings and the values of four unhealthy food ratings were summed separately. After that, the mean of the healthy food ratings and the mean of unhealthy food ratings were calculated. The final score of purchase requests for food was calculated by subtracting the mean of the four healthy food requests and the mean of four unhealthy food requests. Positive scores indicated a positive healthy food attitude, and negative scores indicated a positive unhealthy food attitude.

### 3.3. Media exposure

To assess children's exposure to media, we utilized a measurement developed and validated by Lukavska et al. (2012). Parents were asked to indicate how much time during the average weekday and average weekend day their child spent in front of a screen. Ratings were made for four devices with screens: smartphone or tablet, computer, gaming console, and television. Parents indicated the average time spent in front of a screen on a scale: 0 (0 min per day), 1 (less than 30 min per day), 2 (30 min–1 h per day), 3 (1–2 h per day), 4 (2–3 h per day), 5 (3–4 h per day), and 6 (more than 4 h per day).

Parents' answers were coded in such a way that middle values of the range were taken for each answer (e.g. less than 30 min per day was calculated as 0.25 h, 1–2 h per day was calculated as 1.5 h). The media exposure score was computed by summing all the coded values for the time spent in front of the screen on the average weekday and the average weekend day. Those values were then averaged, resulting in the score of the estimate of daily average media exposure.

### 3.4. Food neophobia

The food neophobia scale developed and validated by Laureati et al. (2015) and Proserpio et al. (2020) was used to measure the level of food neophobia in children. The scale consists of 4 items representing neophobic attitudes and 4 items representing neophilic attitudes. Children were asked to rate the degree of agreement with the statements on a 5-point Likert scale. Response options were “very false for me” (1), “false for me” (2), “so and so” (3), “true for me” (4), and “very true for me” (5). Four statements representing neophilic attitudes were reverse-coded. The final score for food neophobia was calculated as an average of all 8 statements.

### 3.5. Age differences

To examine age differences, children were divided into two subgroups depending on the stage of consumer socialization. The group of younger children consisted of children in the perceptual stage, with 4–7 years ( $N = 34$ ). The group of older children consisted of children in the analytical stage, from 7–11 years ( $N = 54$ ). Descriptive statistics of variables, separately for younger and older children, are presented in Table 1.

## 4. Results

### 4.1. Univariate tests

Overall, results showed that children requested more unhealthy food than healthy food when purchasing food, and this was true for both younger children,  $t(33) = -2.73$ ,  $p = .01$ , and older children,  $t(53) = -3.09$ ,  $p < .01$ . An independent samples  $t$ -test was conducted to test the difference between younger and older children. Results showed no significant difference between younger and older children,  $p = .99$ .

Younger children had more positive attitudes towards unhealthy food than healthy food,  $t(33) = -5.46$ ,  $p < .001$ ; the same results occurred for older children,  $t(53) = -4.25$ ,  $p < .001$ . Follow-up independent samples  $t$ -test revealed there was no significant difference between younger and older children in their food attitudes,  $p = .23$ .

In terms of media exposure, an independent samples  $t$ -test showed a significant difference between younger and older children,  $t(53) = -2.40$ ,  $p < .05$ , suggesting that older children spent more time in front of a screen than younger ones.

Results of an independent samples  $t$ -test showed no significant difference between younger and older children in their level of food neophobia,  $p > .05$ .

Variable	Younger ( $N=34$ ) vs. older children ( $N=54$ )	Mean	Standard deviation	Range
Purchase requests for food	Younger children	-.29	.63	2.25
	Older children	-.30	.71	3.00
Food attitudes	Younger children	-.66	.71	3.00
	Older children	-.46	.79	3.75
Media exposure	Younger children	3.13	2.40	11.75
	Older children	4.36	2.30	13.25
Food neophobia	Younger children	2.58	.63	3.00
	Older children	2.67	.72	3.50

Table 1: Descriptive statistics

#### 4.2. Relationship between attitudes, media exposure, food neophobia, and purchase requests

Children’s purchase requests for food strongly and positively correlated with food attitudes,  $r = .54, p < .001$ , and moderately and negatively with media exposure,  $r = -.26, p < .05$ , and food neophobia,  $r = -.35, p = .001$ . Children’s food attitudes correlated with food neophobia,  $r = -.31, p < .01$ , and this correlation was moderate and negative.

#### 4.3. Factors linked to purchase requests for food

A multiple regression analysis was conducted to determine if food attitudes, media exposure, and food neophobia affect purchase requests for food (Table 2). Food attitudes had a significant, positive effect on purchase requests for food indicating that the more children like healthy foods, the more they request the purchases of healthy food (the same goes for unhealthy food). Media exposure had a negative effect on purchase requests for food suggesting that the more time children spend in front of a screen, the more they request purchases of unhealthy food. The negative effect of food neophobia on purchase requests of food was also found, implying that children with higher levels of food neophobia request more purchases of unhealthy food. These results are in accordance with our predictions.

