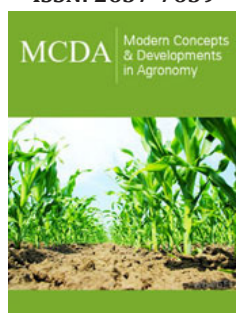


Food Choice Motives Changes Caused by the Coronavirus Pandemic

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Abstract

The "coronavirus pandemic" is a global phenomenon and the agreement of experts that the virus will last much longer and become endemic has affected all aspects of human life, including the consumption of foods. Covid-19 is now a guide on how consumer habits are changing the way of thinking that leads to the final food choice. The current short communication explores the changes between individuals and families in food choices motivations in the post covid -19 era of the ten basic parameters: health, convenience, sensory appeal, nutritional quality, ethical concerns, weight control, mood and stress, familiarity, price, and shopping frequency behavior. The findings show that there was a significant increase in the online shopping, as well as more conservative household management by purchasing healthier, safer, and lower environmental footprint foods. However, the pandemic did not significantly affect factors such as sensory appeal, convenience, and familiarity.

Introduction

The COVID-19 crisis and repeated lockdowns affected food consumption habits, human activities, and caused physical and psychological disruption to citizens of each country [1]. The lengthening of time among various distributors due to increased inspections and quarantine measures led in different perspectives on eating habits and wellbeing [2]. Citizens choose a healthy lifestyle, prefer diets high in fruits and vegetables, exercise during free time, try to maintain a healthy weight, and get an adequate amount of sleep. Furthermore, food availability led to high price volatility and unaffordability of a healthy and nutritious diet [3].

Incentives for consumer's food choice during COVID-19 can be translated into information messages and promotional campaigns by operators and parts of the food chain to reach more consumers and vulnerable groups [4,5]. Food choice motives, as important factors that drive people to make food selections include social, cultural, aesthetic, political, and contextual factors, as well as the nutritional value of the food [6]. As a consequence, the above factors may indirectly shape the main food choice motives namely health, mood, weight control, familiarity, price, sensory appeal, natural content and ethical concerns/agreement and may have important implications for the food export and marketing [7]. People perceive food not only as a means to meet caloric needs and the needs of the human body in general, but also as a means of satisfaction (e.g., appearance, lifestyle, image, healthiness).

Food Consumption and Health

Health concern about consuming too many calories from food has the greatest effect on weight control motivation, followed by health motivation during COVID-19 pandemics [8]. Concern about disease development also has the greatest effect on health food choice motivations, moral concern, followed by mood [9]. Epidemiological and clinical characteristics of patients with COVID-19 have shown a positive correlation between some chronic diseases, e.g., hypertension, cardiovascular disease, kidney disease and other clinical symptoms, as well as a higher mortality rate of COVID-19. Thus, maintaining a healthy dietary intake during COVID-19 containment can mitigate the risks of developing chronic diseases and help reduce

susceptibility to infection by COVID-19 [10]. As a result, people with more health concerns place more importance on choosing foods that make them physically healthier.

Food Consumption and Convenience

Convenience is a multifaceted concept. The groups of Convenience Foods (CF) are instant foods, frozen foods, and take-out foods [11]. The most obvious aspect of convenience is time and also consumer's preference for online transaction to ensure safety [12]. Prepared meals consumed not only by students living away from their families but also by households and couples who can order food through restaurant websites or mobile applications are the results of the pandemic. Moreover, a frequent instant and take-out food consumption is associated with non-adequate nutritional intake [13]. Nutrient-rich food options are provided as CF, families recommended to choose healthier items when consuming convenience food options, may help to prevent long-term adverse health effects.

Food Consumption and Sensory Appeal

The definition of sensory appeal is described by taste, smell, texture, and appearance of foods [14]. Sensory appeal plays an important role in determining consumer's choice or preference for vegetables, fruits, meats, cereals, and other foods. Different consumer groups such as high importance ("demanding consumers") or low importance ("indifferent consumers"), "healthy eaters" and "hedonists" analyze specific changes in eating habits and food priorities, during Covid-19 [15]. On the other hand, sensory appeal seemed to be unaffected of "coronavirus pandemic" [16]. The shutdown of restaurants and the increase in food distribution was not the biggest obstacle.

