

Empirical Analysis on Chinese Undergraduates' Consumption Levels

—A Case Study of the 2006 Survey Data of Wuhan—

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Abstract

This paper is rested on statistics of undergraduates' consumption in 2006, in Wuhan, China. According to the situation, we analyze the factors which exercise influence over undergraduates' consumption levels. These factors chiefly include in economy, psychology, family and society and so on. These are important basis that we instruct and educate undergraduates to consume.

I. Introduction

With the acceleration of the popularization of higher education in China, undergraduates have been placed more emphasis upon in society and their consumption has become a hot topic. People offer favorable study environment and superior living conditions for their children in the hope that they may grow into talents. In order not to let their children go through hardship or be discriminated by others, parents are willing to pinch and save to guarantee that their children live a better life. As the saying goes "however difficult, we should not let the children live a tough life." Due to unbalanced socioeconomic development, urban-rural, regional and family disparities still generally exist. Besides, the outlooks on educational value of parents also differ. Therefore, undergraduates have diversified

consumption levels.

The study on undergraduates' consumption can be conducted from many different perspectives, such as the levels, structure, psychology and behaviors of consumption, consumption guide, and education of consumption, etc, in which the consumption level is the starting point and foundation of the study, because the study of any respect of undergraduates' consumption must be based on and related to consumption level.

This paper plans to carry out empirical analysis on undergraduates' consumption levels in aspects of economic, psychological, family and social factors according to survey data, aiming to study the factors influencing consumption and their degrees and to put forward suggestions on the guide and education of undergraduates' consumption.

II. Source of Data

At present, since China has not involved undergraduates' consumption into the range of national basis statistics (actually it is impossible or unnecessary for the state to carry out an overall survey on this), only sample survey data could be used to determine the moderate consumption levels of undergraduates. And sample size and

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distribution must be worked out first according to the fundamental requirements of sample survey and inference. Sample size is related to the degree of variation, range of permissible errors, reliability of sample inference, sampling method and organization method. With given sample size, only random sampling can ensure that sample distribution represents the overall distribution.

In line with the theoretical guidance of sampling survey and requirements of actual survey data, we carried out a survey on consumption among 3000 undergraduates in Wuhan in 2006 by random non-repeated sampling, and received 2662 effective questionnaires, with a ratio of 88.73%. The sample distribution is generally the same with overall distribution. Statistical calculation results showed that the per capita consumption was RMB 485.67, the highest consumption level was RMB 2500 and the lowest was RMB 95, and the standard deviation was RMB 228.869. Accordingly, if the confidence is 95.45% and the total permissible error is controlled within RMB 20, then the minimal sample size by pure random repeated sampling and by pure random non-repeated sampling is 524 and 438, respectively; if the confidence is 95.45% and total permissible error is controlled within RMB 10, then the minimal sample size by pure random repeated sampling and by pure random non-repeated sampling is 2096 and 1173, respectively. Hence, we believe that the data of this survey is effective.

III. Classification of Consumption

Undergraduates' consumption is classified by various methods by domestic researchers. Here, we take the international universal method of dividing into five levels. Assuming that undergraduates' consumption level is normal distributed¹⁾, we may divided them into low, medium-low, medium, medium-high and high levels.

If \bar{x} stands for the monthly average amount of consumption of undergraduates, σ for the standard deviation, $1 - \alpha$ for the intermediate frequency of amount of consumption, and $u_{\alpha/2}$ for the corresponding critical value of the intermediate frequency, then, the general formula of calculating different types of consumption levels is

$$\bar{x} - u_{\alpha/2} \times \sigma \sim \bar{x} + u_{\alpha/2} \times \sigma$$

where

low level: below $\bar{x} - 0.84 \times \sigma$

medium-low level: $\bar{x} - 0.84 \times \sigma \sim \bar{x} - 0.25 \times \sigma$

medium level: $\bar{x} - 0.25 \times \sigma \sim \bar{x} + 0.25 \times \sigma$

medium-high level: $\bar{x} + 0.25 \times \sigma \sim \bar{x} + 0.84 \times \sigma$

high level: above $\bar{x} + 0.84 \times \sigma$

The survey showed that the monthly average consumption of undergraduates in 2006 was RMB 485.67 and the standard deviation was RMB 228.87. According to the method of dividing into five levels, the interval estimations of all consumption levels are as follows:

