

Impact of Health Concern on Food Habits: Examining the Mediational Role of Lifestyle

Rajasekharan Pillai K*, Alisha M. Aranha, David G. Karkada, Ashish V. Prakash

Abstract

The present study endeavored to investigate how perceived health consciousness influences the food preferences of people. This was an attempt to examine the mediational role of healthy lifestyle practices between health concern and healthy food choices. The study followed a cross-sectional quantitative design. The respondents were identified using convenient sampling method after seeking their voluntary participation in the survey through shop intercept survey. Linear regression, using process mediation, was used to verify the theoretical propositions empirically. The study identified that consumers value healthy food choices, and there is a changing trend in their food habits. The current study offers empirical support to the theoretical percept that the production and consumption of healthy foods have increased, owing to the awareness of their functional benefits. This is a pioneer effort to examine the mediational role of healthy lifestyles between health concerns and healthy food habits.

Key Words: Consumer behavior, Health consciousness, Healthy Lifestyle, Healthy food habits, Concern for health

Introduction

Health practices have become highly valued features in contemporary life (Crawford, 2006). Health consciousness is a state of concern for one's well-being to maintain a healthy lifestyle (Crawford, 2006; Hong, 2009). Crawford (1980) has coined a term "Healthism" to represent the health consciousness and movement, which in turn will stimulate the problem of health and illness at the individual level to prevent medicalization of life. Some consumers prefer eating healthy food, whereas others might prefer eating unhealthy food. Differences in lifestyles are due to the differences in attitude towards health among consumers. Tastiness being the dominant driver for food purchase, taste lovers prioritize taste of the food over nutrition. Nutrition Fact Seekers care more about healthy food (Kraus, 2015; Mai and Hoffmann, 2012; Wardle and Steptoe, 2002). There is an increase in awareness of health consciousness due to the growing problems of obesity, heart disease, and diabetes (Kim et al., 2013). Consumers value healthy food choices, and there is a changing trend in their food habits. It is seen that health consciousness influences the food habits of consumers. They pay more attention to the nutritional content of the food than the one without. Hence, health consciousness has become increasingly indispensable. Carrillo et al. (2013) have noted that specific health necessities are cues to choose food items. Oil, fat, and calorie content are important factors for consumers to decide on their food choices (Montandon and Colli, 2016).

Studies (Hwang and Cranage, 2010; Walsh, 2014) have noted the need for assigning health aspects in food businesses to attract and retain customers in the long run. Product type, ingredients, level of processing, and marketing cues influence consumer health and taste perception (Luomala et al., 2015). One of the leading sectors in the market is the food and wellness industry.

There is a clear indication that competition in this market has increased over the years, and there is increasing market potential in this sector (Ali et al., 2015). In fact, there is no dearth of literature

that find ample market potential for healthy food products (Ali et al., 2015; Corbo et al., 2014; Drom et al., 2009; Jin et al., 2017; Kim et al., 2013; Kustur and Vila, 2017; Singhal, 2017).

Hur and Jang (2015) argue that there is a strong relationship between anticipated emotions and a behavioral intention, as consumers get more health conscious. A recent research (Tarro et al., 2017) concedes that concern about health tends people to choose a healthy food habit. We attempted to build on this argument by empirically validating it. This study was a modest attempt to examine the mediational role of healthy habits and lifestyles between concern on health and healthy food habits. In the context of the current study, we examined the feasibility of healthy habits and lifestyles to better explain the relationship (mediation) between health concerns and healthy food habits. No previous studies, to the best of our knowledge, so far have examined the mediational role of healthy lifestyles between health concerns and healthy food habits, though Chen (2011) tested its moderation effect.

Theoretical Background

The theoretical underpinning of this study can be traced to the social cognitive theory of self-regulation (Bandura, 1986; 1991) and the theory of planned behavior (Ajzen, 1991). The theory argues that the self-regulatory mechanism triggers people to do some specific course of action, which emanate out of their conscious determination to do the same. Analogously, the theory of planned behavior implies that people tend to have a reason behind why they behave or act in a particular way. Drawing upon these two theoretical streams, we presume that the choice of healthy food is an intention to stay healthy and the health concern is a true manifestation of this intent.

Bandura (1991) argues that the self-regulatory mechanism, as a multi-faceted phenomenon, has relevance in diverse realms of human motivation and actions. We made a modest attempt to examine whether this theoretical paradigm was consistent with the context of the current investigation. Despite being aware of the adverse impacts of tasty food, individuals prefer dining outside especially in restaurants, and there is an increase in the amount of money spent by consumers to eat in restaurants (DiPietro et al., 2006). Consumers prefer to have unhealthy fast food even when provided with a healthy alternative because they would want to be associated with the term "fast-food." Their past routine consumption pattern also influences their fast food choices (Anderson and Miroso, 2014). Advertisements also have an impact on the food choices of children. The reaction of children towards healthy food television advertisement by fast food restaurants is misleading because children find it difficult to recall the healthy food images presented in the advertisement in comparison with the fast food items (Bernhardt et al., 2015).