Food Consumption and Nutritional Quality

Several studies revealed that consumers preferred to choose healthy, safe, and better-quality food products during the pandemic [8,17,18]. Contrary, even though other studies from Greece [19] and UK [20] demonstrate the preference of unhealthy foods such as snacks and pre-packaged "ultra-processed" foods high in fats, sugars and salt during home quarantine. Consumers spend money in such foods with longer shelf life and easier access to buy [18,21]. A multinational study from Italy, Spain, Chile, Colombia, and Brazil showed a view for the diversification of eating habits, modified consumption of processed foods, fruits, and vegetables [22]. Furthermore, the same study showed changes in purchasing behavior as "conscious markets", "exchange" for less expensive items, and in particular a strong focus on "basics" [8]. On the other hand, many consumers prefer groceries as the main product category which consistently anticipated spending more money as one of the basic human necessities [23].

Food Consumption and Ethical Concern

Consumers are very concerned about environmental issues nowadays. Pollution, food production, environment, food waste are

ethical considerations regarding the impact of food consumption over the environment or society [24]. Food waste can be approached from an ethical point of view. The degree of awareness, understanding and embracing the ethical attitudes related to food waste can lead to a change of consumer's behavior. Periods of crisis can lead to restraint of food waste, climate change and environmental pollution [25]. Mainly, young people are more aware of the extent to which food waste affects the natural environment and generating a lower environmental impact in large cities [24]. Moreover, they represent the generation that will intensify efforts to adapt their behaviors to the needs of environmental conservation and will create new solutions to moderate the negative impact that the habits of the population cause to the environment.

The changes in food consumption behavior have changed the quantities and the food assortment, also changing the impact the food waste has on the environment. COVID-19 caused fluctuations and short-term changes in food consumption habits [24,26]. Not only some of these changes tend to exacerbate food waste such as overcooked food, exceeding long-term storage in the freezer, overbuying, but also the pandemics favored the reduction of food waste: less frequent shopping, more carefully planned meals, consumption of the food left in the cupboard for a long time [24]. Above all, food shopping under COVID-19 is a more thoughtful process, with high consideration to budget and needs. Concerns about maintaining health and ethical concern leads to responsible behavior towards food waste and environmental footprint on food production and consumption attitudes [25].

Food Consumption and Weight Control

Stress and boredom are both drivers of overeating, as people turn to sugary "comfort foods", resulting in more energy/calorie intake [27]. The latter is a kind of feeling-state driven by emotional (intense desire to eat), behavioral (seeking food), cognitive (thoughts about food), and physiological (salivation) sensations. People, consume fatty-sweet products and sweet-tasting beverages (including fruit juices) during snacking time. Also, sweets, biscuits, cakes, soft drinks and sugary foods lead to increase in energy intake and a decrease in nutritional quality.

Unhealthy dietary behaviors during COVID-19 promoted the development of obesity, inducing a chronic systemic inflammatory status that, concurrently with other chronic non-communicable conditions such as dyslipidemia, hypertension, heart diseases, diabetes, and lung disease, may increase the risk of more severe complications [28,29]. These studies cite particularly weight gain in women in the covid pandemic. On the other hand, social support is an integral part of several obesity management programs and is associated with better dietary adherence, better weight management and even lower mortality risk. Regarding both sexes a refinement and adaptation of weight management goals may be necessary. In the end, the best way to get all the essential nutrients is a well-balanced diet in order to ensure normal immune function, while reducing the risk of obesity.

Food Consumption and Mood & Stress

Depression, stress, and anxiety combined with undesirable behaviors of food consumption and food choices demonstrate how consumer behavior is also affected by the pandemic [30]. In the pandemic period factors such as the huge disruption of social interactions and contacts, routine and daily life of consumers, unemployment and business shutdowns contributed to increase loneliness, fear of the illness caregiver burden, financial pressure, food insecurity and insecurity about the future and livelihood [31]. Also, parents living with children during lockdown, home-schooling and feeding them more frequently than usual, have come under a lot of pressure. Furthermore, stress and negative emotions can lead to emotional eating, i.e., eating as a result of negative emotions without any real evidence of hunger [32]. Consumers who consumed food for emotional reasons during the pandemic report that they consume larger quantities of sweet, fatty, and salty snack foods. Studies report that between the two sexes, women are the ones who consume larger quantities high-sugar and high-calorie foods leading to greater weight gain compared to males for emotional reasons [33].

Food Consumption and Familiarity

In terms of daily food choices, familiarity is important among consumers who have a relatively strong prevention focus, tend to be well-being, responsibility, safety oriented, and find it important that their food helps them with stress, coping and mood. Familiarity is also down to prior personal experiences, and also tends to be associated with tradition, as many people prefer and choose foods that are familiar. Familiarity can also help them with stress, coping, mood, during COVID-19, since maintaining a healthy dietary intake through following personal nutrition choosing foods they know and trust [34]. Importantly, the term familiarity includes familiarity with delivery services mediated by online services and applications by consumers, producers and restaurants. COVID-19 has led many people to become familiar with the internet and other technologies, as they needed to order the food they knew and consumed. Familiarity also depends on personal past experiences [35].

