

Personal and lifestyle characteristics predictive of the consumption of fast foods in Australia

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Abstract

Objective: To identify key predictors of fast-food consumption from a range of demographic, attitudinal, personality and lifestyle variables.

Methods: We analysed data from a nationwide survey ($n = 20\,527$) conducted in Australia by Nielsen Media Research. Items assessing frequency of fast-food consumption at (1) eat in and (2) take away were regressed onto 12 demographic, seven media consumption, and 23 psychological and lifestyle variables, the latter derived from factor analysis of responses to 107 attitudinal and behavioural items.

Results: Stepwise multiple regression analyses explained 29.6% of the variance for frequency of take-away and 9.6% of the variance for frequency of eat-in consumption of fast foods. Predictors of more frequent consumption of fast food at take away (and, to a lesser extent, eat in) included lower age – especially under 45 years, relative indifference to health consequences of behaviour, greater household income, more exposure to advertising, greater receptiveness to advertising, lesser allocation of time for eating, and greater allocation of time to home entertainment. There were no effects for occupational status or education level.

Conclusions: The effects for age suggest that fast-food take-away consumption is associated with a general cultural shift in eating practices; individual differences in attitudinal and lifestyle characteristics constitute additional, cumulative, predictive factors. The role of advertising and the reasons for the lesser explanatory value of the eat-in models are important targets for further research.

Keywords
Fast foods
Obesity
Obesogenic
Lifestyle

The prevalence of obesity in Australia has risen from 9% to 16% in men and from 10% to 17% in women between 1989–1990 and 2001¹. Almost 60% of men and women are either overweight or obese, a rate 2.5 times higher than in 1980². Between 1985 and 1995, the proportion of overweight and obese children aged between 5 and 17 years rose from 10.7% to 20% for boys and from 11.8% to 21.5% for girls³. Similar patterns have been noted in the USA⁴. As one of the major contributors towards overweight is diet (with the oft-cited imbalance in the ratio of energy intake to energy expenditure)^{5–10}, it is important that factors associated with unhealthy eating habits are understood.

A frequently invoked indicator of unhealthy eating is the consumption of fast foods^{11–13}, generally defined as foods purchased ready to eat, usually from large franchised chains^{14,15}. Trends in the USA, the source of most of the literature on changes in eating patterns, have shown an increase in total foods eaten away from home, with the fast-food segment growing at double the rate of

table-service restaurants between 1980 and 1995¹⁶. An 11% increase between 1987 and 2000 in the number of commercially prepared meals eaten per week¹⁷ further illustrates the extent of the shift away from traditional cooking towards meals that are made outside the home. According to estimates based on data from the US Department of Agriculture's (USDA) Nationwide Food Consumption Survey 1977–1978 (NFCS 1977–78) and Continuing Survey of Food Intakes 1994–1996 (CSFII 1995–96), energy intake from restaurants and fast-food establishments increased by between 91.2% and 208% across all ages from 2 years and above (19- to 39-year-olds consuming the greatest proportion of restaurant and fast-food meals)⁹. Another analysis of USDA data reports that, between 1977–78 and 1994–96, the proportion of total dietary energy consumed that was from food prepared away from home increased from 18% to 32%. Food from fast-food places accounted for 12% of total energy intake in 1994–96. Moreover, whereas fat consumption decreased over the survey period, it decreased

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significantly more in foods eaten at home than in foods eaten away from home¹⁸. In Australia, a nationwide survey of household expenditure in 1998–1999 revealed that approximately 27% of money spent on foods and non-alcoholic beverages was dedicated to meals out, with take-away and fast foods accounting for 56% of this¹⁹.