Rajasekharan Pillai K* (Corresponding Author), Manipal Institute of Management, Manipal Academy of Higher Education,
P. O. Box 576104 Karnataka, India
kr.pillai@manipal.edu

Alisha M. Aranha, Manipal Institute of Management, Manipal Academy of Higher Education,
P. O. Box 576104 Karnataka, India
alisha_aranha@yahoo.com

David G. Karkada, Manipal Institute of Management, Manipal Academy of Higher Education,
P. O. Box 576104 Karnataka, India
davidkarkada0@gmail.com

Ashish V. Prakash, Vinod Gupta School of Management, IIT Kharagpur, P. O. Box 721301 West Bengal, India
ashishviswanathprakash@gmail.com

Health and wellness food product market has been experiencing tremendous market growth in India. Businesses can mainly reorient their strategies and ideas so that they can cater to health-conscious consumers (Ali et al., 2015). Jan et al. (2011) report that health-conscious consumers are potential patrons of restaurants serving healthy food. People often tend to have variations in their dietary plan, and drastic changes have occurred in smoking and alcohol consumption pattern. Promotion of sports and other physical activities may increase the level of health consciousness (Dhanuraja et al., 2017). Hence, it is necessary to find the demographic and psychographic determinants to understand the factors that affect the food choice of consumers (Anand, 2011).

Concern on Health

Concern on health is an incontestable manifestation of health consciousness (Chen, 2013; Ellison et al., 2013; Gould, 1990; Hong, 2009; Hur and Jang, 2015). Consumers, with higher health consciousness, are likely to choose healthy food (Corbo et al., 2014; Naylor et al., 2009). The changing lifestyle pattern gives rise to health issues like heart disease, cancer, and diabetes. Due to this, people are more concerned about their health and more likely to purchase health-enhancing foods (Lau et al., 2012). Individuals who are highly concerned about their health pay more attention to labels, radio talk shows, health magazines, and related health information available to them (Gould, 1990). In contrary to this, Kaskutas and Greenfield (1995) argue that exposure to posters and advertisements have no significant influence on overall health consciousness. An individual may take certain factors into consideration during the purchase of an organic product (Padel and Foster, 2005). It may also be the state wherein an individual's purchase decision of organic personal care products is influenced by the experience of organic products (Kim and Chung, 2011). Consumers perceive that maintaining a healthy lifestyle is expensive because they believe that dietary supplements are of high cost (Willis and Stafford, 2016). Initially, consumers considered fruits and vegetables to be organic food. Low health-conscious consumers are highly sensitive to incompatible information regarding the genuineness of a functional food health claim. Such people are least concerned about their health, and they follow an inattentive healthy lifestyle.

On the other hand, high health-conscious consumers do not lessen the probability of selecting a functional food when faced with information that is conflicting and these consumers engage in activities to maintain a healthy lifestyle (Chen, 2011; Naylor et al., 2009). Consumers respond positively to restaurants that have full service in serving healthy food (Jin et al., 2017). A restaurant field experiment regarding customer food preferences and intake decision based on calories printed on the menu was conducted. Its objective was to identify the varying calorie intake among customers. It was observed that customers with least health consciousness were the ones who were highly influenced by the calorie labels than the health conscious customers (Ellison et al., 2013). Concern on health is an emotional investment to health (Crawford, 2006), which nudges one to nurture healthy lifestyles and practices. Kaur and Singh (2017) have outlined the role of health consciousness on food choices. Hur and Jang (2015) have found that people with health concerns are more likely to consume healthy food and recommend others to adhere to the same.

Healthy Lifestyle

Prior study has recorded that the lifestyle pattern of consumers is an unwavering cue for the choice of food (Goetzke and Spiller, 2014). Construing health as a meaningful social practice, Crawford (2006) argues that personal responsibility for health is an indication of individual autonomy and good citizenship. Healthy living and perceptions about eating are directly related to the consumption of certain foods. This provides an opportunity for marketers to use low-fat and low-sugar foods to encourage the youth to consume healthy food (Kuster and Vila, 2017). The aging population concentrates more on healthy food, which provides an opportunity for firms to

