



ELSEVIER

Available online at [www.sciencedirect.com](http://www.sciencedirect.com)

Public Health

journal homepage: [www.elsevier.com/puhe](http://www.elsevier.com/puhe)

## Original Research

# Identifying factors associated with fast food consumption among adolescents in Beijing China using a theory-based approach

R. Ma <sup>a</sup>, D.C. Castellanos <sup>b,\*</sup>, J. Bachman <sup>c</sup><sup>a</sup> Department of Nutrition and Dietetics, Marywood University, 2300 Adams Ave, Scranton, PA, 18509, USA<sup>b</sup> Department of Health and Sport Science, University of Dayton, 300 College Park, Dayton, OH, 45469, USA<sup>c</sup> Department of Exercise Science and Sport, University of Scranton, 800 Linden St., Scranton, PA, 18510, USA

## ARTICLE INFO

## Article history:

Received 28 November 2015

Received in revised form  
10 March 2016

Accepted 19 March 2016

Available online xxx

## Keywords:

Nutrition transition

Dietary changes

Western fast food chains

Chinese fast food chains

Childhood obesity

Adolescent

## ABSTRACT

**Objectives:** China is in the midst of the nutrition transition with increasing rates of obesity and dietary changes. One contributor is the increase in fast food chains within the country. The purpose of this study was to develop a theory-based instrument that explores influencing factors of fast food consumption in adolescents residing in Beijing, China.

**Design:** Cross-sectional study.

**Methods:** Value expectancy and theory of planned behaviour were utilised to explore influencing factors of fast food consumption in the target population. There were 201 Chinese adolescents between the ages of 12 and 18. Cronbach's alpha correlation coefficients were used to examine internal reliability of the theory-based questionnaire. Bivariate correlations and a MANOVA were utilised to determine the relationship between theory-based constructs, body mass index (BMI)-for-age and fast food intake frequency as well as to determine differences in theory-based scores among fast food consumption frequency groupings.

**Results:** The theory-based questionnaire showed good reliability. Furthermore, there was a significant difference in the theory-based subcategory scores between fast food frequency groups. A significant positive correlation was observed between times per week fast food was consumed and each theory-based subscale score. Using BMI-for-age of 176 participants, 81% were normal weight and 19% were considered overweight or obese. Results showed consumption of fast food to be on average  $1.50 \pm 1.33$  per week. The relationship between BMI-for-age and times per week fast food was consumed was not significant.

**Conclusions:** As the nutrition transition continues and fast food chains expand, it is important to explore factors effecting fast food consumption in China. Interventions targeting influencing factors can be developed to encourage healthy dietary choice in the midst of this transition.

© 2016 Published by Elsevier Ltd on behalf of The Royal Society for Public Health.

\* Corresponding author. Tel.: +1 937 229 4206; fax: +1 937 2294244.

E-mail addresses: [rma@m.marywood.edu](mailto:rma@m.marywood.edu) (R. Ma), [dcuycastellanos1@udayton.edu](mailto:dcuycastellanos1@udayton.edu) (D.C. Castellanos), [Jessica.bachman@scranton.edu](mailto:Jessica.bachman@scranton.edu) (J. Bachman).<http://dx.doi.org/10.1016/j.puhe.2016.03.019>

0033-3506/© 2016 Published by Elsevier Ltd on behalf of The Royal Society for Public Health.

## Introduction

Owing to rapid urbanisation, globalisation of the food industry, wide use of mass media and communication, and shifts in the workforce with low-energy expenditure labour, the nutrition transition has taken place globally.<sup>1</sup> China, a developing country, has been facing the nutrition transition with its large shifts in the structure of the population's diet and activity pattern.<sup>1</sup> The traditional diet in China is based on cereals, vegetables and a few animal-based foods. It has been considered one of the healthiest diets in the world due to it being low in fat and energy density, high in complex carbohydrates and adequate in fibre.<sup>2</sup> In the Campbell et al.<sup>2</sup> study (1998), it was found that fat intake in rural China was less than half of that in the USA, while fibre intake was three times higher than that in the USA. Also, the study found protein intake in rural China to be as low as 10% of that in the USA.<sup>2</sup> However, recent research suggests that this traditional healthy diet is being abandoned, and unhealthy eating behaviours are being adopted. The average intake of cereal has declined while the consumption of edible oils and animal source foods has increased rapidly.<sup>3</sup> Along with these changes, the pattern of disease has shifted to higher rates of non-communicable diseases such as heart disease, cancers, type 2 diabetes mellitus, obesity, osteoporosis, neuropsychiatric disorders and other disease.<sup>4</sup> Furthermore, Nielsen and Popkin reported a positive association between non-communicable diseases consumption of convenience food, fast food, and snacking as well as large portion sizes.<sup>5</sup>