	Unstandardized Coefficient		Standardized Coefficient	<i>t</i>	<i>p</i>
	B	SE	$\beta$		
Food Attitudes	.408	.080	.463	5.113	.000
Media Exposure	-.063	.024	-.225	-2.611	.011
Food Neophobia	-.198	.089	-.202	-2.231	.028

Table 2: Linear Regressions predicting Purchase Requests for Food

#### 4.4. Younger vs. Older Children

A final stage examines if the effect of food attitudes, media exposure, and food neophobia on purchase requests for food changes depending on children’s age. A multiple regression analysis with purchase requests for food as a criterion was repeated. First, the overall regression for younger children was statistically significant,  $F(3, 30) = 7.61, p = .001, R^2 = .43$ . Food neophobia had a significant effect on purchase requests for food among younger children,  $\beta = -.54, p < .01$ . This is in accordance with our prediction that the effect of food neophobia on purchase requests for food will be evident only among younger children. No such effect was evident regarding food attitudes and media exposure. Second, the overall regression for older children was also statistically significant,  $F(3, 50) = 12.83, p < .001, R^2 = .44$ . It was found that food attitudes of older children had a significant effect on purchase requests for food,  $\beta = .51, p < .001$ . This was the opposite of our prediction that the effect will be evident among younger children. It was also found that media exposure had a significant effect on purchase requests for food among older children,  $\beta = -.08, p < .05$ . In contrast to findings among younger children, food neophobia had no significant effect on purchase requests for food.

## 5. Discussion and Conclusion

The present study examined if young children's food attitudes, media exposure, and food neophobia can explain purchase requests for food. Age differences in these relations were also observed. Overall, children request the purchase of unhealthy food more than healthy food and hold positive attitudes toward unhealthy food. Results indicate that children's food attitudes significantly predicted purchase requests for food, but when examined among different age groups, the effect was significant only among older children, in the analytical stage of consumer socialization. This study confirms predictions that positive attitudes toward unhealthy food will manifest through purchase requests for unhealthy food (Dallazen & Medeiros Rataichesk Fiates, 2014). Considering the effect was significant among children older than 7, this emphasizes the importance of studying children's food attitude formation in future studies. Food attitudes formed during childhood impact children's present and future food choices (Skinner, Carruth, Bounds, & Ziegler, 2002). Determining the age at which food attitudes form may contribute to marketing managers in developing and directing marketing strategies in targeting specific child groups. The results here also have implications for Public Health policymakers. The above-mentioned effect was significant among children who have started formal education. School initiatives should focus on developing actions to motivate children in the selection and consumption of healthier options.

Consistent with our prediction, media exposure significantly predicted purchase requests for food. The more children were exposed to media, the more they request the purchase of unhealthy food. Contrary to the findings of Buijzen and Valkenburg (2003), this effect was significant among older children, but not among younger. Children's exposure to the media increases with age, which was also found in this sample. In addition to being more exposed to the media, older children possess knowledge that allows them to better understand the aim of the advertisements than younger children. Understanding age differences in the relation to media exposure and purchase requests for unhealthy food contribute not only to the body of literature but also to implementing interventions directed at limiting children's exposure to the media. As parents are pivotal in the regulation of children's screen use, and thus media exposure, parenting strategies directed at reducing the time children spent exposed to media could also benefit in reducing children's purchase requests for unhealthy food. Together with parents, educators should communicate to children about the negative outcomes of excessive time spent in front of a screen.

Key novel evidence of this article is that food neophobia explains purchase requests for food. The higher the food neophobia in children, the more they request the purchase of unhealthy food. Previous findings indicate that children with high food neophobia consume more unhealthy food and avoid fruits and vegetables (Proserpio et al., 2020), and according to our findings, the level of food neophobia in children can also be manifested in other food-related behaviors, precisely purchase requests. When the effect was examined between younger and older children, it was significant only among younger ones, even though there were no differences between younger and older children in their level of food neophobia. Given that the level of food neophobia in children tends to decline and stabilize from the age of 6, we assume this to be the reason for the effect found among younger children. Food neophobia can be reduced by introducing children to novel foods, home availability of novel foods, parental healthy eating practices, etc. (Birch & Fisher, 1999). Such parental interventions could in turn impact children's healthier purchase requests.



## 6. Limitations and Future Research Directions

The main limitation of this study is related to the sample. Further testing of predicted relations among a larger sample, with an equal number of children in each age group, is warranted. This could provide more comprehensive results on age differences. Inclusion of children in the third stage of consumer socialization, the reflective stage, in future studies would provide more comprehensive results on age differences in children's developmental path. In addition, examining the differences between boys and girls would be interesting. One would expect to find differences in the effect of media exposure on purchase requests for food among boys and girls since food advertisements target boys more than girls. To broaden the generalizability of results, future studies would benefit from including children from other cities in Croatia in the sample, or even rural areas.

Another limitation of this study is relying on self-report measures for purchase requests for food and food attitudes. Self-reported measures are often linked to the issue of social biases. Children in our sample were tested in the presence of their parents, which can impact their responses. In such a situation, children may feel the pressure to provide answers their parents wish to hear. Future studies should consider including implicit measurement techniques for assessing food attitudes. Implicit measures provide a way of assessing children's 'true' attitudes, in the absence of social pressure. It would also be interesting to measure purchase requests for food in observational research to gain better insight into this food-related behavior among children.

