Analysis of Influence of Family Status on Dietary Behavior of Preschool Children through Data Samples: A Case Study of Eating Frequency of Western Fast Food

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Abstract. Children's eating habits are closely related to not only their own growth and development, but also their psychological development. In order to explore the influence of family status on the frequency of Western fast food eating for preschool children, this study selected five aspects of preschool education, including the cognitive level of adopters and family income, as the research dimension, and used SPSS software to analyze nearly 2000 groups of data. The study found that the low cognitive level of adopters in Western fast food behavior caused children to eat Western fast food more frequently. Children with high family income, decent parents, high educational level of parents and family living conditions had higher frequency of eating Western fast food. Finally, it is proposed to improve children's dietary behavior by improving their dietary education, education ability and their own dietary behavior, developing diversified and interesting dietary health, health education activities, and strengthening the publicity of dietary education in kindergartens.

1. Introduction
With China's reform and opening up, foreign cultures have gradually entered China. Dietary culture is one of them. Fast food, as one of the staple foods in the West, naturally slowly affects the Chinese people. Western fast food is popular with young people and children. At the beginning of the influx, the price of Western fast food in China is quite high. The frequency of Western fast food used by families is also different. The main factors affecting children's consumption behavior of Western and Chinese fast food are family income, children's gender and parents' educational level [1]. Nowadays, high-frequency Western fast food has become a trend of the times. Western fast food conforms to the changes of market economy with the advantages of convenience and hygiene, and develops vigorously. Western fast food refers to the food that can be prepared and supplied quickly. It has the characteristics of "high fat, high energy, high protein" and "low vitamin, low mineral, low fiber" [2]. It contains hydrogenated oil, which causes chronic diseases, has an impact on the intelligence of children
and adolescents, and has a negative impact on the health belt. For children themselves, high-frequency food, Western fast food, will hinder their development [3].

In this study, the cognitive level of foster care providers, family, income, parents’ occupation, parents’ educational level and children’s location are selected as the research dimensions. After collecting relevant information about preschool children's dietary habits, dietary environment and dietary preferences, the problems of children's dietary behavior in Western fast food were found through statistical analysis. In order to improve children's dietary behavior, practical corrective strategies are put forward.

2. Research method

Based on the description of the dimensions of this study and the confirmation of a large number of other research data, the observational indicators of this study were formulated (Table 1 and 2).

| Category                                      | Recording index                                                                 |
|-----------------------------------------------|---------------------------------------------------------------------------------|
| Cognitive level of foster care providers      | 1. Does Western fast food affect children's growth?                              |
|                                               | 2. Does the frequency of taking children to eat Western fast food affect the growth of children? |
|                                               | 3. When children want to eat Western fast food, how to deal with it?             |
| Family income (CNY)                           | 1. 1500-4000                                                                    |
|                                               | 2. 4001-800                                                                     |
|                                               | 3. 8001-1200                                                                    |
|                                               | 4. 12001-2000                                                                   |
| Parental occupation                           | 1. Farmers                                                                      |
|                                               | 2. Workers                                                                       |
|                                               | 3. Personnel of state-owned enterprises                                         |
|                                               | 4. Civil servants/Public institutions                                           |
| Educational level of parents                  | 1. Below junior high school                                                      |
|                                               | 2. Junior high school / Technical secondary school                               |
|                                               | 3. High school                                                                   |
|                                               | 4. Undergraduate / Junior College                                                |
|                                               | 5. Master and above                                                              |
| Location of children                          | 1. Rural areas                                                                   |
|                                               | 2. County town                                                                  |
|                                               | 3. Urban area                                                                    |

Table 2. Family status record of this study.

| Category                              | Recording index                   |
|---------------------------------------|------------------------------------|
| Number of fast food meals a day, a week and a month | 1. Number of french fries |
|                                       | 2. Number of cola                  |
|                                       | 3. Number of fried chicken         |
|                                       | 4. Number of dessert portions      |

In this study, questionnaires were distributed and collected in Fuling District, Kaizhou District, Xiushan County in Chongqing City and Chengdu City, Xiamen City, Shenzhen City and Zhejiang province. Then, the observation method and questionnaire method were used to investigate the children and their families in the above areas. The questionnaires were sent out on December 25, 2018 to parents of young children. A total of 2000 questionnaires were sent out and 1895 questionnaires were collected, of which 1650 were valid. Among them, 892 were male infants, accounting for 54.06% of the total number, and 758 were female infants, accounting for 45.93% of the total number. The sample data collected were analyzed by statistical method, and the Western fast food behavior of 1650 children was analyzed in detail by SPSS software.
3. Results and analysis

3.1. Cognitive level of foster care providers
Table 3 shows that the cultural level, occupation, monthly income, dietary habits and family conditions of the adopters all have an impact on the frequency of Western fast food consumed by preschool children. Among them, the higher the cultural level of the adopters, the better the nutritional awareness of school-age children. Children of school age who are engaged in mental work in the careers of foster care have better knowledge of child nutrition. School-age children with better dietary behavior in their families with dependants have better nutritional awareness. School-age children with good dietary habits have better nutritional awareness. The monthly family income and the situation of the family with a family dependant have no relationship with the nutritional cognition of school-age children.