There is some support for a link between fast-food consumption and overweight, beyond the observation that both have increased in incidence in recent decades. Eating fast food has been found to be associated with increased energy intake^{6,20,21}, as well as increased energy density and decreased nutrient density of the diet on the day of consumption⁶. It is argued that fast-food consumption leads to 'passive over-consumption' because of the failure of the human biological system to recognise and compensate for the increased energy intake²². It has also been noted that the consumption of nutritious foods (e.g. milk, fruit, vegetables) is inversely related to the frequency of visits to fast-food restaurants^{6,20,21}. Analyses of USDA CSFII 1994–96 data report an increased likelihood of overweight among people who had consumed fast food during either of the two days surveyed⁶; with a number of demographic, lifestyle and geographic factors controlled for, men and women who ate fast food were estimated to be 0.8 kg and 1.0 kg heavier, respectively, than their counterparts who did not eat fast food⁵. Similarly, a 15-year prospective study found frequent patrons of fast-food restaurants to have gained an additional 4.5 kg in weight and acquired a twofold greater increase in insulin resistance over the course of the study than infrequent patrons¹⁵; these associations seemed to be relatively independent of other lifestyle factors such as physical activity and TV viewing. French *et al.*²⁰ reported that an increase of only one fast-food meal a week resulted in a weight gain of 0.72 kg above the average weight gain over the course of a 3-year intervention study. In Canada, overweight children were found to consume, *inter alia*, more sugar-sweetened drinks and foods bought away from home (including take-away and ordered-in foods) than healthy-weight children⁷. Overall, findings such as these provide some support for the argument that fast food may contribute to overweight and obesity, as well as suggesting that people are tending not to compensate (through dietary adjustment or exercise) for the additional energy they derive from a fast-food meal.

Although fast-food consumption is a behaviour implicated in overweight, little is known about demographic, behavioural, attitudinal and lifestyle predictors of frequency of the behaviour itself. Intake of fast foods has been shown to be greater among younger people, people with more income, suburban dwellers and men, in analyses of CSFII 1994–96 data^{6,21}. In addition, among American adolescents, the amount of time spent watching TV has been found to be related to fast-food consumption²³ and unhealthy dietary behaviours, including

consumption of fried foods²⁴. These observations are, however, based on individual bivariate analyses involving fast-food consumption and are therefore limited in the amount of information they are able to provide. What is not known, for example, even for this small number of known correlates, is whether each is associated independently with the frequency of fast-food consumption or whether some element common to several variables underlies a shared association with fast-food consumption. The purpose of the present study was to examine a comprehensive range of potential contributors in an analysis in which the association of each predictor with fast-food consumption is assessed when the association of each other predictor with consumption is statistically controlled for.

Method

The data for the study were obtained from a database of responses to a multifaceted survey conducted in Australia by Nielsen Media Research. Designed to accommodate the needs of several corporate clients, the combined interview and self-completion survey contained demographic information about respondents and their households, information about consumption patterns and preferences covering many product types, and responses to wide-ranging attitudinal and lifestyle questions. The database contained responses obtained from a nationwide sample of 20 527 residents of Australia during the period June 2004 to May 2005. Participants were selected by means of stratified random sampling procedures; the response rate was 60.4%. Ages ranged from 14 years upwards, and 54.1% of respondents (11 140) were female.

For present purposes, survey variables of potential interest were identified and the data checked for theoretical and statistical appropriateness, the incidence of missing values, and possible coding errors. Where necessary, data were recoded or combined to render them suitable for analysis. Data extracted were as follows.

Demographic variables

Age (12 levels); gender; whether English only was spoken at home; whether the home was owned; marital status (partner/no partner); household size (1, 2, 3, 4, 5+); whether there were children aged less than 5 years in the home; whether there were children aged 5–12 years in the home; whether there were teenagers in the home; education level (five levels); highest household occupational status (five levels); household income (three levels); whether or not the respondent was a car driver.

Media consumption variables

Extent of: commercial TV viewing; non-commercial TV viewing; pay TV viewing; commercial radio listening;

non-commercial radio listening; newspaper readership (four levels in each case); time spent watching DVDs (six levels).

