

Research Article

A Study of Assessment and Acting Factors on Young Teachers' Knowledge, Attitude and Practice (KAP) for Food Security

Changfa Wu and Haiyan Qi

Department of Literature and Education, Bengbu College, Bengbu, Anhui 233030, P.R. China

Abstract: Young teachers have been a drive for development to our country's universities. In order to follow their awareness of food security and physical status with interest, we, firstly, carry out an investigation into the young teachers' Knowledge, Attitude and Practice (KAP) under the age of 40 by cluster sampling in the 14 universities in Anhui province, then, make analysis of the data through statistic methods of T test and the other tests concerned, with conclusions that the positive correlations lie between the knowledge and the attitude, the attitude and the practice while the knowledge and the practice have not interrelated evidently. Finally, we submit proposals for how to improve the young teachers' consciousness for food security from the respects of KAP in universities in Anhui province.

Keywords: Factors, food security, KAP, young teachers

INTRODUCTION

In recent years, owing to the acute shortage of professional faculties with the increasing scale of high education, universities have to introduce personals with doctor and master degrees every year to strengthen their teaching staff. Therefore, the tendency of promoting younger staff has come into being gradually and they have become a pivotal drive among university teachers in our country, which determines the universities future and the nation's talents training as well as its education tomorrow (The Requirements of the Ministry of Education, 2012). Hence, it makes great significance to concern the young teachers' KAP for food security in universities in our country.

KAP model was firstly designed by Stevens in America in 1990s in which people's behavior was classified into three successive procedures of acquisition of the knowledge, establishing of the attitude and carryout of the practice (Liu, 2013). Accordingly, K (knowledge) indicates the understanding of the basic knowledge of science and technology and their basic concepts, A (attitude), the attitude to the scientific and technological knowledge and their social effects, P (practice), how to live and work scientifically. Simply, KAP mode can be denoted by the formula "knowledge-attitude-practice". This study, by the use of KAP model in the field of food security, makes a survey into young teachers' knowledge and their attitude and practice in universities in Anhui province to make their KAP status quo and existing problems clear in order that some relevant

recommendations can be made to intervene the food security strategies for them.

SUBJECTS AND METHODS

Subjects: Young teachers under the age of 40 (Li, 2013) in 14 universities in Anhui province with inclusive of Anhui University, Hefei University of Technology, Anhui Agricultural University, Bengbu University, Chuzhou University, Huangshan University, Anhui Vocational College of Electronics and Information Technology and Chuzhou Vocational and technical College.

Methods:

Questionnaire: A questionnaire about young teachers' food security and their health in Anhui province has come into being by referring relevant foreign studies and projects and combining some experts evaluation, panel discussions and pre-surveys with contents of the young teachers personal data, their food security knowledge, attitude and practice.

Rating criteria: The questionnaire consists of multiple choices of knowledge, attitudes and practice for food security with tests of 30, 6 and 14, marks of 60, 12 and 28, respectively. For the multiple choices, single correct answer, 2 marks, two-thirds multiple correct answer, 1 point, or else 0 point. The KAP scores can be obtained from adding the individual items, less than 60 would be failure, between 60 and 80 would be good, more than 80, excellent.

Corresponding Author: Changfa Wu, Department of Literature and Education, Bengbu College, Bengbu, Anhui 233030, P.R. China

This work is licensed under a Creative Commons Attribution 4.0 International License (URL: <http://creativecommons.org/licenses/by/4.0/>).

Table 1: The general conditions of the subjects and their scores of KAP for food security in universities in Anhui province