Table 3. The influence of cognitive level of different foster care providers on the frequency of preschool children eating Western fast food (unit: person).

| Type of foster care providers | Transfer health food for children eating Western fast food | Children need to eat Western fast food and buy it in stores |
|------------------------------|----------------------------------------------------------|----------------------------------------------------------|
| Degree of education          |                                                          |                                                          |
| Junior college or above      | 618                                                      | 212                                                      |
| Below high school            | 222                                                      | 598                                                      |
| Occupation                   |                                                          |                                                          |
| Civil servant                | 612                                                      | 308                                                      |
| Worker                       | 265                                                      | 465                                                      |
| Monthly income               |                                                          |                                                          |
| >=5000                       | 467                                                      | 408                                                      |
| <=5000                       | 385                                                      | 390                                                      |
| Eating habits                |                                                          |                                                          |
| Preferably                   | 786                                                      | 212                                                      |
| Poor                         | 100                                                      | 226                                                      |
| Family situation             |                                                          |                                                          |
| Happiness                    | 435                                                      | 395                                                      |
| Unhappiness                  | 390                                                      | 420                                                      |

3.2. Family income
According to Table 4, it can be seen that in low-income families and high-income families, the frequency of taking school-age children to eat Western fast food is very low, mainly because low-income families generally come from rural areas, many families and children do not have access to Western fast food, so their frequency of eating Western fast food is very low; families with good economic conditions have strict requirements and control over their children's diet, so they eat Western fast food very often. In contrast, preschool children from middle-income families and higher-income families eat Western fast food more frequently.

Table 4. The influence of different family income on the frequency of preschool children eating Western fast food (unit: person).

| Family income | Never take children to fast food | Every day / almost every day | 4-5 times / week | 2-3 times / week | ≤1 time / week |
|---------------|---------------------------------|------------------------------|-----------------|-----------------|---------------|
| 1500-4000     | 186                             | 53                           | 36              | 52              | 23            |
| 4001-8000     | 78                              | 60                           | 77              | 80              | 54            |
| 8001-12000    | 66                              | 66                           | 75              | 59              | 67            |
| 12001-20000   | 487                             | 36                           | 43              | 26              | 26            |

3.3. Parental occupation
As can be seen from Table 5, families whose parents are farmers and workers have very low frequency of taking school-age children to eat Western fast food, mainly because they seldom have the opportunity to accompany their children when they work abroad all the year round; part of the reason
may be that many families and children in rural areas do not have access to Western fast food, so they eat Western fast food very often. By contrast, preschool children whose parents are employees of state-owned enterprises, civil servants and public institutions eat Western fast food more frequently, mainly because they have a lot of time to accompany their children, and because their economic base is better, their consumption is more diverse. Pre-school children who eat Western fast food tend to eat healthier foods such as vegetables and fruits. They are not only well nourished, physically resistant, but also relatively tall. However, children who eat Western fast food frequently have unbalanced nutritional supply, focusing only on the supply of meat, sugar and fat, and lack of vitamins and minerals.

Table 5. The influence of parents’ different occupations on the frequency of preschool children eating Western fast food (unit: person).

| Parental occupation                        | Never take children to fast food | Few take children to fast food | Occasionally take children to fast food | Frequently take children to fast food | Always take children to fast food |
|--------------------------------------------|----------------------------------|-------------------------------|----------------------------------------|--------------------------------------|----------------------------------|
| Farmer                                     | 270                              | 67                            | 24                                     | 17                                   | 14                               |
| Worker                                     | 263                              | 62                            | 36                                     | 19                                   | 35                               |
| Employees of state-owned enterprises       | 53                               | 84                            | 160                                    | 140                                  | 40                               |
| Employees of civil servants / Public institution staff | 64                               | 76                            | 108                                    | 86                                   | 32                               |

3.4. Educational level of parents

According to Table 6, the parents' educational background is below junior high school, junior high school and senior high school families. They take school-age children to eat Western fast food more frequently because they lack correct parenting knowledge and nutrition and health knowledge. In order to make children happy or accept their own education, the incentive measures of Western fast food are adopted. Therefore, school-age children have developed a high frequency of eating Western fast food and bad eating habits. In contrast, the frequency of Western fast food for preschool children whose parents have bachelor's degree or master's degree is lower, mainly because they have correct dietary cognitive style and correct parenting methods. Parents with insufficient knowledge of parenting neglect children's diet, which leads to their preferential taste.