Attitudinal and lifestyle variables

One hundred and seven attitudinal and lifestyle items were selected for factor analysis. The items selected covered personal opinions and self-description on a range of personal and family matters, social and political issues, advertising, TV, food, career, fashion, health and technology. These items were a subset of 242 questions that addressed, as well as the above, product-specific information. All attitudinal and lifestyle questions employed a 5-point Likert response format from strongly disagree to strongly agree.

Dependent variables

Dependent variables were two consumption items addressing frequency of fast-food consumption. These asked respondents to indicate how often they (1) 'eat in at any fast-food place' and (2) 'take away at any fast-food place'. Responses were recorded on an 8-item scale from never to several times a week. Similarly worded items have been used successfully as both predictor¹⁵ and outcome^{20,24} measures in previous studies of fast-food consumption.

Factor analysis of attitudinal and lifestyle data

The correlation matrix of responses to the 107 attitudinal and lifestyle items was subjected to a principal axis extraction with varimax rotation following an initial principal components analysis (PCA). Application of the eigenvalue >1 criterion on the basis of the PCA led to the extraction of 25 factors; 23 of these were subsequently deemed interpretable. A single-item factor and a minor factor of uncertain meaning were excluded from further analysis.

Factor scores were calculated by means of the regression method for use in subsequent analyses. Factor labels were assigned on the basis of content, with due reference to established measures of psychological attitudinal and personality constructs, and greatest weighting given to those items with strongest loadings on a given factor. Factor labels, sorted by type, were as follows.

- *Product-related*: Appreciation of technology; Fashion consciousness; Keeness to try new products.
- *Political*: Political conservatism; Political left-leaning; Political complacency.
- *Television*: Love of TV; Undiscerning TV viewing.
- *Food and health*: Love of cooking; Dietary health consciousness; Importance of breakfast; Health vigilance; Eating on the run; Fitness consciousness.
- *Personality*: Extraversion; Depression; Industriousness; Sociability; Family orientation.

- *Advertising*: Enjoyment of TV adverts; Billboard awareness; Liking for informative advertising; Intolerance of advertising.

Results

Fast-food consumption

The questions relating to frequency of fast-food consumption were answered by 84.5% (eat in) and 89.9% of respondents (take away). Table 1 shows the distribution of responses to both questions; the base rate for percentages is total responses. Most noteworthy is that almost one-third of respondents reported a frequency of eat-in consumption of several times a week. Table 2 shows, for each type of consumption, the percentages of respondents in each age category who reported a frequency of several times per week. This reveals an association of higher-frequency consumption with relative youth, especially for take-away consumption.

Multiple regression analyses

Multiple regression analyses were conducted with the two items assessing frequency of fast-food consumption as dependent variables. Independent variables were the 12 demographic variables, seven media consumption variables, and 23 attitudinal and lifestyle factor scores. The analyses employed a stepwise procedure, by which

Table 1 Frequency of fast-food consumption at eat in and take away

Frequency	Eat in	Take away
Several times per week	5667 (32.7)	1220 (6.6)
Once per week	1222 (7.0)	5035 (27.3)
Once per fortnight	1163 (6.7)	3223 (17.5)
Once per month	1993 (11.5)	2996 (16.2)
Once every 3 months	1652 (9.5)	1700 (9.2)
Once every 6 months	1139 (6.6)	894 (4.8)
Less often	1813 (10.4)	1319 (7.1)
Never	2705 (15.6)	2066 (11.2)
<i>N</i>	17354	18453

Values are *n* (%).