design health-promoting food products (Collins and Bouge, 2015). There is a relationship between the state of health and the consumption of healthy and dietary food among consumers (Lorinczi, 2008). When society becomes increasingly concerned with health, prevention of illness gets pervasive support regarding suitable healthy lifestyles and behaviors (Crawford, 1980). Consumers' aware about health and nutrition have a positive attitude towards consuming organic food (Carrillo et al., 2013; Goetzke and Spiller, 2014; Kriwy and Mecking, 2012; Singhal, 2017). Their attitude (Schnettler et al., 2016), subjective norms and perceived behavior control are the supreme predictors of health-related behavioral intentions (Armitage et al., 2002). There are certain factors that have an impact on the purchase decision and the role of consumer's health consciousness and consumer acceptance (Shamal and Mohan, 2017). Personal, psychological, cultural, and social factors also play a significant role in influencing functional food behavior (Amponsah et al. 2016; Kaur and Singh, 2017). In addition to this; food safety concern, personal norms, willingness to pay and ethical self-identity are important factors that determine consumers' attitude towards green behavior and organic food (Moser, 2015; Michaelidou and Hassan, 2007; Rock et al., 2017). Consumer's environmental knowledge and their aim to lead a healthy life have influenced the young and modern consumer's behavior (Suki, 2013). Healthy lifestyle habits pose themselves as a self-regulatory system. This cognitive response not only mediates the effect of the stimulus but offer a basis for a purposeful action (Bandura, 1991).

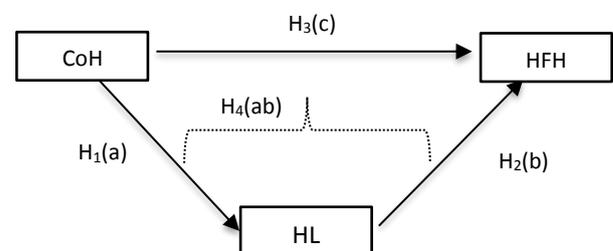
Healthy Food Habits

Consumption pattern has changed over time. Consumers now feel that the consumption of healthy food is inevitable and, hence, the health benefits of the food are more preferred (Kraus, 2015; Verbeke, 2006). Thompson (2017) argues that organic food consumption remains restrained even in developed countries like the USA, though it is considered to be the safest. This is mainly due to the premium pricing of organic products. Usually, the older age segments are likely to exhibit healthier food habits compared to the younger generation. Likewise, women believe in eating healthy food over junk food to maintain a slim figure (Chapman and Maclean; 1993; Johnson et al., 2002; Lallukka et al., 2007). Currently, the trends in the consumption habits of consumers are changing, and they are more inclined towards eating healthy (Chatterjee et al., 2015).

Hypothesised Model

The study proposes health concern of society in maintaining a healthy food habit. It can also be construed that those who are concerned over their health will observe a healthy lifestyle habits, which leads to healthy food habits. These theoretical proposition are illustrated below and shown in fig.1.

Figure 1: Hypothesised Model



Hypotheses

- H₁: Concern on health directly influences healthy lifestyles.
- H₂: Healthy lifestyle will positively influence an individual to observe health food habits.
- H₃: Personal care and concern for health lead to healthy food habits.
- H₄: Healthy lifestyles mediates the effect of health concerns on healthy food habits.

Methodology

This study followed an empirical approach to investigate the mediational role of healthy habits and lifestyles between individuals' concern on health and healthy food habits. Input to the study was collected through survey method.

The survey instrument was drawn upon Dutta-Bergman (2005), Hong (2009) and Kraft and Goodell (1993). The instrument contained 17 items under three constructs such as the perception of concern on health, healthy lifestyles, and healthy food habits (refer Annexure 1 for details). Concern on health contained five items, which were synthesised from Hong (2009) and Dutta-Bergman (2005). The construct of healthy lifestyles (Hong, 2009) consisted of four items. The items of healthy food habits were obtained from (Dutta-Bergman (2005) and Kraft and Goodell (1993) and this construct contained eight items. The responses were captured on five-point Likert scale, ranging from highly satisfactory (coded as five) to highly dissatisfactory (coded as one).

Sampling and Data Collection Procedure

The sampling procedure followed non-probability sampling design, using purposive sampling technique. Data for the study was collected through shop intercept surveys, seeking voluntary participation from those who were leaving the malls after shopping. The survey covered around 222 respondents, and the completed questionnaire were scrutinised on the spot to ensure maximum response rate. There were no missing entries.

Tools of Analysis

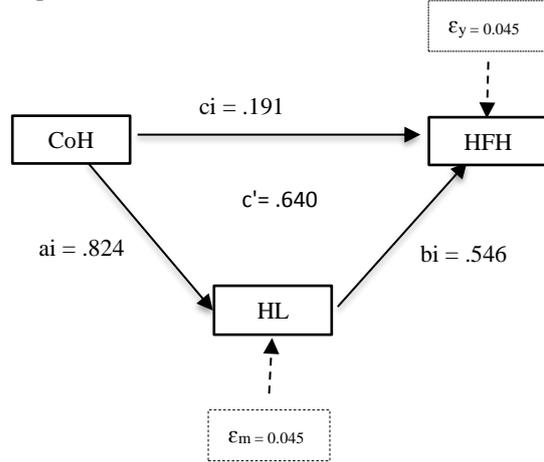
The collected data were treated in SPSS using process mediation analysis (Hayes, 2013), a regression add on. Mediation analysis is to verify a transition channel through which a focal predictor (perceived cause) variable can influence the criterion (perceived effect) variable of interest (Baron and Kenny, 1986). Bootstrapping was considered for testing the significance of the mediating effect (Hayes, 2009). Drawing on literature, Hayes (2009) argues that Bootstrapping is one of the more valid and powerful tools for testing the effects of intermediary variables.