1) In fact, standard normal distribution of undergraduates' consumption level is not possible. And the normally distributed level here is taken as a reference for classification.

Classified monthly consumption levels of undergraduates

Unit: Yuan

Type of consumption	Low consumption	Medium-low consumption	Medium consumption	Medium-high consumption	High consumption
Consumption level in 2006	Below 293	293-428	428-543	543-678	Above 678

IV. Empirical Analysis

Undergraduates live in society and their consumption levels are inevitably affected by multiple factors including psychology, family background and social environment besides economic factor.

(I) Economic factor

According to the survey in 2006, the per capita capital obtained by undergraduates through

various channels was RMB 9355.73 and the standard deviation was RMB 3402.57. The concrete division is as below:

According to the theory on relationship between income and consumption, economic factor is the main factor restricting consumption, which is also applicable to undergraduates' consumption.

Classification table of sources of capital of undergraduates in 2006

Classification of income	Low	Medium-low	Medium	Medium-high	High
Amount (Yuan)	Below 6498	6498-8505	8505-10206	10206-12214	Above 12214

Table of cross classification analysis of undergraduates' consumption and income

Classification of income		Low consumption	Medium-low consumption	Medium consumption	Medium-high consumption	High consumption	Total
Low income	Number of people	81	187	91	26	30	415
	%	19.5	45.1	21.9	6.3	7.2	100.0
Medium-low income	Number of people	113	337	229	90	75	844
	%	13.4	39.9	27.1	10.7	8.9	100.0
Medium income	Number of people	70	194	163	85	106	618
	%	11.3	31.4	26.4	13.8	17.2	100.0
Medium-high income	Number of people	26	86	84	64	57	317
	%	8.2	27.1	26.5	20.2	18.0	100.0
High income	Number of people	29	139	115	78	107	468
	%	6.2	29.7	24.6	16.7	22.9	100.0
Total	Number of people	319	943	682	343	375	2662
	%	12.0	35.4	25.6	12.9	14.1	100.0

The above table shows that low and high consumption levels are significantly correlated with income levels. Among undergraduates with low consumption, 19.5% have low income, 11.3% have medium income and only 6.2% have high income; on the contrary, of undergraduates with high consumption, only 7.2% have low income, 17.2% have medium income, while 22.9% have high income. According to the character that both consumption and income of undergraduates

are ordinal variables, examination was carried out by Kendall's tau-b correlation measurement method. The correlation coefficient was 19.4%, standard error of estimate was 0.015, and corresponding significance level was smaller than 0.001. This indicates that only 19.4% of consumption can be explained by income and there are other factors that also exert influence on undergraduates' consumption.

(II) Psychological factor

Table of cross classification analysis of undergraduates' consumption and consumption ideas

Classification of consumption ideas		Low consumption	Medium-low consumption	Medium consumption	Medium-high consumption	High consumption	Total
Economical & practical	Number of people	309	862	585	278	271	2305
	%	13.4	37.4	25.4	12.1	11.8	100.0
modern & individualized	Number of people	4	21	25	29	34	113
	%	3.5	18.6	22.1	25.7	30.1	100.0
Brand-oriented	Number of people	1	11	16	13	23	64
	%	1.6	17.2	25.0	20.3	35.9	100.0
Conformable to the public	Number of people	5	44	45	18	37	149
	%	3.4	29.5	30.2	12.1	24.8	100.0
Others	Number of people	0	5	11	5	10	31
	%	0	16.1	35.5	16.1	32.3	100.0
Total	Number of people	319	943	682	343	375	2662
	%	12.0	35.4	25.6	12.9	14.1	100.0