Table 2 Percentages of 'several times per week' responses for eat-in frequency and take-away frequency in each age category

Age (years)	Eat in	Take away
14–17	40.5	9.3
18–24	39.1	16.3
25–29	37.8	13.4
30–34	36.0	10.2
35–39	37.6	7.7
40–44	38.5	7.9
45–49	36.7	6.2
50–54	34.0	4.0
55–59	29.1	2.2
60–64	25.4	1.9
65+	19.8	1.4

predictor variables are added to the model on the basis of their having a significance value lower than the value set as a criterion of entry and removed from the model if the significance value exceeds the criterion for removal. This approach was selected because of the exploratory nature of the analysis and the large number of predictor variables. Because of the large sample size and correspondingly high power of the study, the entry and removal criteria were set at $P < 0.001$ and $P > 0.005$, respectively, in order to avoid a proliferation of significant but trivial predictors.

Table 3 shows the results of the analysis estimating frequency of fast-food eat-in consumption. The 15 significant predictors, which are listed in order of entry to

the model, explain 9.6% of population variance, $F(15,11\ 558) = 82.89$, $P < 0.001$; figures in the final column indicate the total variance explained by the model at each step. Table 4 shows the results of the analysis estimating frequency of fast-food take-away consumption. In this case there are 24 significant predictors, and the model explains 29.6% of population variance, $F(24,12\ 315) = 217.19$, $P < 0.001$. Both analyses involved samples greatly reduced by missing data, the incidence of missing responses approximating 10% on some variables. Importantly, the occurrence of missing responses was quite broadly spread throughout the sample, rather than being concentrated in a single subgroup of respondents, thus reducing the likelihood that systematic differences

Table 3 Stepwise multiple regression model estimating frequency of fast-food eat-in consumption

	<i>B</i>	SE	β	<i>t</i>	<i>r</i>	Partial <i>r</i>	Adjusted R^2
(Constant)	3.01	0.18		16.37			
Age	-0.12	0.01	-0.14	-12.29	-0.25	-0.11	0.060
Eating on the run	0.28	0.03	0.08	8.60	0.17	0.08	0.067
Household income	0.28	0.03	0.08	8.78	0.13	0.08	0.072
DVD watching	0.12	0.02	0.05	5.05	0.16	0.05	0.077
Political conservatism	0.15	0.03	0.05	5.39	0.03	0.05	0.080
Commercial TV viewing	0.10	0.03	0.03	3.47	0.08	0.03	0.083
Pay TV viewing	0.12	0.03	0.04	4.58	0.06	0.04	0.086
Fashion consciousness	0.13	0.03	0.04	4.94	0.07	0.05	0.088
Extraversion	0.11	0.03	0.04	3.78	0.08	0.04	0.089
Dietary health consciousness	-0.13	0.03	-0.04	-4.48	-0.11	-0.04	0.091
Billboard awareness	0.10	0.03	0.04	3.94	0.04	0.04	0.092
Sociability	0.13	0.03	0.04	3.97	0.08	0.04	0.093
Appreciation of technology	0.10	0.03	0.04	3.95	0.09	0.04	0.094
Love of TV	0.11	0.03	0.04	3.97	0.06	0.04	0.095
Commercial radio listening	0.07	0.02	0.03	3.29	0.10	0.03	0.096

SE – standard error.

Table 4 Stepwise multiple regression model estimating frequency of fast-food take-away consumption