Analysis & Discussion

Food and lifestyle practices may vary, due to the attributes of spatial, temporal, ethnic, social, and demographic. Investigating the roles of these variables, as moderators, would be more insightful addition to the literature. Social environments may impede what people plan to do or may be an impetus to behave optimally (Bandura, 1986). A person need not observe healthy habits and lifestyles, despite being fully aware of it, in case the environmental stimuli poses a challenge to his perceived self-efficacy. Results of our study could endorse the notion of moralization of health (Crawford, 1980), taking responsibility for ourselves and determining one's destiny (Crawford, 2006). This rational personalization of health space will promote healthy lifestyle practices and healthy food habits, which is congruent with the theoretical underpinnings of the study.

Drawing upon the extant literature, we construed that health concerns nudge people to observe healthy lifestyle habits, which, in turn, can lead to healthy food habit practices. Regression analysis, using process mediation (Hayes, 2013), was used to examine how healthy lifestyles mediate the effect of health concerns on the perception of healthy food habits. Hayes (2013) argues that mediation model can oversimplify the complex dynamics of causation analysis. Results (refer figure 2) indicated that concerns on health were a significant causal agent of healthy habits and lifestyles, $\beta = 0.824$, $SE = 0.045$, $p < 0.05$ and perception on healthy habits and lifestyles was a significant criterion of healthy food habits, $\beta = 0.546$, $SE = 0.078$, $p < 0.05$. The indirect effect was observed to be statistically significant, $\beta = 0.449$, $SE = 0.085$, 95% CI [0.29; 0.62] and the direct effect ($\beta = 0.191$, $SE = 0.081$, $p < 0.05$) was less than that of indirect effect, when controlling for healthy habits and lifestyles.

Figure 2: Paths and their Coefficients



*Indirect effect of X on Y through M_i = $a_i * b_i = 0.449$*

Direct effect of X on Y = $c_i = 0.191$

*Total effect = $c' = (a_i * b_i) + c_i = 0.640$*

CoH: Concern on health; HL: Healthy lifestyle; HFH: Healthy food habits; ϵ_m & ϵ_y : Error terms

The decomposition of the total effect of health concern on healthy food habits, $\beta = 0.640$, $SE = 0.055$, $p < 0.05$, into direct and indirect effects conveys that the direct effect is considerably lower than both total and indirect effects to infer the relevance of mediatory role. However, the results support the only partial mediational hypothesis, but not consistent with full mediation for want of non-significant result of direct effect (Hayes, 2009). Approximately 39.7 per cent of the variance in perception on healthy food habits was attributed for by the predictor ($R^2 = 0.397$, $MSE = 0.396$, $p < 0.05$). The study could empirically validate all the hypotheses, as presented in Table 1.

Table 1: Results of testing of Hypotheses

Hypotheses	Name of Path	β coefficient	SE	Decision Rule
H ₁	a	0.824	0.045	Supported
H ₂	b	0.546	0.207	Supported
H ₃	c	0.191	0.055	Supported
H ₄	ab	0.449	0.085	Supported*

* Evidence of partial mediation is present

The indirect effect was tested using the approach of Bootstrap estimation as well, with 5000 samples (refer Annexure 2 for details). Bootstrapping is a more powerful test to examine the size or significance of the indirect effect (Hayes, 2009). It recorded a completely standardized indirect effect of 0.442. Following Hayes (2009), we further claim that the indirect effect is not zero (0.442) with 95 percent confidence, as there occurs no zero between lower (0.285 and upper (0.607) bounds of completely standardized indirect effect from Bootstrapping. We conducted 'k' estimates of indirect effect to have an empirical approximation of the sampling distribution, as suggested by Hayes (2009). In this ordered set, the lower bound of the confidence interval was defined as the value of indirect effect in the 2025th position of the ordered list (5000 Bootstrap samples) and the upper bound was the value in the 2976th position for a 95 per cent confidence interval (for more details see Hayes, 2009). The relatively lower width of this interval estimate

signifies evidence of higher accuracy of the true value of the unknown population parameter.

The current study offered empirical support to previous research (Corbo et al., 2014), which conceded that the production and consumption of healthy foods have increased owing to the awareness of their functional benefits. We could observe significant improvement in the theoretical robustness, when lifestyle mediates the influence of consciously concerned attitude towards healthy food preference behavior, instead of posing health concern as the direct causal agent of healthy food choices.