From the above table we can see that, among undergraduates in favor of economical and practical consumption, medium-low consumption take the highest proportion of 37.4%; among those in favor of modern and individualized consumption, high consumption occupies the highest proportion of 30.1%; among those brand-pursuing undergraduates, high consumption accounts for the highest proportion of 35.9%; and among those who follow the public, medium consumption covers the highest proportion of 30.2%. As

undergraduates' consumption is ordinal variable and their consumption ideas belong to nominal variable, examination was conducted by contingency coefficient correlation measurement method and the value was 22.6%, with a corresponding significance level smaller than 0.001. This indicates that the undergraduates' consumption psychology is influential to their consumption behaviors.

In order to get rid of the impact of income on consumption psychology, we introduced

Symmetric Measures

Classification of undergraduates' income			Value	Approx. Sig.
Low income	Nominal by Nominal	Contingency Coefficient	.299	.001
	N of Valid Cases		415	
Medium-low income	Nominal by Nominal	Contingency Coefficient	.277	.000
	N of Valid Cases		844	
Medium income	Nominal by Nominal	Contingency Coefficient	.299	.000
	N of Valid Cases		618	
Medium-high income	Nominal by Nominal	Contingency Coefficient	.242	.231
	N of Valid Cases		317	
High income	Nominal by Nominal	Contingency Coefficient	.253	.010
	N of Valid Cases		468	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

"undergraduates' income" as control variable. The contingency coefficients related to the conditions and ideas of consumption of undergraduates at different income levels are as below:

The above data indicate that, after introducing the control variable "undergraduates' income", in general, there still is significant correlation between consumption ideas and consumption of undergraduates. From the contingency coefficients we can see that, when the significance

level is smaller than 0.05, except that the contingency coefficient of medium-high income is not significant, there are significant correlations for the rest income levels, and the values are all higher than original coefficients; the contingency coefficients of low and high incomes approach to 30% after income is not considered.

(III) Family factors

1. Family size

Table of cross classification analysis of undergraduates' consumption and their family sizes

Classification by family size		Low consumption	Medium-low consumption	Medium consumption	Medium-high consumption	High consumption	Total
Fewer than 3	Number of people	43	246	250	150	180	869
	%	4.9	28.3	28.8	17.3	20.7	100.0
4	Number of people	146	401	272	124	114	1057
	%	13.8	37.9	25.7	11.7	10.8	100.0
More than 5	Number of people	129	291	157	64	73	717
	%	18.1	40.8	22.0	9.0	10.2	100.0
Total	Number of people	318	938	679	338	367	2640
	%	12.0	35.5	25.7	12.7	13.9	100.0

Note: There are 22 missing data on the number of family members.

The above table shows that the percentages of undergraduates with low and medium-low consumption rise along with the increase of family sizes; for low consumption, the proportions of undergraduates whose number of family members are fewer than 3, equal to 4 and more than 5 are 4.9%, 13.8% and 18.1%, respectively, and the last figure exceeds 6.1% of the mean value. While the percentages of undergraduates with medium-high and high consumption fall along with the increase of family sizes; for high consumption, the proportions of undergraduates whose number of family members are fewer than 3, equal to 4 and more than 5 are 20.7%, 10.8% and 10.2%, respectively, and the first figure is 6.8% greater

than the mean value. Since both undergraduates' consumption and their family sizes are ordinal variables, examination was performed by Kendall's tau-c coefficient correlation measurement method and the value was -20.7%, with a corresponding significance level P smaller than 0.001. This indicates that family sizes affect the consumption behaviors of undergraduates.