Table 6. The influence of parents' educational level on the frequency of preschool children eating Western fast food (unit: person).

| Educational level of parents | Never take children to fast food | Few take children to fast food | Occasionally take children to fast food | Frequently take children to fast food | Always take children to fast food |
|------------------------------|---------------------------------|-------------------------------|----------------------------------------|--------------------------------------|----------------------------------|
| Below junior middle school   | 47                              | 77                            | 72                                     | 74                                   | 83                               |
| Junior middle school         | 58                              | 70                            | 83                                     | 82                                   | 93                               |
| High school                  | 82                              | 95                            | 75                                     | 84                                   | 75                               |
| Undergraduate                | 97                              | 52                            | 54                                     | 35                                   | 36                               |
| Master and above             | 69                              | 44                            | 42                                     | 28                                   | 33                               |

3.5. Location of children

According to Table 7, school-age children in rural families eat Western fast food very low, mainly because low-income families generally come from rural areas, many families and children do not have access to Western fast food, so they eat Western fast food very low frequency. However, school-age children's families in county, city and provincial capital cities, because of the better economic situation of their families, they contact western-style fast food early accompanied by their parents. With the
convenience and rapidity of western-style fast food, parents develop bad eating habits for preschool children, and let them prefer western-style fast food. Correspondingly, these preschool children eat Western fast food more frequently, so excessive salt and calorie supply can easily lead to high cholesterol, which is not beneficial to the heart, blood vessels and kidneys.

| Location of children | Never take children to fast food | Few take children to fast food | Occasionally take children to fast food | Frequently take children to fast food | Always take children to fast food |
|----------------------|---------------------------------|-------------------------------|----------------------------------------|--------------------------------------|----------------------------------|
| Countryside          | 302                              | 60                            | 54                                     | 37                                   | 23                               |
| County town          | 58                               | 145                           | 126                                    | 115                                  | 87                               |
| Urban district       | 70                               | 160                           | 143                                    | 145                                  | 125                              |

4. Discussion
When parents educate their children's dietary behavior, there are still many inappropriate ways to use them. Facing the problem of children's dietary behavior, some parents will spoil their children too much, and they will always satisfy them whatever they want to eat, thus ignoring the nutritional value of food. A few parents will adopt a laissez-faire attitude, which can satisfy the parents or children's requirements at that time, and cultivate the bad eating habits of the children for a long time. Generally speaking, most parents' education methods are basically correct. However, although parents use the correct education methods and set rules for their children, they abandon the original education methods because of their own impatience, lack of time and other factors, and reduce the requirements for their children, which will also have a negative impact on their children.

Family is the earliest contact ring mirror of an individual after birth. It also has the earliest impact on the individual, the longest and deepest impact on the environment. Individuals learn mainly through observation in early childhood, and children's imitation is very strong. Therefore, parents' words and deeds have a subtle impact on children [4].

Research shows that the number of parents who are picky and partial to food is close to that of children who have this behavior. Among 300 parents, 130 (43.33%) were picky and partial, while 121 (40.33%) were distracted during the diet [5]. They are totally exclusive of foods they don't like. But in the family, no one criticizes them for doing so. In fact, many parents know that picky eating and partial eating are harmful to their health. They have not set an example to correct their children's picky eating and partial eating behavior, and can not establish children's inner education.

Research shows that family factors have a significant impact on children's eating habits [6,7]. The statistical results of this study also show that family factors have decisive effects on children's fast food habits.

5. Conclusion
The research shows that family environment factors have a significant impact on children's dietary behaviour. (1) The cognitive level of foster care providers is the most important and comprehensive among all kinds of family environment factors. The better the cognitive level of foster care providers, the better the habits of children's dietary habits and dietary composition. (2) Family income: Family income has a two-way effect on children's eating behavior. On the one hand, family income reduces children's pickiness and preference, and improves their dietary structure. On the other hand, it promotes the habits of bad drinking habits. (3) Parent's occupation: Mother's occupation mainly affects some dietary behaviors related to food preparation and quality. These dietary behaviors of children are the best when their mothers work for their brains. Father's occupation mainly affects some purchasing power-related dietary behaviors, such as sweets, drinks, fried foods, Western fast food, vegetables, fruits and animal foods. When father's occupation is half-brained, children's dietary structure is better, but their dietary habits are obviously worse. (4) Parents' educational level and family living conditions: Parents' educational level also has a two-way effect on children's dietary behavior, which can not only
improve children's dietary structure, especially the intake of animal food, but also promote the occurrence of some bad dietary habits.

In view of the bad eating habits of school-age children, strengthening the cooperation between kindergartens and families, and jointly improving children's dietary behavior, the words and deeds of teachers and parents are bound to have a significant impact on individual development. Only when parents and teachers have basically the same educational concepts and adopt similar educational methods, can we achieve twice the result with half the effort by cultivating children's good dietary behavior. In this way, not only can children's psychological and physical development be normal, but the measures also conducive to social stability and sustainable development.

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