Category	Index	Frequency	Percentage	Knowledge		Attitude		Practice	
				$\bar{x} \pm s$	p	$\bar{x} \pm s$	p	$\bar{x} \pm s$	p
Age	Under 30	87	17.0	38.7±5.45	0.883	7.5±5.58	0.033	17.4±4.95	0.047
	30-35	203	39.7	41.1±5.32		8.2±5.24		22.1±4.81	
	36-40	221	43.3	41.3±5.71		8.8±4.72		21.5±5.05	
Sex	Male	235	46.0	43.4±5.57	0.602	8.1±5.55	0.515	16.4±5.13	0.224
	Female	276	54.0	38.5±5.43		8.5±4.82		22.2±4.51	
Degrees	Master	353	69.1	40.0±5.53	0.043	8.2±5.53	0.074	18.7±4.93	0.147
	Doctor	158	30.9	42.5±5.21		8.5±5.21		21.4±4.72	
Professional titles	Teaching assistant	41	8.0	37.5±5.35	0.561	6.8±4.45	0.223	17.3±5.37	0.043
	Lecturer	293	57.3	39.5±5.37		8.4±5.12		18.0±4.84	
	Assistant professor	148	29.0	43.3±5.42		8.6±5.25		22.5±4.51	
Specialties	Professor	29	5.7	45.7±5.53	0.035	8.2±6.23	0.046	23.1±4.25	0.316
	Liberal arts	242	47.4	33.2±5.51		7.8±5.57		23.4±5.34	
	Science	269	52.6	47.6±5.42		8.8±5.53		16.0±4.32	

Table 2: The KAP scores for young teachers about food security in universities in Anhui province

Item	Subtotal score	($\bar{x} \pm s$)	Pass rate (%)	Excellence rate (%)
Rate total	100	68.59±5.46	65.3	15.5
K score	60	40.76±5.46	62.5	17.6
A score	12	8.32±5.03	85.7	57.4
P score	28	19.51±4.83	55.4	12.7

Quality control:

Questionnaire reliability measurement: Repeated measures will be taken to the subjects accounting for 50% eligible group in their university with the intervals of 30 days. By analyzing the results of the two measurements, the reliability coefficient is 0.91, indicating that the correlation is high and is in line with the research requirements.

Questionnaire quality control: The questionnaire is done by the researchers and the three trained investigators who come from the target university. Before the questionnaire the investigators should explain the purpose and precautions, When the questionnaires are collected, eliminate the invalid ones to ensure the validity of the questionnaire (Kong, 2013).

Selecting the subjects: The subjects must be willing to participate in the investigation and they should conscientiously cooperate with the researchers and their answers authentic to ensure the reliability of the survey.

Statistical analysis: Before data entry, review the questionnaire for a second time and establish a database by using the statistical software SPSS18.0, then the related statistical description and inference will be made through logic debugging by the ways of Descriptive Statistics, T test and the other tests concerned.

RESULTS AND ANALYSIS

The general information for questionnaire: The study issued 528 questionnaires to young teachers under the age of 40 in 14 universities such as Anhui University, Hefei University of Technology, Anhui Agricultural University, Bengbu University, Chuzhou

University, Huangshan University, Anhui Vocational College of Electronics and Information Technology and Chuzhou Vocational and technical College in Anhui province by cluster sampling, recovering 511 valid questionnaires with effective rate of 96.8%. The specific conditions are shown in Table 1.

Investigation and analysis of knowledge for food security: The questionnaire describes the general status of the young teachers' KAP for food security in universities in Anhui province by the methods of taking average, standard deviation and T tests. The average KAP scores in 511 valid samples in Table 2, with the higher scores, the better knowledge, the more positive attitude and the more sensible practice.

The average scores of food security for the young teachers in universities in Anhui province is 40.76±5.46. The result is generally plain. Meanwhile, the T test in Table 1 shows that there is no statistic significance in comparing average scores by the young teachers' age, gender and their professional titles ($p > 0.05$), however, there is, according to their degrees and specialties ($p < 0.05$). The calculated data shows that the higher the degree, the more scores of food security knowledge, while science teachers score higher than arts teachers. The young teachers in universities in Anhui province recognize the food security knowledge better from the perspective of mastering the content of the knowledge but for some common-sense knowledge such as "What does the sign QS on the food packing indicate?" "Have you heard of McDonald chicken coke in 2010?" "What reasons generate sitotoxism?" "What diseases can be prevented by eating skinned fruits?". The average scores for such questions are less than 50%, indicating that young teachers do not know enough of their own food security (Yang, 2011). On the other hand, it shows that they lack of some common

Table 3: Topics of questionnaires and scores of the food security knowledge for young teachers in universities in Anhui province