In order to eliminate the influence of income on family size, we introduced "undergraduates' income" as control variable. The Kendall's tau-c coefficients concerning the conditions of consumption and the family sizes of undergraduates at different income levels are as below:

Symmetric Measures

Classification of undergraduates' income			Value	Asymp. Std. Error(a)	Approx. T(b)	Approx. Sig.
Low income	Ordinal by Ordinal	Kendall's tau-c	-.205	.040	-5.074	.000
	N of Valid Cases		414			
Medium-low income	Ordinal by Ordinal	Kendall's tau-c	-.214	.030	-7.176	.000
	N of Valid Cases		843			
Medium income	Ordinal by Ordinal	Kendall's tau-c	-.207	.036	-5.792	.000
	N of Valid Cases		610			
Medium-high income	Ordinal by Ordinal	Kendall's tau-c	-.116	.050	-2.331	.020
	N of Valid Cases		313			
High income	Ordinal by Ordinal	Kendall's tau-c	-.170	.042	-4.076	.000
	N of Valid Cases		460			

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

The data as shown in the table indicates that, after introducing the control variable "undergraduates' income", there still is significant correlation between undergraduates' consumption and their family sizes. From Kendall's tau-c coefficients we may see that, when the significance level $P < 0.05$, for undergraduates' consumption and their family sizes, the correlation values of

low, medium-high and high incomes are slightly weaker than the original value -20.7% and the correlation values of medium-low and medium incomes are stronger than or equal to -20.7%, indicating that family size does have an influence on consumption.

2. Fathers' educational background

Table of cross classification analysis of undergraduates' consumption and their fathers' educational background

Fathers' educational background		Low consumption	Medium-low consumption	Medium consumption	Medium-high consumption	High consumption	Total
Elementary school or below	Number of people	56	105	50	17	20	248
	%	22.6	42.3	20.2	6.9	8.1	100.0
Secondary school	Number of people	128	275	155	64	61	683
	%	18.7	40.3	22.7	9.4	8.9	100.0
Secondary education	Number of people	114	428	348	171	177	1238
	%	9.2	34.6	28.1	13.8	14.3	100.0
Three-year higher education	Number of people	9	61	65	43	55	233
	%	3.9	26.2	27.9	18.5	23.6	100.0
Four-year higher education or above	Number of people	10	55	58	45	58	226
	%	4.4	24.3	25.7	19.9	25.7	100.0
Total	Number of people	317	924	676	340	371	2628
	%	12.1	35.2	25.7	12.9	14.1	100.0

Note: There are 22 missing data on the number of family members.

By observing the above data we may find that, the percentages of undergraduates with low and medium-low consumption decrease along with the rise of fathers' educational status; for low consumption, the proportions of undergraduates whose fathers graduated from elementary schools or below and from universities or above make up 22.6% and 4.4%, respectively, 10.5% greater and 7.7% smaller than the mean value, respectively. The percentages of undergraduates with medium-high and high consumption increase along with the rise of fathers' educational status; for high consumption, the proportions of undergraduates whose fathers graduated from universities or above and from elementary schools or below take up 25.7% and 8.1%, respectively, 11.6% greater and 4% smaller than the

mean value, respectively. Since both undergraduates' consumption and their fathers' educational background are ordinal variables, examination was performed by Kendall's tau-b coefficient correlation measurement method and the value was 21.9%, with a corresponding significance level $P < 0.001$. This indicates that fathers' educational background affects the consumption behaviors of undergraduates.