	<i>B</i>	SE	β	<i>t</i>	<i>r</i>	Partial <i>r</i>	Adjusted R^2
(Constant)	1.43	0.17		8.55			
Age	-0.18	0.01	-0.24	-22.56	-0.43	-0.20	0.187
Eating on the run	0.39	0.02	0.15	17.52	0.30	0.16	0.210
Dietary health consciousness	-0.27	0.02	-0.11	-13.48	-0.25	-0.12	0.231
DVD watching	0.16	0.02	0.09	10.17	0.27	0.09	0.242
Household income	0.21	0.02	0.08	9.24	0.21	0.08	0.252
Car driver	0.47	0.05	0.07	8.91	0.05	0.08	0.258
Commercial TV viewing	0.12	0.02	0.06	6.51	0.13	0.06	0.262
Pay TV viewing	0.13	0.02	0.06	7.39	0.09	0.07	0.267
Children aged 5–12 years in house	0.28	0.04	0.06	7.08	0.19	0.06	0.271
Appreciation of technology	0.11	0.02	0.05	6.00	0.15	0.05	0.275
Love of cooking	-0.11	0.02	-0.05	-6.69	-0.03	-0.06	0.277
Home ownership	-0.23	0.04	-0.06	-6.29	-0.27	-0.06	0.280
Liking informative ads	0.12	0.02	0.05	6.19	0.07	0.06	0.282
Sex (male)	0.24	0.03	0.06	7.23	0.05	0.07	0.284
Fitness consciousness	-0.12	0.02	-0.05	-6.29	-0.06	-0.06	0.286
Depression	0.10	0.02	0.04	5.40	0.11	0.05	0.288
Billboard awareness	0.09	0.02	0.04	5.19	0.04	0.05	0.290
Teenagers in house	0.26	0.05	0.04	4.89	0.08	0.04	0.291
Love of TV	0.08	0.02	0.04	4.67	0.07	0.04	0.292
Sociability	0.10	0.02	0.03	4.39	0.09	0.04	0.293
Intolerance of advertising	-0.07	0.02	-0.03	-3.76	-0.02	-0.03	0.294
Political complacency	-0.09	0.02	-0.03	-4.03	-0.07	-0.04	0.295
Commercial radio listening	0.05	0.02	0.03	3.44	0.14	0.03	0.295
Readership of newspapers	0.06	0.02	0.03	3.41	0.01	0.03	0.296

SE – standard error.

existed between excluded cases and included cases. This assessment was supported by the observation that supplementary regression analyses in which sample size was preserved by substitution of sample means for missing values produced very similar models to those obtained by means of the preferred analyses based on complete data from a reduced dataset.

Discussion

The most noteworthy finding was that the predictive model for take-away consumption of fast foods explained almost 30% of the variance, thus clearly linking that behaviour to a number of demographic, psychological and lifestyle characteristics. Age was the strongest predictor: fast-food consumption decreased with increasing age. This association has previously been noted^{16,21}; what is of interest in the present analysis is that the effect survives, in diminished form, the inclusion of a range of potential mediators of the association. The effect for age thus appears likely to reflect a cultural shift in eating practices. The simple pattern of consumption across age ranges (not reported, but partially reflected in Table 2) suggests that it is not a recent cultural shift, however, the reduction in consumption with increasing age tending to be mainly evident from about age 45. Below that age, there is little variation across age groupings and no simple linear trend.

Other prominent predictors were the self-reported tendency to eat on the run and a relative lack of concern about the link between diet and health. Complementary themes are evident among the minor predictors, in the association of fast-food take-away frequency with a lesser love of cooking and lower fitness consciousness. Together, they suggest a utilitarian approach to food and an indifference to the health implications of behaviour.

Apart from age, demographic predictors of increased take-away frequency were greater household income, being a car driver, having children above the age of 5 years in the house, not owning a home, and being male. Whereas some of these are unremarkable, the positive association of household income with fast-food take-away frequency deserves comment. Together with null effects for household occupational status and education level, the finding (observed also for eat-in frequency) indicates that the greater incidence of overweight and obesity among groups of lower socio-economic status^{2,25} cannot be explained in terms of relative levels of fast-food consumption. As is the case for most commodities, access to fast foods appears to be limited by disposable income. What is not known is what other kinds of convenience foods may be taking the place of fast foods in the diets of people of lower income.