Implication of Study and its Limitation

The theoretical contribution of our study was the empirical verification of the mediational role of healthy lifestyles. The study has implications for policy or regulatory intervention. The pro-active interventions of regulatory mechanism can ensure qualitative changes in the market, by nudging consumers to nurture healthy lifestyle practices and influencing the suppliers to offer healthy food stuffs. The government can make it possible through incentive mechanism using budgetary intervention. Prior research (Kirkpatrick et al., 2013) has noted that the healthy eating index of fast food restaurants is poor about dietary guidance. Hence, drawing on literature (Chen, 2013; Johnson et al., 2017), we argue that strict regulatory mechanism is necessary to nurture healthy food habits, by cleansing the supply side of the market. Theoretical relationships validated in the study can have managerial implications as well. The positive relationship between health concern and healthy food habits offer a cue to food manufacturers and suppliers to get insights on the direction of food choices of consumers.

The non-probability nature of sampling appears to be a strong deterrent to the implied generalisability of our findings. The evidence of partial mediation also raises skepticism to the robustness of the theoretical proposition. This calls for further verification and validation with a broader sample frame. The construct reliabilities, though above the threshold level (Hair et al., 2011), also warrant further refinements in the scale. Future studies can explore how various socio-economic attributes moderate motivation to choose healthy foods.

Though we observed the presence of significant mediation, the results hinted a little bit of concern about strong mediation. The study could not attest mediation or strong evidence for a single, dominant mediatory role (Baron and Kenny, 1986) for want of non-significant direct path coefficient when mediation is controlled. This indicates the potential of multiple mediating factors (Baron and Kenny, 1986). This needs further investigation for validation, by adding other mediators or incorporating moderators.

Conclusion

The study accomplished its task of examining the mediational role of healthy habits and lifestyles between concern on health and healthy food habits. The result confirmed an evidence of partial mediation, indicating the necessity of refining the theoretical relationship. However, the considerable fall in direct effect observed in the result is an evidence of the theoretical robustness of the proposed model. But it was insufficient to confirm full mediation. The bootstrap result was consistent with preliminary results.

Individual's aspirations to stay healthy and lead a meaningful life can have considerable implications for resource-starved situations and geographies. Health Consciousness and its positive translation into healthy behavioral outcomes is a manifestation of personal responsibility for health, which veritably throws light on preventive care. Health consciousness and the awareness of the impact of unhealthy food habits and sedentary lifestyle are powerful nudges to choose healthy food habits. Grounded in the theory of self-regulation and the theory of planned behavior, we argue that an individual's

motivation to observe healthy lifestyle practices and healthy food habits is a rational choice paradigm. When this intent emanates from a conscious concern to stay healthy, our results lend support to the self-regulatory mechanism in human motivation to be coherent in the current setting.

References

- Ajzen, I. (1991) 'The theory of planned behaviour', *Organizational Behavior and Human Decision Processes*, 5 (2)179–211.
- Ali, T., Alam, A. and Ali, J. (2015) 'Market structure analysis of health and wellness food products in India,' *British Food Journal*, 117 (7) 1859- 1871.
- Amponsah, C. Ahmed, G., Othman, S., Harran, M. (2016) 'In Search of Global Identity: The Challenges of Culture' *The Journal of Human Resource and Adult Learning* 12 (2), 16-28.
- Anand, R. (2011) 'A study of determinants impacting consumers' food choice with reference to the fast food consumption in India,' *Society and Business Review*, 6 (2) 176-187.
- Anderson, K. and Miroso, M. (2014) 'Revealing barriers to healthier fast food consumption choices,' *British Food Journals*, 116 (5) 821- 831.
- Armitage, C. J., Norman, P. and Conner, M. (2002) 'Can the Theory of Planned Behaviour mediate the effects of age, gender and multidimensional health locus of control?,' *British Journal of Health Psychology*, 7 (3) 299–316.
- Bandura, A. (1986). *Social foundations of thought and action*, Englewood Cliffs, NJ.
- Bandura, A. (1991) 'Social cognitive theory of self-regulation,' *Organizational behavior and human decision processes*, 50 (2) 248-287.
- Bernhardt, A. M., Wilking, C., Diamond, D. G., Emond, J. A. and Sargent, J. D. (2015) 'Children's Recall of Fast Food Television Advertising- Testing the Adequacy of Food Marketing Regulation,' *Public Library of Science*, 10 (3) 1-12.
- Boonme, K., Hanus, B., Prybutok, V. R. Peak, D. A. and Ryan, C. (2014) 'Visual information influences consumer fast-food choices,' *Visual information influences consumer*, 44 (4) 2279-2293.
- Carrillo, E., Prado-Gasco, V., Fiszman, S. and Varela, P. (2013) 'Why buying functional foods? Understanding spending behaviour through structural equation modelling', *Food Research International*, 50 (1) 361-368.
- Chapman, G., and Maclean, H. (1993) '“Junk Food” and “Healthy Food”: Meanings of Food in Adolescent Women's Culture,' *Journal of Nutrition Education*, 25 (3) 108-113.
- Chatterjee, B., Mod, K. and Patel, T. (2015) 'Food as Vector for nutraceutical ingredients,' *International Journal of Medical Research and Health Sciences*, 5 (1). 92-97.
- Chen, M. F. (2011) 'The joint moderating effect of health consciousness and healthy lifestyle on consumers' willingness to use functional foods in Taiwan,' *Appetite*, 57 (1) 253-262.
- Chen, M. F. (2013) 'Influences on health consciousness on consumers' modern health worries and willingness to use functional foods,' *Journal of Applied Social Psychology*. Vol. 43 (1) E1-E12.
- Collins, O. and Bogue, J. (2015) 'Designing health-promoting foods for the aging population: a qualitative approach,' *British Food Journal*, 117 (120) 3003-3023.
- Corbo, M. R., Bevilacqua, A., Petrucci, L., Casanova, F. P. and Sinigaglia, M. (2014) 'Functional beverages: the emerging side of functional foods: commercial trends, research, and health implications,' *Comprehensive reviews in food science and food safety*, 13 (6), 1192-1206.