No	Topics	Score rate (%)	No	Topics	Score rate (%)
1	What are the green foods?	75.2	16	Can unpackaged frozen dumplings be sold in the supermarket?	88.4
2	What's the mark for green food?	81.4	17	What is the classified credibility for restaurants?	90.3
3	What are the organic foods?	80.6	18	How to differentiate fresh meat?	68.4
4	What are genetically modified foods?	90.1	19	Can mouldy corn and groundnut be eatable?	89.9
5	What are food additives?	92.3	20	Which of the following foods are uneatable?	75.2
6	Have you got the idea of Measures for the Hygienic administration of food additives?	98.8	21	Which foods can be used as food additives?	60.7
7	Have got the idea of Food Hygiene Law of the People's Republic of China?	72.1	22	What problems exist in using food additives?	82.3
8	What does the sign QS on the food packing indicate?	42.6	23	What is food security?	79.1
9	What food adopt QS?	62.7	24	What reasons generate sitotoxism?	20.4
10	What is sitotoxism?	75.9	25	Can day-old leftover be eatable?	60.5
11	Do you how to cope with sitotoxism?	50.2	26	Are medium-cooked kidney beans pernicious?	71.2
12	Are you aware of the event of gutter oil?	78.6	27	What effects will carbonate drinks bring to human body?	59.8
13	Have you heard of McDonald chicken coke in 2010?	30.7	28	Having instant noodles is noxious to health?	62.1
14	Have you heard of the event of fox meat in Walmart in 2013?	72.5	29	Having monosodium glutamate is noxious to health?	91.2
15	What sources have you access to the knowledge for food security?	81.5	30	What diseases can be prevented by eating skinned fruits?	45.5

Table 4: Questionnaires and scores of the attitude for young teachers in universities in Anhui province

No	Topics	Score rate (%)	No	Topics	Score rate (%)
1	How about the present status for food security in our country?	88.5	4	Do you think whether breakfast is important for health or not?	82.2
2	Whether do you guide your diet by your food security knowledge?	45.6	5	Do you think it necessary that regular education for food security should be carry out?	23.9
3	What influence will be brought to health by eating snacks?	52.8	6	Whether do you pay attention to the information for food security through media?	79.8

awareness to prevent disease. Scores of the questionnaire about the food security knowledge are shown in Table 3.

Investigation and analysis of the attitude for food security: Table 4 is a questionnaire form of attitude for food security and specific scores. The average scores of attitude for food security for the young teachers in universities in Anhui province is 8.32 ± 5.03 . The result is generally plain. Meanwhile, the T test in Table 1 shows that there is no statistic significance in comparing average scores by the young teacher's gender, degree and their professional titles ($p > 0.05$), however, there is, according to their age and specialties ($p < 0.05$). The calculated data shows that the elder the age, the more scores of food security attitude, while science teachers score higher than arts teachers. Attitude for food security of young teachers in universities in Anhui province is general good from the perspective of mastering the content of the concrete attitude. However, the average scores of such questions are no less than 50% as "Whether do you guide your diet by your food security knowledge?" and "Do you think it necessary that regular education for food security should be carry out?"

Investigation and analysis of practice for food security: Table 5 is a questionnaire form of practice for food security and specific scores. The average scores of

practice for food security for the young teachers in universities in Anhui province is 19.51 ± 4.83 from calculation. The result is generally plain. Meanwhile, the T test in Table 1 shows that there is no statistic significance in comparing average scores by the young teacher's gender, degree and their professional titles ($p > 0.05$), however, there is, according to their age and specialties ($p < 0.05$). Calculated data shows that the age among 30-35 will get the highest scores of food security practice and those assistant professors always score highest than the other professional titles. We come to the conclusion that the attitude for food security of the young teachers in universities in Anhui province is in general from the view point of obtaining the specific content of a food security practice. The score rate for half of the questionnaires is less than 50%.