Food Consumption and Price

The pandemic of Covid-19 and lockdowns altered what was "normal" globally, touching all aspects of life, including food purchasing acquisition decisions by creating an unstable food chain [36]. The result of the above situation was the increase in prices, so that several essentials and several foodstuffs could not be bought. Many jobs were lost and many consumers, in order to reduce the cost of preparing the daily meal, preferred to cook their own meals [37]. The crisis revealed the tradeoffs households are willing to make in times of scarcity. What led many households to consume less and choose food more carefully was the increase in food prices and the loss of disposable household income [16]. Low-income households or households that experienced negative income due to pandemic may not have the financial resources to engage in any

stockpiling behavior relative to higher-income households. Food consumption patterns may change for groups with low-income level [18].

Food Consumption and Shopping Frequency Behavior

The lockdown forced people to adapt their everyday behaviors to the new situation, including their food-purchase behaviors. Schools were closed, working from home was enforced except for some specific professional domains (e.g., working in hospital, in food shops) and leaving home was allowed only under certain circumstances and only after filling in a special certificate [32].

As a result, children's eating behaviors, feeding practices, and food shopping motivations changed [38]. A change of child's appetite, food enjoyment, food responsiveness, emotional overeating, snack frequency in between meals increased. Parents changed their practices, generally became more permissive: less rules, more soothing with food, more child autonomy shopping in order to please their child's and themselves [38]. Moynihan et al. [39] proved that increased energy intake was associated with increased levels of boredom. The pandemic has not only changed the composition of meals for a part of consumers [40] but also the frequency of their consumption [32]. This also led to an increase in demand for food [41]. The industry, and the food production chain in general, had to adapt to the new data and consumer demands [41].

Online shopping became the first choice of many consumers during home restriction and the demand for online food groceries increased significantly during this period not only for food but also for wine [42,43]. Food production and food supply chains were totally disrupted, and there is a great change how households buy, prepare, and consume food [44], because of the non-available workforce, the lack of transportation and closures of various food services such as restaurants [45]. The consumers' changes towards traditional foods after COVID -19 have also been studied with similar results [46,47]. Adults must be more prepared and ready to learn how to use e-commerce, computer technologies, and credit card payment to make it easier to buy food and avoid overcrowding. Also, there is mechanism to protect online personal and transactional data avoiding attacks via the internet [48].

Conclusion

Food choice motives such as sensory appeal, taste, and presentation of food, may function as a motivator for emotional eating with the same importance in the after COVID-19 period, as before the pandemic. Creating a pleasing dish for the member of your family, in addition, gives a sense of accomplishment, adding to the sense of self-esteem and creating positive emotions because of the pandemic period. In addition, price as a food choice motive reflects the uncertainty about work and financial futures and the sense of impending precarity that many are experiencing. People know what to expect with familiar dishes, thus, they can

gauge whether they will satisfy hunger and nutritional needs. The pandemic can be viewed as a liminal stage in which the usual rules behind food choices are suspended. Changes in food choice motivations may reflect a growing awareness of food choices aimed at maintaining health through quality foods, which will ensure healthy dietary behaviors and attitudes towards food waste and environmental footprint and ethical concerns. Moreover, online shopping is the first choice of consumers, a habit that has arisen due to the confinement at home and the demand for electronic groceries has increased significantly.