A number of themes are evident among other predictors of frequency of fast food at take away. Watching

DVDs, pay TV viewing, love of TV and (less clearly) appreciation of technology make up a group of predictors the common theme of which appears to be involvement with entertainment media. This pattern is reminiscent of earlier reports of a relationship between fast-food consumption and TV viewing²³. On the other hand, exposure to commercial media – as opposed to media exposure generally – appears to be the common element in the effects noted for commercial TV viewing, commercial radio listening and readership of newspapers; the fact that consumption of non-commercial TV and radio were not significant predictors suggests that advertising content is the defining characteristic of the significant grouping. This interpretation appears to be supported by another grouping of significant predictors: a theme of receptiveness to advertising is clearly suggested by the liking of informative ads, awareness of billboards and tolerance of advertising. Together, the two groupings reinforce the idea of an association between fast-food consumption and advertising⁸. Given the ubiquity of advertising, this is an association that is likely to be more substantial than can be revealed by the small effect sizes of the limited estimates of (largely voluntary) advertising exposure included in our analyses. Findings such as these, although they permit no causal conclusions, add weight to concerns about the possible influence of advertising – not solely of fast foods – on children and other vulnerable populations²⁶.

Although the predictive model for eat-in frequency resembles that for take-away frequency, it explains one-third of the variance. One possible explanation for the lesser explanatory power is that variables crucial to the prediction of eat-in consumption of fast foods were simply not represented in the analysis. Another explanation is that eat-in consumption is less bound by type than is take-away consumption. By this explanation, eat-in consumption, although slightly more common among people with certain characteristics, is largely determined by situational factors – such as availability – that are not systematically related to individual differences in personal characteristics.

A related explanation is suggested by the distribution of responses to the two fast-food consumption items (Table 1), which revealed a high incidence of high-frequency eat-in consumption, with a third of respondents reporting a frequency of several times per week. On the most conservative reading of this response category as representing merely twice per week, these figures suggest an eat-in frequency that is approximately 50% greater than that of take-away. Given that respondents were provided with no definition of fast foods, it seems possible that there is limited overlap between eat-in and take-away responses in terms of the establishments, meal sizes and meal types that respondents had in mind. For example, whereas there is a restricted range of establishments offering take-away service – mainly consisting

of the major chains and variations on these – eat-in establishments are much more plentiful and varied in type, including constituents of shopping-centre food courts, snack bars, cafés and corner shops. The possibility that eat-in figures include a high incidence of lunches or snack breaks in the course of work, shopping or social activity adds to the plausibility of suggestions that situational determinants outweigh individual differences for this variable.

The fact that ‘fast food’ was not defined for respondents in the generation of the present dataset requires further comment. The present analyses were based on responses to questions about patronage of ‘fast-food place[s]’, with no more detail provided either directly or contextually to guide respondents in their interpretation of the kinds of establishments referred to. This practice is common in research into fast-food consumption and relies on the assumption that respondents share a general conception of what is denoted by the term ‘fast food’: a conception that essentially corresponds to the working definition provided earlier in this paper. Our own unpublished research supports that assumption: although interviewees readily generate very inclusive definitions of fast food when asked to classify a range of convenience foods, they consistently demonstrate recourse to a stereotypical notion of the meaning of fast food when asked what the term brings to mind. It seems likely that the conception of take-away establishments in the present study matched the working definition quite well, whether because of the stereotype or (as noted above) because of a more constrained population of potentially eligible reference establishments. Whether the term ‘eat-in’ is a stimulus for resort to a more inclusive definition of what is a fast-food place is a subject that needs to be addressed empirically.

These potential differences notwithstanding, the eat-in model supports, in weaker form, the take-away model’s picture of the fast-food consumer as tending to be under 45 years of age, relatively unconcerned about health consequences of behaviour, financially better off, allocating relatively less time to eating and relatively more time to home entertainment, more exposed and more receptive to advertising, and more sociable. For take-away consumers, being a car driver, having school-aged children in the house, not owning a home, being male, being more depressed, and being less politically complacent, are additional contributors to the model; for eat-in consumers, additional predictors are political conservatism, fashion consciousness, and extraversion. Note that, although we have summarised the predictive models as general profiles, they consist of factors that – all other factors being equal – are independently associated with increased consumption. Thus, the effect for depression, for example, does not tell us that the typical take-away consumer is likely to be depressed, but simply that depressed mood – perhaps through an associated

motivational deficit – is a characteristic associated with a slightly increased likelihood of take-away fast-food use.