In order to eliminate the influence of income on fathers' educational background, we introduced "undergraduates' income" as control variable. The Kendall's tau-b coefficients concerning the conditions of consumption of undergraduates at different income levels and their fathers' educational background are as follows:

Symmetric Measures

Classification of undergraduates' income			Value	Asymp. Std. Error(a)	Approx. T(b)	Approx. Sig.
Low income	Ordinal by Ordinal	Kendall's tau-b	.195	.043	4.510	.000
	N of Valid Cases		405			
Medium-low income	Ordinal by Ordinal	Kendall's tau-b	.224	.027	8.221	.000
	N of Valid Cases		836			
Medium income	Ordinal by Ordinal	Kendall's tau-b	.158	.033	4.717	.000
	N of Valid Cases		607			
Medium-high income	Ordinal by Ordinal	Kendall's tau-b	.182	.048	3.774	.000
	N of Valid Cases		317			
High income	Ordinal by Ordinal	Kendall's tau-b	.238	.036	6.436	.000
	N of Valid Cases		463			

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

The above data show that, after introducing the control variable "undergraduates' income", there still is significant correlation between undergraduates' consumption and their fathers' educational background. From Kendall's tau-b coefficients we may see that, when the significance

level $P < 0.001$, the correlation values of medium-low and high consumption are 22.4% and 23.8%, which are still higher than the original value 21.9%, indicating that fathers' educational background does have an influence on consumption.

3. Mothers' educational background

Table of cross classification analysis of undergraduates' consumption and their mothers' educational background

Mothers' educational background		Low consumption	Medium-low consumption	Medium consumption	Medium-high consumption	High consumption	Total
Elementary school or below	Number of people	128	270	125	38	55	616
	%	20.8	43.8	20.3	6.2	8.9	100.0
Secondary school	Number of people	104	281	169	85	80	719
	%	14.5	39.1	23.5	11.8	11.1	100.0
Secondary education	Number of people	74	324	312	169	161	1040
	%	7.1	31.2	30.0	16.3	15.5	100.0
Three-year higher education	Number of people	8	28	40	27	42	145
	%	5.5	19.3	27.6	18.6	29.0	100.0
Four-year higher education or above	Number of people	4	28	34	18	29	113
	%	4.4	24.3	25.7	19.9	25.7	100.0
Total	Number of people	318	931	680	337	367	2633
	%	12.1	35.4	25.8	12.8	13.9	100.0

Note: There are 29 missing data on the number of family members.

By observing the above data we may find that, the percentage of undergraduates with low consumption reduces along with the rise of mothers' educational status; the proportion of undergraduates whose mothers graduated from elementary schools or below accounts for 20.8%, 8.7% greater than the mean value. The percentages of undergraduates with medium-high and high consumption increase along with the rise of mothers' educational status; for high consumption, the proportions of undergraduates whose mothers graduated from junior colleges, universities or above and elementary schools or below take up 29.0%, 25.7% and 8.9%, respectively, 16.1% and 11.8% greater and 5% smaller than the mean value, respectively. Since both

undergraduates' consumption and their mothers' educational background are ordinal variables, examination was performed by Kendall's tau-b coefficient correlation measurement method and the value was 22.6%, with a corresponding significance level $P < 0.001$. This indicates that mothers' educational background impacts the consumption behaviors of undergraduates.

In order to get rid of the influence of income on mothers' educational background, we introduced "undergraduates' income" as control variable. The Kendall's tau-b coefficients concerning the conditions of consumption of undergraduates at different income levels and their mothers' educational background are as follows:

Symmetric Measures

Classification of undergraduates' income			Value	Asymp. Std. Error(a)	Approx. T(b)	Approx. Sig.
Low income	Ordinal by Ordinal	Kendall's tau-b	.259	.040	6.483	.000
	N of Valid Cases		407			
Medium-low income	Ordinal by Ordinal	Kendall's tau-b	.208	.027	7.580	.000
	N of Valid Cases		836			
Medium income	Ordinal by Ordinal	Kendall's tau-b	.173	.033	5.227	.000
	N of Valid Cases		611			
Medium-high income	Ordinal by Ordinal	Kendall's tau-b	.163	.046	3.504	.000
	N of Valid Cases		316			
High income	Ordinal by Ordinal	Kendall's tau-b	.244	.038	6.359	.000
	N of Valid Cases		463			

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

The above data show that, after introducing the control variable "undergraduates' income", there still is significant correlation between undergraduates' consumption and their mothers' educational background. From Kendall's tau-b coefficients we may see that, when the significance

level $P < 0.001$, the correlation values of low and high consumption are 25.9% and 24.4%, which are still higher than the original value 22.6%, indicating that mothers' educational background does have an influence on consumption.