The fast food industry is a form of global business.<sup>6</sup> In 1978, China opened its doors to the transnational fast food industry through reform policy. During this time, fast food was introduced to the mainland of China.<sup>7</sup> A little over 10 years later, the Chinese government decided to include the fast food industry as a part of the Five-Year-Plan (1991–1995), a social and economic development plan, in 1994. Two years later, in 1996, the government established the fast food development guidelines, defining fast food as tasty, quick and nutritious food.<sup>7</sup> Since then, the fast food industry in China has grown rapidly. This can be seen not only in the growing market size of Westernized fast food chains, but also in the growth of local Chinese fast food chains.<sup>7</sup> Westernized chains that are most present in China include KFC, McDonald's, Pizza Hut, Subway as well as Burger King. Recently, these restaurants have been expanding at a rapid rate. For example in 2005, KFC had 1200 restaurants in mainland China, and now it has more than 3900 locations in China. McDonalds placed second with more than 600 locations in 2005, now the number has increased to more than 1400 locations today.<sup>8</sup> Local Chinese fast food restaurants that have appeared in the Chinese food market include California Beef Noodle King, Little Sheep, Little Potato, Malan Noodles, and Daniang Dumplings.<sup>9</sup>

Hence, following the nutrition transition, the prevalence of obesity has increased in China, especially childhood obesity.<sup>3</sup> According to the International Obesity Task Force, in 2000, 15% of children aged 2–6 years and 8% of children and adolescents aged 7–17 years were overweight or obese in China.<sup>3</sup> By the end of 2000, the obesity rate of male students in Beijing reached 15%, doubling that of 1990.<sup>10</sup> Moreover, in 2005, the prevalence of childhood overweight and obesity in China was

32.5% for male students and 17.6% for female students in the northern big cities in China.<sup>11</sup>

In the USA, research indicates that fast food and meals consumed away from home accounts for about 20% of children's diets.<sup>12</sup> Fast food makes up only a small percent of meals consumed in China; however, it is speculated that this will increase as the fast food market increases.<sup>12</sup> As the fast food industry continues to grow, it is important to examine factors influencing the frequenting of fast food intake by Chinese youth.

Several behavioural theories have been used in an attempt to explain dietary or other health related behaviours. One health behaviour theory is the Theory of Planned Behaviour (TPB) developed by Ajzen and Fishbein,<sup>14</sup> and is used to understand determinants of different health behaviours.<sup>13</sup> According to this theory, behaviour is affected by the intention. Intention is then further driven by three constructs: attitudes; subjective norms and perceived behaviour control.<sup>13,14</sup> The TPB has been widely used in predicting health behaviour within certain populations. Furthermore, the Value Expectancy Theory (VET) has also been used to explain certain health related behaviour.<sup>14</sup> As indicated by Glanz et al.<sup>15</sup> VET refers to a person's belief of his or her ability to partake or perform a behaviour under a specific situation. It is a good model for predicting whether a person will take a specific action within a specific situation. Thus, through combining these two theories, this study attempts to develop and test a theory-based questionnaire that identifies factors relating to fast food consumption in adolescents in China as well as examine the relationship between these factors and fast food consumption frequency.

## Methods

### Study design

This was a cross-sectional study. Data were collected between December 2012 and November 2014.

### Sample

Participants were recruited from Longtan middle school located in Chongwen district in China. Based on financial report data from the year 2009, the Chongwen district's average yearly 1 income was approximately 28,000 yuan (approximately 4500 USD) and average expense was 20,000 yuan (approximately 3174 USD).<sup>16</sup> The average income for Beijing as a whole for the year 2009 was 26,738 yuan (approximately 4244 USD).<sup>17</sup> A total of 210 students, between 12 and 18 years old ( $M = 13.96$ ,  $SD = 1.32$ ) with the ability to read Chinese participated in this study. A trained-Chinese research assistant distributed the questionnaires to eligible participants. The questionnaires were self-administered and participation was anonymous.

### Instrumentation

Demographic, theory-based, and buying behaviour questionnaires were utilised for this study. The demographic

Download English Version:

<https://daneshyari.com/en/article/7526216>

Download Persian Version:

<https://daneshyari.com/article/7526216>

[Daneshyari.com](https://daneshyari.com)