The results reported here can provide no direct information on the association of fast-food consumption and obesity. Those who argue for a link between access to or consumption of fast food and obesity often argue the case on the basis of its fit within a broader model whereby increasing overweight in the population can be linked to an increasingly ‘obesogenic’ environment^{23,27}. This ecological explanation is based on the premise that individual and group differences in weight outcomes can be linked to ‘the sum of influences that the surroundings, opportunities, or conditions of life have on promoting obesity’²⁸. This largely epidemiological model suggests that the macro and micro environments serve to encourage excess energy intake and reduced energy expenditure. Thus, the 21st century environment can be characterised as supporting the promotion of energy-dense foods and increased sedentary behaviour. It is noteworthy that a number of the variables identified in the present analysis as predictors of fast-food consumption are also constituents of the obesogenic environment. Although it is tempting, therefore, to suggest that many consumers of fast food are subject to cumulative risk factors for obesity, such assertions would be premature. This is because the notion of a ‘constellation’ of influences, as in the concept of the obesogenic environment, fails to clarify the true predictive value of the multiple bivariate associations of which it is composed (e.g. fast-food consumption and overweight, or physical inactivity and overweight, or exposure to snack food advertising and overweight, etc.). An approach that enables simultaneous examination of the variables that constitute the obesogenic environment provides an opportunity to move beyond simple associations between variables to a behavioural model that might provide a basis for hypothesis testing. Such an approach is needed, for example, if we are to understand more clearly the degree to which fast-food consumption contributes to overweight independently of other characteristics, including those – such as certain sedentary activities – that are associated with both fast-food consumption and overweight. It is an approach that has the further advantage of assisting us in differentiating between essentially overlapping and essentially cumulative risk factors.

The present findings and questions arising from them provide a framework for further research. For example, valuable insights might be gained from follow-up studies employing explicit definitions of fast food and more sensitive measures of consumption level and permitting differentiation among types of foods and consumption occasions (e.g. meals and snacks). Such strategies may be especially important for the understanding of the nature and variety of eat-in consumption, as well as addressing the possibility that different people or groups of people are responding to different conceptions of what

constitutes fast food in surveys such as these. Similarly, whereas this study relied in large part on measures assembled after the fact from existing data, the constructs identified here as apparent predictors of fast-food consumption warrant follow-up by means of selected measures. Such measures may include established tests of personality and other psychological characteristics (e.g. extraversion, sociability, depression, health-related attitudes), as well as purpose-designed instruments for the measurement of lifestyle and consumption characteristics (e.g. leisure and entertainment practices, advertising exposure, advertising susceptibility). The scope for improvement of predictive models – especially for eat-in – through the inclusion of additional variables should also be explored. The value of these models is that they permit assessment of the contribution of additional variables to explanation of the behaviour of interest after adjustment for other known contributors, thus avoiding the proliferation of correlates of questionable explanatory value that may ensue from a reliance on multiple bivariate analyses.

Conclusions

Through the combination of the approach to analysis and the breadth of variables examined, the present findings advance understanding of factors associated with the consumption of fast foods in Australia and suggest a focus for research in other societies. The robustness of the effect for age in the presence of numerous potentially competing variables implies a cultural underpinning to fast-food take-away consumption that associates it with membership of the post-baby-boomer generations. The additional explanatory contribution of a number of attitudinal and lifestyle characteristics, especially those with common themes such as advertising, provides further insight into the contexts of and factors promoting the use of take-away fast foods. Follow-up research with the refinements described above should further that insight and also help clarify the degree to which possibly diverse sub-categories of activities that might be construed as fast food eat-in can be predicted from knowledge of people's personal characteristics.

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nutrition and contributes to their balanced active lifestyles policy and programme. There were no further conflicts of interest.

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