4. Fathers' occupations

Table of cross classification analysis of undergraduates' consumption and their fathers' occupations Unit: %

Fathers' occupations	Low consumption	Medium-low consumption	Medium consumption	Medium-high consumption	High consumption	Total
Department leaders in Party and government organizations	0	13.9	27.8	8.3	50.0	100.0
Section-level leaders in Party and government organizations	2.7	26.5	26.5	23.9	20.4	100.0
Leaders in public institutions	4.5	22.7	26.1	17.0	29.5	100.0
Managers in public institutions	1.9	27.6	24.8	23.8	21.9	100.0
Leaders in enterprises	2.0	12.0	30.0	24.0	32.0	100.0
Enterprise managers in charge of operation	2.7	24.7	30.1	21.9	20.5	100.0
Technicians, teachers, or doctors	4.9	30.9	38.5	12.8	12.8	100.0
Employees in commercial service industry	5.8	37.2	30.1	14.7	12.2	100.0
Industrial production workers	8.3	36.3	28.5	14.0	13.0	100.0
Peasants	24.5	46.5	19.8	5.1	4.1	100.0
Urban migrant workers	18.6	43.5	21.7	10.6	5.6	100.0
Small industrial or commercial businesses	9.0	28.2	22.1	17.2	23.5	100.0
retirees	8.8	32.5	30.0	16.3	12.5	100.0
Laid-off workers	15.4	39.9	23.1	7.7	14.0	100.0
Others	13.0	34.8	26.1	14.5	11.6	100.0
Total	12.0	35.1	25.6	13.0	14.2	100.0

The table shows that, as to low consumption, the percentages of undergraduates whose fathers are peasants, urban migrant workers and laid-off workers make up 24.5%, 18.6% and 15.4%, respectively, 12.5%, 6.6% and 3.6% greater than the mean value, respectively. Similarly, for medium-low consumption, the percentages of undergraduates whose fathers are peasants, urban migrant workers and laid-off workers cover 46.5%, 43.5% and 39.9%, respectively, 11.4%, 8.4% and 4.8% greater than the mean value. As for high consumption, the percentages of undergraduates whose fathers are department leaders in Party and government organizations, enterprise leaders and leaders in public institutions take the first three positions, being 50.0%, 32.0%

and 29.5%, respectively, 35.8%, 17.8% and 15.3% greater than the mean value, respectively. As undergraduates' consumption is ordinal variable and their fathers' occupations belong to nominal variables, contingency coefficient correlation measurement was conducted and the value was 38.8% given that the significance level $P < 0.001$. This indicates that fathers' occupations impact the consumption behaviors of undergraduates.

In order to get rid of the influence of income on fathers' occupations, we introduced "undergraduates' income" as control variable. The contingency coefficients concerning the conditions of consumption of undergraduates at different income levels and their fathers' occupations are as follows:

Symmetric Measures

Classification of undergraduates' income			Value	Approx. Sig.
Low income	Nominal by Nominal	Contingency Coefficient	.481	.000
	N of Valid Cases		409	
Medium-low income	Nominal by Nominal	Contingency Coefficient	.404	.000
	N of Valid Cases		837	
Medium income	Nominal by Nominal	Contingency Coefficient	.437	.000
	N of Valid Cases		610	
Medium-high income	Nominal by Nominal	Contingency Coefficient	.464	.005
	N of Valid Cases		317	
High income	Nominal by Nominal	Contingency Coefficient	.506	.000
	N of Valid Cases		462	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

The above data show that, after introducing the control variable "undergraduates' income", there still is significant correlation between undergraduates' consumption and their fathers' occupations. From contingency coefficients we may see that, when the significance level $P < 0.001$, the correlation values of low, medium-low,

medium and high consumption are higher than the original value 38.8%; And when $P = 0.005$, the correlation value of medium-high consumption also exceeds that, indicating that fathers' occupations do have an influence on consumption.