- Crawford, R. (1980) 'Healthism and the Medicalization of Everyday Life', *International Journal of Health Services*, 10 (93) 365-387.
- Crawford, R. (1994) 'The Boundaries of the Self and the Unhealthy other: Reflections on Health, Culture and Aids', *Social Science and Medicine*, 38 (10) 1347-1365.
- Crawford, R. (2006) 'Health as a meaningful social practice,' *Health: An Interdisciplinary Journal for the Social Study of Health, Illness and Medicine*, 10 (4) 401-420.
- Dhanuraja, V., Gopalakrishnan, S. and Umadevi, R. (2017) 'A study on prevalence and determinants of overweight/obesity among medical college students in Kancheepuram district,' *National Journal of research in community medicine*, 6 (1) 33-36.
- Dipietro, R. B., Roseman, M., and Ashley, R. (2006) 'A study of consumers' response to quick service restaurants healthy menu items,' *Journal of Foodservice Business Research*, 7 (4) 59-77.
- Dutta-Bergman, M. J. (2005) 'Developing a profile of consumer intention to seek out additional information beyond a doctor: The role of communicative and motivation variables,' *Health Communication*, 17 (1) 1-16.
- Ellison, B., Lusk, L. J. and Davis, D. (2013) 'Looking at the label and beyond: the effects of calorie labels, health consciousness, and demographics on caloric intake in restaurants,' *International Journal of Behavioural Nutrition and Physical Activity*, 10 (1) 21.
- Goetzke, B. I. and Spiller, A. (2014) 'Health-improving lifestyles of organic and functional food consumers', *British Food Journal*, 116 (3) 510-526.
- Gould, S. J. (1990) 'Health Consciousness and Health Behavior: The Application of a New Health Consciousness Scale', *American Journal of Preventive Medicine*, 6 (4) 228-237.
- Hair, J. F., Black, W.C., Babin, B.J., Anderson, R.E. and Tatham, R.L. (2011) *Multivariate Data Analysis*, Prentice Hall, New Jersey.
- Hayes, A. F. (2009) Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication Monographs*, 76 (4) 408-420.
- Hayes, A.F., 2017. *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford Publications.
- Hong, H. (2009) Scale development for measuring health consciousness: Re-conceptualization in Yamamura, K. (ed) *Research that Matters to the Practice*. Proceedings of the 12th Annual International Public Relations Research Conference held at the University of Miami, Florida, US, March 11-14, 2009, pp. 212-233.
- Hur, J. Y. and Jung, A. C. (2015) 'Anticipated guilt and pleasure in a healthy food consumption context,' *International Journal of Hospitality Management*, Vol. 48, pp. 113-123.
- Hwang, J. and Cranage, D. (2010) 'Customer Health Perceptions of Selected Fast-Food Restaurants According to their Nutritional Knowledge and Health Consciousness,' *Journal of Foodservice Business Research*. 13 (2) 68-84.
- Jang, Y. J., Kim, W. G. and Bonn, M. A. (2011) 'Generation Y consumers' selection attributes and behavioral intentions concerning green restaurants,' *International Journal of Hospitality Management*, 30 (4) 803-811.
- Jin, N., Line, N. D. and Lee, S. M. (2017) 'The Health Conscious restaurants consumer: understanding the experiential and behavioural effects of health concern,' *International Journal of Contemporary Hospitality Management*, 29 (8) 2103-2120.
- Johnson, C., Stout, S. R., Mohan, S., Dunford, E., Farrand, C., Wu, J. H., He, F. J., Shivashankar, R., Webster, J., Krishnan, A., Garg, V., Maulik, P. K., Prabhakaran, D. and Neal, B. (2017) 'Labelling Completeness and Sodium content of Packaged foods in India,' *Public Health Nutrition*, 20 (16) 2839-2846.
- Johnson, F., Wardle, J., and Griffith, J. (2002) 'The Adolescent Food Habits Checklist: reliability and validity of a measure of healthy eating behaviour in adolescents,' *European Journal of Clinical Nutrition*, 56 (7) 644-649.
- Kaskutas, L. A. and Greenfield, T. K. (1995) 'The Role of Health Consciousness in Predicting Attention to Health Warning Messages,' *American Journal of Health Promotion*. 11 (3) 186-193.
- Kaur, N. and Singh, D. P. (2017) 'Deciphering the consumer behaviour facets of functional foods: A literature review,' *Appetite*, Vol. 112, pp. 167-187.
- Kim, H. Y. and Chung, F. E. (2011) 'Consumer purchase intention for organic personal care products,' *Journal of Consumer Marketing*, 28 (1) 40-47.
- Kim, M. J., Lee, C. K., Kim, W. G. and Kim, J. M. (2013) 'Relationships between lifestyle of health and sustainability and healthy food choices for seniors', *International journal of contemporary hospitality management*, 25 (2) 558-576.
- Kirkpatrick, S. L., Reedy, J., Kahle, L. L., Harri, J. L., Ohri-Vachaspati, P. and Smith, S. M. K. (2013) 'Fast-Food menu offerings vary in dietary quality but are consistently poor,' *Public Health Nutrition*, 17 (14) 924-931.
- Kraus, A. (2015) 'Factors influencing the decisions to buy and consume functional food,' *British Food Journal*, 11 (6) 1622-1636.
- Kriwy, P. and Mecking, R. A. (2012) 'Health and environmental consciousness, costs of behaviour and the purchase of organic food,' *International Journal of Consumer Studies*, 36 (1) 30-37.
- Kuster, I. and Vila, N. (2017) 'Healthy Lifestyle and eating perceptions: correlations with weight and low-fat and low-sugar food consumption in adolescence,' *Frontiers in Life Science*, 10 (1) 48-62.
- Kraft, F. B., and Goodell, P. W. (1993) 'Identifying the health-conscious consumer,' *Journal of Health Care Marketing*, 13 (3) 18-25.
- Lallukka, T., Laaksonen, M., Rahkonen, O., Roos, E. and Lahelma, E. (2007) 'Multiple socio-economic circumstances and healthy food habits,' *European Journal of Clinical Nutrition*, 61 (6) 701-710.
- Lau, T. C., Chan, M. W., Tan, H. P. and Kwek, C. L. (2012) 'Functional Food: A growing trend among the Health Conscious,' *Asian Social Science*, 9 (1) 198-208.
- Lorinczi, K., 2008. *The effect of health-conscious trends on food consumption* (No. 725-2016-49390).
- Luomala, H., Jokitalo, M., Karhu, H., Luon, H.L.H., Hopia, A. and Hietamaki, S. (2015) 'Perceived health and taste ambivalence in food consumption,' *Journal of Consumer Marketing*, 32 (4) 290-301.
- Manes, M. R., Kuganatham, P., Jagadeesan, M., Laxmidewi, M. and Dworkin, M. S. (2016) 'A Step Towards Improving Food Safety in India: Determining Baseline Knowledge and Behaviors Among Restaurant Food Handlers in Chennai', *Journal of environmental health*, 78 (6) 18-25
- Mai, R. and Hoffmann, S. (2012) 'Taste lovers versus nutrition fact seekers: how health consciousness and self-efficacy determine the way consumers choose food products,' *Journal of Consumer Behaviour*, 11 (4) 316-328.
- Mai, R. and Hoffmann, S. (2015) 'How to Combat the Unhealthy = Tasty Intuition: The Influencing Role of Health Consciousness?', *Journal of Public Policy and Marketing*, 34 (1) 63-83.
- Michaelidou, N. and Hassan, L. M. (2007) 'The role of health consciousness, food safety concern and ethical identity

