



[HEALTH]

Online Food Delivery Apps in Australia

The Impact on Nutrition Outcomes

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Online Food delivery applications offer convenient eating options for many people in Australia. The nutritional value of these meals, however, is usually at a lower nutritional quality than what can be made at home or recommended by health professionals.

With the recent (and enduring) Covid-19 pandemic, online ordering of poor nutritional quality foods has seen an increase in usage (1-4). This presents a significant problem for a country who is already in the grips of an obesity epidemic (5,6).

What is the scope of online food ordering in Australia? Or the social, individual, and public health determinants which contribute to its growth? What can health professionals recommend to government health authorities and what possible solutions are out there?

Online Ordering in Australia

Online Food Delivery (OFD) applications such as UberEats, DoorDash, Menulog and Deliveroo offer fast, convenient meals delivered to a consumer's home or workplace. Ordering meals online through services like these offers a wide range of food choice options, in fact, just over 30,000 different food retailers across Australia use these apps (7).

Menu options offer a wide choice of foods and beverages via visually appealing photos from local outlets. Meal deal options are plentiful, especially from fast-food chain restaurants. The vast majority of menu items are 'unhealthy', meaning that they consist mostly of 'discretionary foods', that is, they are high-kilojoule foods and drinks, high in sugar, fat, salt and/or alcohol. These do not form part of the five recommended food groups (8-10).



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According to a cross-sectional analysis by Partridge et al. regarding UberEats, there is a disparity in the definition of 'healthy' between what UberEats decides is good for you, and what others may define it as (9).

In data collected from Sydney-only food outlets, UberEats claims that around 16% of their meal options are healthy. However, according to an international Food Environment Score (FES) tool, **87% of those 'healthy' options were found to be unhealthy** (only 2% of the options were healthy). A total of 88% of their 'most popular' options are considered as discretionary (or unhealthy) food items.

This is very problematic nutritionally.

'A total of 88% of their 'most popular' options are considered as discretionary (or unhealthy) food items'

Young and middle-aged Australians are the most frequent users of OFDs (1,9). The Covid-19 pandemic saw multiple occasions for people to isolate at home, and OFD apps have been able to provide food when eating out or shopping was restricted or unavailable.

Poor mental health states, forced confinement and closure of local retail are all outcomes from this current pandemic situation (11-14). Fast-food, contact-less delivery of food, available during times of travel restriction, has naturally increased the usage of delivered food.

What are the Social, Individual and Industry determinants influencing these consumer groups?

There are many social factors which determine food choice, such as **income, education, employment, community support, early childhood exposure** (especially to fast-foods) or from **friend and family influence**. OFD apps market to these determinants in many ways. The use of 'Most Popular Items' has an impact on food choice as consumers are influenced by their peers (1,10). Another strategy uses the 'Value Bundle' tool to increase consumption due to the perception of greater cost benefit (10).

In a cross-sectional analysis, Keeble et al (4) investigated the demographics of OFD users around the world (4). Of the nearly 3000 OFD user participants, the vast majority were **male, median age 33, highly educated, had families (with children) and about 40% were overweight or obese.**

With around 45% of Australian OFD users having children under 18 years of age living at home, food choice through these applications has a profound influence on those (young) consumers, due to the proven effect of early exposure to foods and tastes (15).

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Another social determinant includes community support, which may lead to a brand's improved reputation, e.g. sport sponsorship. At times, apps such as UberEats contribute to community causes. In March 2020, UberEats announced a \$5 million strategy to help restaurants during the Covid-19 lockdown periods (16). This has an impact on the consumer by increasing brand trust, which in turn leads to higher use of that brand.

Individual determinants include factors such as taste, learned food behaviours, portion size and 'liking' vs 'wanting'.

Taste has a dramatic impact on food choice.

It has been identified that food choices within OFD apps contain a **high percentage of discretionary (unhealthy foods), which are high in fat, sugar and salt.**

The largest number of meals offered by UberEats and other OFDs comes from the 'cereals' category, which includes food items such as **pizza, burgers, chips, cakes, pasta, sandwiches, and wraps.**



The disproportionate quantity of these foods greatly outnumbers more healthful options, and increases sales of these foods, despite the fact that these meals were more expensive than their more nutritional counterparts (10).