5. Mothers' occupations

Table of cross classification analysis of undergraduates' consumption and their mothers' occupations Unit: %

Mothers' occupations	Low consumption	Medium-low consumption	Medium consumption	Medium-high consumption	High consumption	Total
Department leaders in Party and government organizations	6.7	6.7	33.3	6.7	46.7	100.0
Section-level leaders in Party and government organizations	0	21.7	34.8	17.4	26.1	100.0
Leaders in public institutions	8.3	25.0	8.3	4.2	54.2	100.0
Managers in public institutions	9.5	12.7	34.9	27.0	15.9	100.0
Leaders in enterprises	0	23.1	30.8	7.7	38.5	100.0
Enterprise managers in charge of operation	0	12.5	40.6	25.0	21.9	100.0
Technicians, teachers, or doctors	4.5	24.0	34.8	15.4	21.3	100.0
Employees in commercial service industry	4.2	32.1	25.0	21.2	17.5	100.0
Industrial production workers	4.7	33.3	28.0	16.0	18.0	100.0
Peasants	22.5	46.9	20.0	5.5	5.0	100.0
Urban migrant workers	16.4	39.1	27.3	12.7	4.5	100.0
Small industrial or commercial businesses	6.7	23.4	27.8	19.3	22.8	100.0
Retirees	3.6	29.2	32.1	16.1	19.0	100.0
Laid-off workers	11.7	41.1	24.3	11.4	11.4	100.0
Others	8.8	35.3	27.2	13.2	15.4	100.0
Total	12.0	35.4	25.7	12.9	14.0	100.0

The table shows that, for low and medium-low consumption, the percentages of undergraduates whose mothers are peasants, urban migrant workers and laid-off workers account for 69.4%, 55.5% and 52.8%, respectively, 22.0%, 8.1% and 5.4% greater than the mean value, respectively. As regards high consumption, the percentages of undergraduates whose mothers are leaders in public institutions, department leaders in Party and government organizations and enterprise leaders take the first three positions, being 54.2%, 46.7% and 38.5%, respectively, 40.2%, 32.7% and 24.5% greater than the mean value, respectively. As undergraduates' consumption

is ordinal variable and their mothers' occupations belong to nominal variables, contingency coefficient correlation measurement was conducted and the value was 38.3% given that the significance level $P < 0.001$. This indicates that mothers' occupations affect the consumption behaviors of undergraduates.

In order to eliminate the influence of income on mothers' occupations, we introduced "undergraduates' income" as control variable. The contingency coefficients concerning the conditions of consumption of undergraduates at different income levels and their mothers' occupations are as follows:

Symmetric Measure

Classification of undergraduates' income			Value	Approx. Sig.
Low income	Nominal by Nominal	Contingency Coefficient	.493	.000
	N of Valid Cases		410	
Medium-low income	Nominal by Nominal	Contingency Coefficient	.395	.000
	N of Valid Cases		838	
Medium income	Nominal by Nominal	Contingency Coefficient	.430	.000
	N of Valid Cases		616	
Medium-high income	Nominal by Nominal	Contingency Coefficient	.486	.000
	N of Valid Cases		317	
High income	Nominal by Nominal	Contingency Coefficient	.477	.000
	N of Valid Cases		463	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

The above data show that, after introducing the control variable "undergraduates' income", there still is significant correlation between undergraduates' consumption and their mothers' occupations. From contingency coefficients we may see that, when the significance level $P <$

0.001, the correlation values at all consumption levels are higher than the original value 38.3%, indicating that mothers' occupations do have an influence on consumption.