- on attitudes and intentions towards organic food,' *International Journal of Consumer Studies*, 32 (2) 163-170
- Montandon, A. C., and Colli, C. (2016) 'Effective nutrition labels for fast food consumers,' *British Food Journals*, 118 (10) 2534-2549.
- Moser, A. K. (2015) 'Thinking green, buying green? Drivers of pro-environmental purchasing behaviour,' *Journal of Consumer Marketing*, 32 (3) 167-175.
- Naylor, R. W., Droms, C. M. and Haws, K. L. (2009) 'Eating with a purpose: Consumer response to functional food health claims in conflicting versus complementary information environments,' *Journal of Public Policy and Marketing*, 28 (2) 221-233.
- Rock, B., Suriyan, J., Vijay, B., Thalh, N., Elango, S. and Rajajeyakumar, M. (2017) 'Organic Food and Health: A Systematic Review,' *Journal of Community Medicine and Health Education*, 7 (532) 2161-0711.
- Schnettler, B., Adasme-Berríos, C., Grunert, K. G., Márquez, M. P., Lobos, G., Salinas-Oñate, N. and Sepúlveda, J. (2016) 'The relation between attitudes toward functional foods and satisfaction with food-related life', *British Food Journal*, 118 (9) 2234-2250.
- Shamal, S., and Mohan. B. C. (2017) 'Consumer behaviour in fortified food choice decisions in India', *Nutrition and Food Science*, 47 (2) 229-239.
- Singhal, N. (2017) 'A study of consumer behaviour towards organic food and the moderating effects of health consciousness,' *IUP Journal of Marketing Management*, 16 (3) 45-79.
- Tarro, L., Martins, M. A., Tinena, Y., Parisi, J. L., Blasi, X., Giral, M., Llaurado, E. and Sola, R. (2017) 'Restaurant- based intervention to facilitate healthy eating choices and the identification of allergic foods at a family-oriented resort and a campground', *BMC Public Health*, 17 (1) 393.
- Thompson, G. D. (2017) 'Consumer demand for organic foods: What do we know and what we need to know,' *American Journal of Agricultural Economics*, 80 (5) 1113-1118.
- Walsh, D. (2014) 'Can priming a healthy eating goal cause depleted consumer to prefer healthier snacks?,' *Journal of Consumer Marketing*, 31 (2) 126- 132.
- Willis, E. and Stafford, M. R. (2016) 'Health consciousness or familiarity with supplement advertising: what drives attitude toward dietary supplements?,' *International Journal for Pharmaceutical and health care marketing*, 10 (2) 130-147