Correlation analysis of the subjects' KAP: As the scores of KAP are continuous variables, the coefficients are calculated and significantly tested by the way of product-moment correlation between any two of the three variables. The results (Table 6) shows that the positive correlations occur between K and A ($r = 0.828$, $p < 0.01$), A and P ($r = 0.765$, $p < 0.01$), while no correlation exists between K and P, which is in line with the KAP theoretical model, that is, the higher standard of food security knowledge, the better of

Table 5: Questionnaires and scores of food security practice for young teachers in universities in Anhui province

No	Topics	Score rate (%)	No	Topics	Score rate (%)
1	How to dispose the food beyond expiry date or deterioration?	81.6	8	Do you often clean or sterilize your kitchen regularly?	30.4
2	Do you often check the date of production, date of use and quality testimony concerned when you purchase goods?	48.2	9	Do you produce and preserve cooked and uncooked food separately?	45.1
3	What will you do when you buy food with poor quality or expired food?	75.2	10	Do you clean or skin them when you eat melons or fruits?	28.3
4	Are you a regular roadside eater?	52.8	11	What will you cope with day-long leftovers?	72.5
5	Do you often have fried food?	48.9	12	Do you often have salted food?	43.2
6	Do you often drink unboiled water?	78.2	13	Do you often have Puffed food?	18.6
7	Would you like to have raw seafood and rare meat?	70.6	14	Do you often have carbonated drinks?	

Table 6: A list of correlation coefficient of KAP of the young teachers in universities in Anhui province

	Nutritional knowledge		Nutritional attitude		Nutritional practice	
	r	p	r	p	r	p
Nutritional knowledge	1.000	-	0.828	<0.01	0.352	>0.05
Nutritional attitude	0.828	<0.01	1.000	-	0.765	<0.01
Practice	0.352	>0.05	0.765	<0.01	1.000	-

attitude, on basis of which good practice comes into being (Nutbeam, 2008).

CONCLUSION AND PROPOSALS

Conclusions: The research shows that the factors play pivotal role in the K standard of young faculties in universities in Anhui province are degrees and specialties, The more of literate, the higher of corresponding food security knowledge. Compared to the liberal arts, science young teachers have a relatively higher K level. Meanwhile, The higher standard of food security knowledge has a greater impact on the food security attitudes and practice with the higher level of knowledge, the better of attitudes and practice, on the contrary, good attitude will enable knowledge to convert easily to rational food security practice, which has been proved to be by the theory of Knowledge-Attitude-Practice (KAP) that the increasing knowledge will lead to the change of attitude and practice, these will in turn be bound to promote the accumulation of knowledge (Zhai, 2007).

Proposals: School's management should raise awareness through the media such as radio stations, newspapers, magazines, websites and lectures to strengthen the publicity of the food security knowledge to enlarge the channels for the young teachers to obtain food security information in order to help them form good atmosphere to acquire the knowledge.

Lead the young teachers to concern their diets, encourage them to participate sports actively and change their unhealthy habits and additions gradually, advocate them to guide their diet with food security knowledge and improve their philosophy of food security.

Strengthen food security surveillance to young teachers, understand their food security status to discover and solve problems timely, help them to

develop good eating behaviors and habits to improve their dietary quality and make their eating behavior more rational.

ACKNOWLEDGMENT

Funded projects: Colleges and universities in Anhui province provincial outstanding young talent funded project (2013SQRW072ZD).

REFERENCES

- Kong, D.C., 2013. A research on food safety Knowledge, Attitude and Practice (KAP) and their factors to Qingdao residents [D]. Qingdao University, Qingdao, pp: 28-31.
- Li, Y.J., 2013. Inquiry about the defined identity and age of young teachers in university [J]. J. Liaoning Educ. Admin., 2: 75-79.
- Liu, A.H., 2013. A research on nutritional KAP status of girls in a vocational college [D]. Jilin University, Changchun, pp: 4-7.
- Nutbeam, D., 2008. The evolving concept of health literacy [J]. Soc. Sci. Med., 67(12): 2072-2078.
- The Requirements of the Ministry of Education, 2012. Strengthen the Training of Young Teachers Teaching Ability [EB/OL]. Retrieved form: <http://edu.sina.com.cn/1/2012-12-13/1554223134.shtml>. (Accessed on: Dec. 13, 2012)
- Yang, K., 2011. Analysis of health literacy status and its factors to university students in Taiyuan [D]. Shanxi Medical University, Tianyuan, pp: 25-26.
- Zhai, Y.L., 2007. A nutritional surveys and KAP to 249 medical students at the age of 18-25-year-old in Lanzhou [D]. Lanzhou University, Lanzhou, pp: 12-14.