Uber Eats is the largest OFD company in Australia

Adults receive positive neurofeedback in response to foods which contain **sweet, salty and fatty constituents** (17). **Children innately prefer sweeter tastes** to ensure their higher caloric intake, thus improving their survival. Likewise, bitter tastes are rejected by many, especially children, as they often represent a dangerous food product which may be toxic (18). As most meals offered through OFDs are high in sugar, salt, and fat, this is naturally more attractive (and potentially addictive) than healthier options.

Other individual determinants involve the **visual aspects of a food**, as well as the **portion size.**

Foods depicted in OFDs are typically represented by **bright and attractive imagery** and studies confirm that these foods sell better (10). This visual trigger ignites in an individual as a 'wanting' over 'liking' response (19); consumers will be drawn to foods they want due to visual appeal (and earlier exposure taste experience memory), rather than choosing for health purposes.

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Studies also show that adults will typically consume the entirety of a meal, regardless of the portion size (20). This is problematic for nutrition, as many meals from OFDs are not only high fat, salt or sugar, but are often in larger portions, or consumed as larger 'value bundles'.

What about the public health regulations? **OFD apps are currently self-regulated** (1,5,21,22), which means they have a Code of Conduct to follow, but there are no laws to restrict how and when they advertise.

This is a dangerous precedent for nutrition, as apps are currently able to make several health claims, which may not be accurate and may in turn confuse the consumer. For example, UberEats claim that around 20% of their available meal options are healthy, yet when assessed using the internationally recognised Food Environment Scale, these options were not considered nutritious (9). You can read more about food advertising self-regulation [here](#).

In Australia, voluntary labelling and menu labelling is in effect (22), however the data still suggests that marketing strategies which increase user consumption usually triumph over nutritional information approaches.



According to a cross-sectional analysis by Wang et al., 'value bundles' were **6.5 times more likely to be offered for discretionary (low nutrition) options, over the healthier options**. Unhealthy foods were 1.3 times more likely to have an accompanying image, than healthy meals (10).

[Learn about Food Labels here](#)



So what can we do about it?

Let's face facts.

OFDs can dramatically influence poor nutritional intake for Australian consumers, particularly during a vulnerable time of a global pandemic. However, there are some strategies which can potentially increase a healthier and more nutrient-dense food intake for consumers when ordering online.

Providing lower-cost, healthier options may appeal to consumers, if the convenience and cost benefits outweigh any other motivations for unhealthy items.

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Another approach to improving nutritional intake, would be a **rewards program**, whereby consumers recommend healthy food outlets to friends or family (23). Reward options might include vouchers to encourage repeated intake of healthy foods. This may in turn build better dietary intake habits.

In response to the importance of community determinants, locally-supported options should be considered by OFD companies. **Offering a greater selection of local, healthy-food businesses** to choose from, and supporting this via the application's 'Most Popular' and 'Local' feature, may encourage greater uptake of nutritionally-beneficial options.

OFDs could offer greater promotional support to local, healthy-food outlets



Despite the popularity of social media influencers, it has been shown that health recommendations from trusted sources (nutritionists or doctors) show more sway over consumer food choice than celebrity endorsement (24).

Nutritionist or medical practitioner advice within the application may have a profound impact on food choice.

Taste, habit and past experiences are better predictors of food choice than consumer intention (25). Considerations should be made on portion size, taste, and other learned behaviours from childhood.

To counter the 'high-desirability' aspect of fast-foods which are abundant within OFD apps, similar approaches could be utilised for healthier options. **Visually appealing images of healthy food and drinks** would be one such approach, **listed on landing pages, alongside 'most popular items'**. Same marketing techniques, with healthier food options.

Adjusting and **enhancing taste experience** with healthy food is key.

Food and olfactory technology currently has the ability to adjust aromas of certain foods, to enhance their flavour without the use of high salt or sugar (26). There is potential for this in the fast-food market.

Portion control for consumers is an important consideration to help reduce caloric intake. One approach to improving the health of OFD meals and drinks would be to **appropriately portion serves and match the prices accordingly**. A lower cost, moderately-sized portion would improve health outcomes and also appeal to individual concerns around affordability.

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A lack of regulation in the market of OFDs is possibly the biggest barrier to improving nutritional outcomes for consumers.

There is an opportunity to use OFDs as a tool to improve nutritional outcomes for Australians, as we continue to experience financial challenges post-pandemic. The use of marketing and technology provides a chance to increase uptake of healthy foods if the correct regulation is in place.