Annexure 1: Details of measurement items

Items	Source	Factor Loading	Construct Reliability
Concern on Health I am aware of healthy food* Living life without disease and illness is very important to me My health depends on how well I take care of myself I believe that exercising regularly is necessary to be healthy I exercise regularly	Hong (2009), Dutta-Bergman (2005)	0.524 0.647 0.685 0.873 0.586	0.774
Healthy food habits I consume only healthy food* I avoid foods containing preservatives I avoid foods that are high in fat I avoid foods with high salt content I avoid foods with high-calorie content I prefer eating at hygienic places* I eat at roadside stalls*® I prefer tasty food over healthy food * ®	Dutta-Bergman (2005), Kraft and Goodell (1993)	0.567 0.737 0.797 0.753 0.773 0.555 0.583 0.596	0.829
Healthy lifestyles I'm concerned about my health all the time. I'm very self-conscious about my health I'm attentive to my inner feelings about my health. Nutrition information influences what I buy	Hong (2009)	0.814 0.790 0.848 0.760	0.770

* Introduced in the current research; ® Reverse coded item

Model

	coeff	se	t	p	LLCI	ULCI
constant	.6446	.1907	3.3810	.0009	.2687	1.0206
CoH	.1907	.0809	2.3562	.0194	.0311	.3503
HL	.5458	.0775	7.0391	.0000	.3929	.6986

**** TOTAL EFFECT MODEL ****
OUTCOME VARIABLE: HFH

Model Summary

R	R-sq	MSE	F	df1	df2	p
.6301	.3970	.3961	133.6552	1.0000	203.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	.9427	.2069	4.5557	.0000	.5347	1.3507
CoH	.6402	.0554	11.5609	.0000	.5310	.7494

Covariance matrix of regression parameter estimates:

	constant	CoH
constant	.0428	-.0112
CoH	-.0112	.0031

***TOTAL,DIRECT and INDIRECT EFFECTS OF X ON Y ***

Total effect of X on Y

Effect	se	t	p	LLCI	ULCI	c_ps	c_cs
.6402	.0554	11.5609	.000	.5310	.7494	.7918	.6301

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI	c'_ps	c'_cs
.1907	.0809	2.3562	.0194	.0311	.3503	.2359	.1877

Indirect effect(s) of X on Y:

Effect	BootSE	BootLLCI	BootULCI
HL	.4495	.0848	.2903 .6243

Partially standardized indirect effect(s) of X on Y:

Effect	BootSE	BootLLCI	BootULCI
HL	.5559	.1003	.3662 .7599

Completely standardized indirect effect(s) of X on Y:

Effect	BootSE	BootLLCI	BootULCI
HL	.4424	.0817	.2850 .6070

****ANALYSIS NOTES AND ERRORS ****

Level of confidence for all confidence intervals in output:95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:5000

Annexure 2: Output of mediation analysis

OUTCOME VARIABLE: HL

Model Summary

R	R-sq	MSE	F	df1	df2	p
.7889	.6223	.2619	334.4767	1.0000	203.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	.5462	.1683	3.2460	.0014	.2144	.8781
CoH	.8236	.0450	18.2887	.0000	.7348	.9124

Covariance matrix of regression parameter estimates:

	constant	CoH
constant	.0283	-.0074
CoH	-.0074	.0020

OUTCOME VARIABLE: HFH

Model Summary

R	R-sq	MSE	F	df1	df2	p
.7182	.5158	.3196	107.5839	2.0000	202.0000	.0000