

**Modeling the Mediating and Moderating Roles of Food Media Exposure,
Food Literacy, Fear of Coronavirus Anxiety, and Healthy Eating among
Chinese**

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Abstract

Background: The pandemic of novel coronavirus (COVID-19) that we are facing affects daily habits. On a global scale, restrictions in mobility, social distancing measures, and the persistent health alarm resulted in dramatic lifestyle changes and affected physical and even psychological wellbeing during the period of a pandemic. We assessed consumption and acquisition of food before and during the lockdown due to the COVID-19 outbreak to understand eating behavior during an unexpected situation.

Objectives: The study aims to develop new diagnostic, predictive, and prognostic systems in health promotion for a fuller picture of the real world. It examined complex causal models with both simultaneous and sequential mediation between media exposure, healthy diet, food literacy, and fear of anxiety. As a moderator, characteristics of socioeconomic status were considered to influence the level and presence of a relationship between food media use and healthy food consumption.

Theoretical Framework: Social cognitive theory predicts healthy eating based on media exposure to food. In addition, on the basis of the generalized arousal mechanism, fear of coronavirus anxiety predicts food media use and healthy eating habits. When food literacy levels are taken into account in the model, the association between food media exposure and healthy eating habits is strengthened. Hypothetically, the level of a relationship between these variables is influenced by four characteristics of socioeconomic status, including education, income, employment status, and subjective social status.

Method: An international research team was constituted to develop a study involving different countries about food media use, dietary habits, and behaviors related to food intake, acquisition,

and preparation. This study presented the results of an online survey in the Greater China area (Mainland China, Taiwan, Hong Kong, and Macao), by carrying out during the first lockdown, in 2020. It assessed food-related behavior and how people perceived them to change, compared to the period preceding the COVID-19 outbreak. A cross-sectional survey was conducted online from November and December 2020. It was intended for Chinese residents 18 years of age or older. Two clusters were identified, based on the nutritional level of food type, which was classified as “healthier” and “unhealthier.” To examine the modeling effect, a multiple regression analysis for the data on food media and healthy diet with categorical status (employment, social status) demographic were operated jointly. Participants were asked to select whether the frequency was lower, higher, or equivalent compared to their usual behavior before the pandemic. After collecting data on each of these variables, SPSS statistics 24 was used for descriptive analysis and causal relationships.

Results: A total of 474 responses, collected from Mainland China (64.1%), Macau (23.6%), Hong Kong, and Taiwan (1.5%), were considered for analysis. Results suggested that the relationship between food media use and healthy food consumption showed full mediation, and its total effect was also significant. Considering food literacy was a mediating factor, a positive statistical relationship between food media exposure and healthy eating habits remained ($B = .051, p < .001$). Another finding showed that media use affected healthy eating mainly through the fear of coronavirus anxiety ($B = .014, p < .001$). In addition, regarding the contribution to the total product, the percentage of the mediation effect of food literacy was 3.7 times higher than that of fear. In this study, socioeconomic characteristics was found to be a preeminent factor of the learning process regarding sustainable and healthy diets. In particular, two moderators, subjective social status and employment status, helped judge the external validity of this study. Social status served as a moderator to identify the limitations of when the

relationship between food media and eating holds. The other moderator showed that while food media use predicted the level of healthy food consumption, this relationship was stronger among those with higher employment status. In comparison, the moderating effect of subjective social status was more influential than employment status, which played a positive and important role in reinforcing each of the three pathways from food media exposure to food literacy, to fear feelings, and to healthy eating.

Conclusions: Including mediators and moderators in our research goes beyond studying a simple relationship between food and media. It also facilitates our understanding of the complex causal relationships, the main changes, and their underlying motivations in a time of unprecedented crisis. It is of major importance, as it provides the scientific support that allows one to anticipate the implications for the future of the global food and nutrition system and, consequently, to take the appropriate action.

Keywords: media exposure, healthy eating, food literacy, fear, subjective social status, employment status