References

- Radwan H, Al Kitbi M, Al Hilali M, Abbas N, Hamadeh R, et al. (2020) Diet and lifestyle changes during COVID-19 lockdown in the United Arab Emirates: Results of a cross-sectional study. *Nutrients* 12: 3314.
- Carducci B, Keats EC, Ruel M, Haddad L, Osendarp SJM, Bhutta ZA (2021) Food systems, diets and nutrition in the wake of COVID-19. *Nature Food* 2: 68-70.
- Laborde D, Herforth A, Headey D, de Pee S (2021) COVID-19 pandemic leads to greater depth of unaffordability of healthy and nutrient-adequate diets in low- and middle-income countries. *Nature Food* 2: 473-475.
- Kushwah S, Dhir A, Sagar M, Gupta B (2019) Determinants of organic food consumption. A systematic literature review on motives and barriers. *Appetite* 143: 104402.
- Marty L, de Lauzon-Guillain B, Labesse M, Nicklaus S (2021) Food choice motives and the nutritional quality of diet during the COVID-19 lockdown in France. *Appetite* 157: 105005.
- Januszewska R, Pieniak Z, Verbeke, W (2011) Food choice questionnaire revisited in four countries. Does it still measure the same? *Appetite* 57(1): 94-98.
- Verain MCD, Snoek HM, Onwezen MC, Reinders MJ, Bouwman EP (2021) Sustainable food choice motives: The development and cross-country validation of the Sustainable Food Choice Questionnaire (SUS-FCQ). *Food Quality and Preference* 93: 104267.
- Jaeger SR, Vidal L, Ares G, Chheang SL, Spinelli S (2021) Healthier eating: Covid-19 disruption as a catalyst for positive change. *Food Quality and Preference* 92: 104220.
- Shen W, Long LM, Shih CH, Ludy MJ (2020) A humanities-based explanation for the effects of emotional eating and perceived stress on food choice motives during the COVID-19 pandemic. *Nutrients* 12(9): 2712.
- Zhang X, Chen B, Jia P, Han J (2021) Locked on salt? Excessive consumption of high-sodium foods during COVID-19 presents) an underappreciated public health risk: a review. *Environmental Chemistry Letters* 19(5): 3583-3595.
- Brewer P, Sebby AG (2021) The effect of online restaurant menus on consumers' purchase intentions during the COVID-19 pandemic. *International Journal of Hospitality Management* 94: 102777.
- Novita D, Husna N, Azwari A, Gunawan A, Trianti D, et al. (2020) Behavioral intention toward online food delivery (The study of consumer behavior during pandemic covid-19). *Jurnal Manajemen dan Bisnis: Performa* 17(1): 52-59.
- Rahman N, Ishitsuka K, Piedvache A, Tanaka H, Murayama N, et al. (2022) Convenience food options and adequacy of nutrient intake among school children during the COVID-19 pandemic. *Nutrients* 14(3): 630.
- Boesveldt S, Bobowski N, McCrickerd K, Maître I, Sulmont-Rossé C, et al. (2018) The changing role of the senses in food choice and food intake across the lifespan. *Food Quality and Preference* 68: 80-89.
- Laaksonen O, Ma X, Pasanen E, Zhou P, Yang B, et al. (2020) Sensory characteristics contributing to pleasantness of oat product concepts by Finnish and Chinese consumers. *Foods* 9(9): 1234.
- Tian X, Zhou Y, Wang H (2022) The Impact of COVID-19 on food consumption and dietary quality of rural households in China. *Foods* 11(4): 510.
- Chae MJ (2021) Effects of the COVID-19 pandemic on sustainable consumption. *Social Behavior and Personality* 49(6): 1-13.
- Ellison B, McFadden B, Rickard BJ, Wilson NLW (2021) Examining food purchase behavior and food values during the COVID-19 pandemic. *Applied Economic Perspectives and Policy* 43(1): 58-72.
- Morres ID, Galanis E, Hatzigeorgiadis A, Androutsos O, Theodorakis Y (2021) Physical activity, sedentariness, eating behaviour and well-being during a covid-19 lockdown period in Greek adolescents. *Nutrients* 13(5): 1449.
- Robinson E, Boyland E, Chisholm A, Harrold J, Maloney NG, et al. (2021) Obesity, eating behavior and physical activity during COVID-19 lockdown: A study of UK adults. *Appetite* 156: 104853.
- Huang KM, Sant'Anna AC, Etienne X (2021) How did Covid-19 impact US household foods? an analysis six-month in. *PLoS One* 16(9): e0256921.
- Ruiz-Roso MB, Padilha P, de C, Mantilla-Escalante DC, Ulloa N, et al. (2020) Covid-19 confinement and changes of adolescent's dietary trends in Italy, Spain, Chile, Colombia and Brazil. *Nutrients* 12(6): 1807.
- Grashuis J, Skevas T, Segovia MS (2020) Grocery shopping preferences during the COVID-19 pandemic. *Sustainability* 12(13): 5369.
- Burlea-Schiopoiu A, Ogarca RF, Barbu CM, Craciun L, Baloi IC, et al. (2021) The impact of COVID-19 pandemic on food waste behaviour of young people. *Journal of Cleaner Production* 294: 126333.
- Carolan M (2021) Practicing social change during COVID-19: Ethical food consumption and activism pre- and post-outbreak. *Appetite* 163: 105206.
- Roe BE, Bender K, Qi D (2021) The impact of COVID-19 on consumer food waste. *Applied Economic Perspectives and Policy* 43(1): 401-411.
- Salazar-Fernández C, Palet D, Haeger PA, Mella FR (2021) The perceived impact of covid-19 on comfort food consumption over time: The mediational role of emotional distress. *Nutrients* 13(6): 1910.
- Kuk JL, Christensen RAG, Kamran Samani E, Wharton S (2021) Predictors of weight loss and weight gain in weight management patients during the COVID-19 pandemic. *Journal of Obesity*, 48811430.
- Smaira FI, Mazzolani BC, Esteves GP, André HCS, Amarante MC, et al. (2021) Poor eating habits and selected determinants of food choice were associated with ultraprocessed food consumption in Brazilian women during the COVID-19 pandemic. *Frontiers in Nutrition* 8: 672372.
- Leeds J, Keith RS, Woloshynowych M (202) Food and mood: Exploring the determinants of food choices and the effects of food consumption on mood among women in Inner London. *World Nutrition* 11(1): 68-96.
- Ricci F, Izzicupo P, Moscucci F, Sciomer S, Maffei S, et al. (2020) Recommendations for physical inactivity and sedentary behavior during the coronavirus disease (COVID-19) pandemic. *Frontiers in Public Health* 8: 199.
- Philippe K, Chabanet C, Issanchou S, Monnery-Patris S (2021) Child eating behaviors, parental feeding practices and food shopping motivations during the COVID-19 lockdown in France: (How) did they change? *Appetite* 161: 105132.
- Ravichandran S, Bhatt RR, Pandit B, Osadchiv V, Alaverdyan A, et al. (2021) Alterations in reward network functional connectivity are associated with increased food addiction in obese individuals. *Scientific Reports* 11(1): 3386.