Nutrition panels and labelling have long been shown to increase consumer knowledge of healthier options (27). Currently, OFDs are not required by law to provide nutritional information, rather they are managed by industry bodies and is largely self-regulated. OFDs can label their foods as 'healthy' with no consideration of internationally recognised scales, so the information to consumers is misleading. If OFDs were required by law to utilise global measures to identify healthy foods, and to provide nutrition information, then this has the potential to improve consumer health choices (28).

'Currently, OFDs are not required by law to provide nutritional information'

Other countries have **legislated fast food**. Through taxes on junk foods, banning children's toys with meals, limiting portion sizes, many countries like the USA, Norway, France, Japan, Chile and Mexico have tried to curb increasing obesity rates (29). This is an important measure, however, would not be enough in isolation.

Online Food Delivery app usage is a significant source of food for Australians. Many people turn to unhealthy food options, via delivery, for several reasons. Through many different strategies, positive changes could be made to regulate these services, provide important nutritional education for consumers, and potentially increase the number of healthy meals consumed.

There's hope in this space if some creative changes can be made to encourage a better balance between treat foods and healthier options.

References available on the next page.

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1. Bates S, Bates S, Reeve B, Trevena H. A narrative review of online food delivery in Australia: Challenges and opportunities for public health nutrition policy [Internet]. *Public Health Nutrition*. 2020 [cited 2021 May 15]. Available from: www.ausfoodnews.com.
2. IBIS World. Online Food Ordering and Delivery Platforms in Australia - Industry Data, Trends, Stats | IBISWorld [Internet]. 2020 [cited 2021 Jun 2]. Available from: <https://www.ibisworld.com/au/industry/online-food-ordering-delivery-platforms/5538/>
3. Kapoor AP, Vij M. Technology at the dinner table: Ordering food online through mobile apps. *J Retail Consum Serv*. 2018 Jul 1;43:342-51.
4. Keeble M, Adams J, Sacks G, Vanderlee L, White CM, Hammond D, et al. Use of online food delivery services to order food prepared away-from-home and associated sociodemographic characteristics: A cross-sectional, multi-country analysis. *Int J Environ Res Public Health*. 2020 Jul 2;17(14):1-17.
5. Obesity Policy Coalition. Food Advertising Regulation in Australia - Policy Brief [Internet]. 2018 Jan [cited 2021 May 30]. Available from: <https://www.opc.org.au/downloads/policy-briefs/food-advertising-regulation-in-australia.pdf>
6. Vaamonde JG, Álvarez-Món MA. Obesity and overweight. *Med* [Internet]. 2020 [cited 2021 May 15];13(14):767-76. Available from: <https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight>
7. UberEats. Australian report on the Uber delivery experience: 'Making delivery work for everyone' | Uber Newsroom [Internet]. 2021 [cited 2021 Jun 2]. Available from: <https://www.uber.com/en-AU/newsroom/makingdeliverywork/>
8. Nutrition Australia. Australian Dietary Guidelines: Recommended daily intakes | Nutrition Australia. *Nutr Aust*. 2013;1.
9. Partridge SR, Gibson AA, Roy R, Malloy JA, Raeside R, Jia SS, et al. Junk food on demand: A cross-sectional analysis of the nutritional quality of popular online food delivery outlets in Australia and New Zealand. *Nutrients* [Internet]. 2020 Oct 1 [cited 2021 May 15];12(10):1-16. Available from: www.mdpi.com/journal/nutrients
10. Wang C, Korai A, Jia SS, Allman-Farinelli M, Chan V, Roy R, et al. Hunger for home delivery: Cross-sectional analysis of the nutritional quality of complete menus on an online food delivery platform in Australia. *Nutrients* [Internet]. 2021 [cited 2021 May 15];13(3):1-14. Available from: <https://doi.org/10.3390/nu13030905>
11. Arora T, Grey I. Health behaviour changes during COVID-19 and the potential consequences: A mini-review. *J Health Psychol*. 2020 Aug 1;25(9):1155-63.
12. Zhao Y, Bacao F. What factors determining customer continually using food delivery apps during 2019 novel coronavirus pandemic period? *Int J Hosp Manag* [Internet]. 2020 Oct 1 [cited 2021 May 30];91:102683. Available from: <https://pubmed.ncbi.nlm.nih.gov/34806777/>