## References

- Albani, V., Butler, L. B., Traill, W. B., & Kennedy, O. B. (2018). Understanding fruit and vegetable consumption in children and adolescents. The contributions of affect, self-concept and habit strength. *Appetite, 120*, 398–408.
- Birch, L. L., & Fisher, J. O. (1998). Development of Eating Behaviors Among Children and Adolescents. *Pediatrics, 101*(2), 539–549.
- Buijzen, M., & Valkenburg, P. M. (2003). The Unintended Effects of Television Advertising: A Parent-Child Survey. *Communication research, 30*(5), 483–503.
- Cornwell, B. T., Setten, E., Paik, W.S., & Pappu, R. (2020). Parents, Products, and the Development of Preferences: Child Palate and Food Choice in an Obesogenic Environment. *Journal of Public Policy & Marketing, 40*(3), 429–446.
- Dallazen, C., & Medeiros Rataichesk Fiates, G. (2014). Brazilian parents' perceptions of children's influence on family food purchases. *British Food Journal, 116*(12), 2016–2025.
- Drenten, J. M., Peters, C. O., & Thomas, J. D. (2008). An Exploratory Investigation of the Dramatic Play of Preschool Children Within a Grocery Store Shopping Context. *International Journal of Retail & Distribution Management, 36*(10), 831–855.
- Hunter, B. (2002). Marketing Foods to Kids: Using Fun to Sell. *Consumers' Research Magazine, 85*(3), 16–19.
- John, D. R. (1999). Consumer Socialization of Children: A Retrospective Look at Twenty-Five Years of Research. *Journal of Consumer Research, 26*(3), 183–213.
- Kaur, P., & Singh, R. (2006). Children in Family Purchase Decision Making in India and The West: A Review. *Academy of Marketing Science Review, 8*(8).

- Laureati M, Bertoli S, Bergamaschi V, Leone, A., Lewandowski, L., Giussani, B., Battezzati, A., & Pagliarini, E. (2015). Food neophobia and liking for fruits and vegetables are not related to Italian children's overweight. *Food Quality and Preference*, *40*, 125–131.
- Lawlor, M., & Prothero, A. (2011). Pester power – A battle of wills between children and their parents. *Journal of Marketing Management*, *27*(5-6), 561–581.
- Lukavska, K., Vacek, J., Hrabec, O., Božík, M., Slussareff, M., Pířová, M., Kocourek, D., Svobodová, L., & Gabrhelík, R. (2021). Measuring Parental Behavior towards Children's Use of Media and Screen-Devices: The Development and Psychometrical Properties of a Media Parenting Scale for Parents of School-Aged Children. *International Journal of Environmental Research and Public Health*, *18*, 9178.
- Marshall, D., & O'Donohoe, S. (2010). Children and Food. In Marshall, D. (Ed.). *Understanding children as consumers*, 168–183. Sage Publications.
- Marty, L., Chambaron, S., Bournez, M., Nicklaus, S., & Monnery-Patris, S. (2017). Comparison of implicit and explicit attitudes towards food between normal- and overweight French children. *Food Quality and Preference*, *60*, 145–153.
- Marty, L., Nicklaus, S., Miguet, M., Chambaron, S., & Monnery-Patris, S. (2018). When do healthiness and liking drive children's food choices? The influence of social context and weight status. *Appetite*, *125*, 466–473.
- Monnery-Patris, S., Marty, L., Bayer, F., Nicklaus, S., & Chambaron, S. (2016). Explicit and implicit tasks for assessing hedonic-versus nutrition-based attitudes towards food in French children. *Appetite*, *96*, 580–587.
- Pettigrew, S., Jongenelis, M., Miller, C., & Chapman, K. (2017). A path analysis model of factors influencing children's requests for unhealthy foods. *Eating Behaviors*, *24*, 95–101.
- Proserpio, C., Almlí, V.L., Sandvik, P., Sandell, M., Methven, L., Wallner, M., Jilani, H., Zeinstra, G.G., Alfaro, B., & Laureati, M. (2020). Cross-national differences in child food neophobia: a comparison of five European countries. *Food Quality and Preference*, *81*.
- Skinner, J. D., Carruth, B. R., Bounds, W., & Ziegler, P. J. (2002). Children's food preferences: A longitudinal analysis. *Journal of the American Dietetic Association*, *102*, 1638–1647.
- Smith, R., Kelly, B., Yeatman, H., & Boyland, E. J. (2019). Food Marketing Influences children's Attitudes, Preferences and Consumption: A Systematic Critical Review. *Nutrients*, *11*(4), 875.
- van der Heijden, A., de Molder, H., de Graaf, C., & Jager, G. (2020). Healthy is (not) tasty? Implicit and explicit associations between food healthiness and tastiness in primary school-aged children and parents with a lower socioeconomic position. *Food Quality and Preference*, *84*.
- Vohra, J., & Soni, P. (2015). Logit modelling of food shopping behaviour of children in retail stores. *Management Research Review*, *38*(8), 840–854.