34. Pula K, Parks CD, Ross CF (2014) Regulatory focus and food choice motives. *Prevention orientation associated with mood, convenience, and familiarity. Appetite* 78: 15-22.
35. Cavallo C, Sacchi G, Carfora V (2020) Resilience effects in food consumption behaviour at the time of Covid-19: perspectives from Italy. *Heliyon* 6(12): e05676.
36. Laborde D, Martin W, Swinnen J, Vos R (2020) COVID-19 risks to global food security. *Science* 369(6503): 500-502.
37. Sarda B, Delamaire C, Serry AJ, Ducrot P (2022) Changes in home cooking and culinary practices among the French population during the COVID-19 lockdown. *Appetite* 168: 105743.
38. Aristovnik A, Keržič D, Ravšelj D, Tomaževič N, Umek L (2020) Impacts of the COVID-19 pandemic on life of higher education students: A global perspective. *Sustainability* 12:1-34.
39. Moynihan AB, van Tilburg WAP, Igou ER, Wisman A, Donnelly AE, et al. (2015) Eaten up by boredom: Consuming food to escape awareness of the bored self. *Frontiers in Psychology* 6: 369.
40. Eftimov T, Popovski G, Petković M, Seljak BK, Kocev D (2020) COVID-19 pandemic changes the food consumption patterns. *Trends in Food Science and Technology* 104: 268-272.
41. Aday S, Aday MS (2020) Impact of COVID-19 on the food supply chain. *Food Quality and Safety* 4: 167-180.
42. Alaimo LS, Fiore M, Galati A (2021) Measuring consumers' level of satisfaction for online food shopping during COVID-19 in Italy using POSETs. *Socio-Economic Planning Sciences* 82 (Part A): 101064.
43. Skalkos D, Roumeliotis N, Kosma IS, Yiakoumettis C, Karantonis HC (2022) The Impact of COVID-19 on consumers' motives in purchasing and consuming quality Greek wine. *Sustainability* 14: 7769.
44. Rizou M, Galanakis IM, Aldawoud TMS, Galanakis CM (2020) Safety of foods, food supply chain and environment within the COVID-19 pandemic. *Trends in Food Science and Technology* 102.
45. Garnett P, Doherty B, Heron T (2020) Vulnerability of the United Kingdom's food supply chains exposed by COVID-19. *Nature Food* 1: 315-318.
46. Skalkos D, Kosma IS, Chasioti E, Skendi A, Papageorgiou M, et al. (2021) Consumers' Attitude and Perception toward Traditional Foods of Northwest Greece during the COVID-19 pandemic. *Applied Sciences* 11: 4080.
47. Skalkos D, Kosma IS, Vasiliou A, Guine RPF (2021) Consumers' trust in Greek traditional foods in the post covid-19 era. *Sustainability (Switzerland)* 13.
48. Tran LTT (2021) Managing the effectiveness of e-commerce platforms in a pandemic. *Journal of Retailing and Consumer Services* 58: 102287.

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