13. Brooks SK, Webster RK, Smith LE, Woodland L, Wessely S, Greenberg N, et al. The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *Vol. 395, The Lancet*. Lancet Publishing Group; 2020. p. 912-20.
14. Stephens J, Miller H, Militello L. Food Delivery Apps and the Negative Health Impacts for Americans. *Front Nutr* [Internet]. 2020 Feb 20 [cited 2021 May 15];7:14. Available from: <https://adage.com/article/digital/pizza-15>
15. Johnson BJ, Hendrie GA, Colley RK. Reducing discretionary food and beverage intake in early childhood: A systematic review within an ecological framework. *Public Health Nutr* [Internet]. 2016 Jun 1 [cited 2021 May 12];19(9):1684-95. Available from: <https://www.cambridge.org/core>.
16. Business Insider. Uber Eats is starting a \$5 million fund for Australian restaurants so they can continue to deliver food through the coronavirus crisis | Business Insider [Internet]. 2020 [cited 2021 Jun 2]. Available from: <https://www.businessinsider.com.au/uber-eats-australia-restaurants-2020-3>
17. Leong SL, Vanneste S, Lim J, Smith M, Manning P, De Ridder D. A randomised, double-blind, placebo-controlled parallel trial of closed-loop infraslow brain training in food addiction. *Sci Rep* [Internet]. 2018 Dec 1 [cited 2021 Jun 5];8(1):11659. Available from: <https://pubmed.ncbi.nlm.nih.gov/306076277/>
18. Mennella JA. Ontogeny of taste preferences: Basic biology and implications for health [Internet]. *Vol. 99, American Journal of Clinical Nutrition*. 2014 [cited 2021 Jun 3]. Available from: <https://eds-a-ebcscost-com.ezproxy-f.deakin.edu.au/eds/pdfviewer/pdfviewer?vid=1&sid=9f3e3c04-d30b-4ba2-a609-cb8a9d250b1f%40sdc-v-sessmgr02>
19. Mela DJ. Eating for pleasure or just wanting to eat? Reconsidering sensory hedonic responses as a driver of obesity. *Vol. 47, Appetite*. Academic Press; 2006. p. 10-7.
20. Burger KS, Fisher JO, Johnson SL. Mechanisms behind the portion size effect: Visibility and bite size. *Obesity* [Internet]. 2011 Mar 1 [cited 2021 May 31];19(3):546-51. Available from: www.obesityjournal.org
21. Sharma LL, Teret SP, Brownell KD. The food industry and self-regulation: Standards to promote success and to avoid public health failures. *Am J Public Health* [Internet]. 2010 Feb 1 [cited 2021 Jun 2];100(2):240-6. Available from: <https://pubmed.ncbi.nlm.nih.gov/1984645/>
22. Queensland Health. Fast Choices: kilojoule menu labelling scheme [Internet]. 2017 Oct [cited 2021 May 30]. Available from: https://www.health.qld.gov.au/_data/assets/pdf_file/0024/441564/fastchoices-userguide.pdf
23. Alalwan AA. Mobile food ordering apps: An empirical study of the factors affecting customer e-satisfaction and continued intention to reuse. *Int J Inf Manage* [Internet]. 2020 [cited 2021 May 23];50:28-44. Available from: <https://doi.org/10.1016/j.ijinfomgt.2019.04.008>
24. Mannheim M. Australia Talks data shows we don't trust Instagram influencers, but advertisers rely on them increasingly. *ABC News* [Internet]. 2021 May 28 [cited 2021 Jun 6]. Available from: <https://www.abc.net.au/news/2021-05-27/australians-say-they-do-not-trust-influencers-but-do-they-really/100164654>
25. Köster EP. Diversity in the determinants of food choice: A psychological perspective. *Food Qual Prefer* [Internet]. 2007 [cited 2021 Apr 18];20:70-82. Available from: www.elsevier.com/locate/foodqual
26. Institute of Medicine (US) Food Forum. Leveraging Food Technology for Obesity Prevention and Reduction Efforts [Internet]. 2011 [cited 2021 Jun 7]. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK83190/>
27. Köster EP, Mojet J. Theories of food choice development. In: *Understanding Consumers of Food Products* [Internet]. Elsevier Ltd; 2007 [cited 2021 Mar 31]. p. 93-124. Available from: https://www.researchgate.net/publication/260365518_Theories_of_food_choice_development
28. Yang X, Wu M, Chen X. Providing Informative Nutrition Facts for Food Ordering [Internet]. 2020 [cited 2021 May 15]. Available from: https://www.tdcommons.org/dpubs_series
29. The Economic Times. Eight countries that have declared war on junk food [Internet]. 2016 [cited 2021 May 30]. Available from: <https://economictimes.indiatimes.com/nation-world/eight-countries-that-have-declared-war-on-junk-food/slideshow/53245785.cms>