(IV) Social factor

Table of cross classification analysis of undergraduates' consumption and their places of residence

Classification of consumption ideas		Low consumption	Medium-low consumption	Medium consumption	Medium-high consumption	High consumption	Total
Provincial capital Wuhan	Number of people	29	150	120	61	80	440
	%	6.6	34.1	27.3	13.9	18.2	100.0
Other prefecture-level cities	Number of people	22	104	128	89	108	451
	%	4.9	23.1	28.4	19.7	23.9	100.0
County-level cities or counties	Number of people	34	127	133	80	93	467
	%	7.3	27.2	28.5	17.1	19.9	100.0
Small towns	Number of people	42	164	133	66	53	458
	%	9.2	35.8	29.0	14.4	11.6	100.0
Countryside	Number of people	192	398	168	47	41	846
	%	22.7	47.0	19.9	5.6	4.8	100.0
Total	Number of people	319	943	682	343	375	2662
	%	12.0	35.4	25.6	12.9	14.1	100.0

From the above table we may see that, the undergraduates with low and medium-low consumption mainly come from rural areas, taking up 69.7%, exceeding 22.3% of the mean value (47.4=12.0+35.4); in particular, those with low consumption are from the countryside, covering 22.7%, 10.7% greater than the mean value 12%; and the percentage of those from small towns ranks second. The undergraduates with medium-high and high consumption mainly come from other prefecture-level cities, occupying 43.6%, 16.6% greater than the mean value (27%=12.9+14.1); and the percentage of those from county-level cities or counties takes the second place. And the conditions of consumption of undergraduates who are from provincial

capital Wuhan is slightly higher than the average level. As undergraduates' consumption is ordinal variable and their places of residence belong to nominal variables, contingency coefficient correlation measurement was conducted and the value was 34.5%, with a corresponding significance level $P < 0.001$. This indicates that 34.5% of consumption of undergraduates may be explained by places of residence.

In order to eliminate the influence of income on place of residence, we introduced "undergraduates' income" as control variable. The contingency coefficients concerning the conditions of consumption and the places of residence of undergraduates at different income levels are as follows:

Symmetric Measure

Classification of undergraduates' income			Value	Approx. Sig.
Low income	Nominal by Nominal	Contingency Coefficient	.377	.000
	N of Valid Cases		415	
Medium-low income	Nominal by Nominal	Contingency Coefficient	.310	.000
	N of Valid Cases		844	
Medium income	Nominal by Nominal	Contingency Coefficient	.370	.000
	N of Valid Cases		618	
Medium-high income	Nominal by Nominal	Contingency Coefficient	.364	.000
	N of Valid Cases		317	
High income	Nominal by Nominal	Contingency Coefficient	.438	.000
	N of Valid Cases		468	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

The above data show that, after introducing the control variable "undergraduates' income", there still is significant correlation between undergraduates' consumption and their places of residence. From contingency coefficients we may see that, when the significance level is smaller than 0.001, except that the contingency

coefficient 31% relating to the consumption and the places of residence of undergraduates at medium-low income level is slightly lower than the original value 34.5%, the rest coefficients are all higher than that; in particular, after the influence of income is got rid of, the contingency coefficient concerning high income is the highest.

This indicates that undergraduates' original living environments do have an influence on their consumption.

V. Conclusions

The above statistical analysis shows that, undergraduates' consumption levels are connected not only with economic factor (i.e. all kinds of incomes obtained through various channels), but also with the influence of consumption psychology, family factors (incl. family size, parents' educational background and occupations) and social factor (mainly gaps in consumption levels caused by differences in places of residence). These data provide a foundation for further research on the healthy consumption of undergraduates and enable us to actively advocate the scientific and reasonable outlook on consumption, to take proper measures according to these consumption levels, and to conduct consumption guide and finance education at the right time, in order that undergraduates will have healthy consumption.

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