

Research-based empirical analysis of college students' financial literacy influencing factors

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Abstract: Financial literacy has become one of the most important indicators of the comprehensive quality of a country's citizens. College students, as the backbone of the future society, are generally deficient in knowledge and skills in financial management, investment, and finance management, making it difficult for them to adapt to the complex and changing economic environment. In order to solve this problem, this study adopts the methods of questionnaire survey and data analysis to empirically analyze the influential factors affecting college students' financial literacy. It proposes to construct an all-round and multi-level education system and practice platform, form a linkage mechanism of financial education channels and other paths to stimulate students' intrinsic motivation, improve college students' financial literacy, and contribute to the sustainable and healthy development of China's economy and society.

1. Introduction

Financial IQ, i.e., the individual's knowledge, attitude, and behavioral ability in the financial field, covers financial management, risk prevention, financial planning, and other aspects. As the backbone of the future society and an essential participant in Internet financial activities, college students' financial literacy education must be fully emphasized^[1]. However, from the existing data, the overall performance of college students' financial literacy level is poor, and the enhancement of financial literacy is urgent, and there are generally a lack of financial knowledge, short-sighted consumption concepts, and weak investment risk awareness^[2]. Therefore, an in-depth investigation of the current situation of college students' financial literacy and its influencing factors has become an urgent and essential task in the current education work, which is of great theoretical and practical significance for improving the comprehensive quality of college students and promoting the healthy development of the social economy.

Financial literacy is one of the necessary core literacy of contemporary students, which is of great significance to their personal development and social economy^[3], and a certain research basis has been formed for the discussion of the current situation of college students' financial literacy and its influencing factors. In recent years, the economy and society have rapidly developed, and emerging financial phenomena and problems have also put forward new requirements on college students' financial literacy^[4]. In this study, taking financial literacy education as a framework, key

factors affecting college students' financial literacy will be systematically examined and analyzed to offer a scientific foundation and practical guidance for enhancing college students' financial literacy.

2. Financial literacy framework

Initiated by the Organization for Economic Cooperation and Development (OECD), PISA is an international student assessment program that focuses not only on students' knowledge acquisition but also on their practical application skills, problem-solving abilities, critical thinking, and the ability to apply what they have learned in new contexts. Since 2012, financial literacy has been included in the scope of assessment, and in April 2019, OECD released the new PISA2021 Framework for Analyzing and Assessing Financial Literacy (postponed to PISA2022 due to the New Crown Epidemic), which provides a multidimensional evaluation system for assessing college students' financial literacy and, by drawing on the assessment methodology and standards of the PISA financial literacy assessment, provides a more comprehensive understanding and PISA2022 covers both cognitive and non-cognitive domains, of which the cognitive domain is further subdivided into three dimensions: content, process and context^[5], as in Table 1:

Table 1: 2022 PISA Financial Literacy Assessment Framework.

Evaluation areas	Cognitive domain			Non-cognitive domain
	element	course of events	atmosphere	
estimation dimension (math.)	Currency and transactions	Identify financial information	Education and work	Access to information and financial education
	Risks and rewards	Analysis of financial information and conditions	Home and family	Access to money and financial products
	Risks and rewards	Assessment of financial issues	persons	consumer attitude
	Financial Outlook	Apply and understand financial literacy	societies	consumer behavior

3. An analysis of college students' financial literacy

For the purpose of assessing college students' current financial literacy comprehensively and objectively, a questionnaire on the current situation of financial literacy was designed with reference to the PISA2022 financial literacy analysis and assessment framework and an online survey was conducted with the target group of college students in Guangzhou City University of Technology, with a total of 1,010 questionnaires recovered, among which there were 969 valid questionnaires, with a valid recovery rate of 95.94%.

The questionnaire was statistically analyzed using SPSS, after which the Cronbach's alpha coefficient of the financial literacy survey section was 0.931, which indicates that the reliability of the section is excellent; the overall validity was 0.941, which indicates that the section is well structured, and the conclusions based on this result are meaningful.

3.1. Gradual improvement of financial literacy of college students during the school year

Despite the fact that the external environment and internal demand have jointly promoted the awakening of college students' awareness of financial management and their thirst for financial knowledge, the financial literacy of some college students is still in the middle to the upper level, with only 57.69 points even for the fourth-year college students. According to the survey, the

financial literacy of college students increases gradually with the increase of grade, from 51.71 to 57.69, and scores the highest in the context dimension, which indicates that college students are deepening their understanding of financial knowledge and, at the same time, they are more rational in financial decision-making and better able to formulate plans according to their own needs.

3.2. Diversified channels for college students to acquire financial knowledge

Among the participating samples, 76.68% of the college students believe they can acquire financial knowledge through newspapers and Internet media, and half of the college students believe that they can acquire financial knowledge through education and discussions among friends and relatives, which reflects the diversity of the channels for college students to choose financial knowledge. It is worth noting that more than 70% of college students believe that the school has some investment in financial education, such as conducting financial competitions, but only 54.08% believe that they can obtain financial knowledge from it.

3.3. The consumption level of college students is highly differentiated

The income of college students mainly comes from their parents' living expenses, but due to the difference in their consumption habits, the overall consumption level and financial intelligence level show a big difference. According to the survey, 51.29% of college students can spend according to their own needs, the remaining part of the college students are affected by the influence of consumption psychology, or the consumption of a strong arbitrariness, which makes them unable to make a better allocation and management of funds, 21.26% of college students reflect that the living expenses cannot cover the expenses, and nearly 40% of college students said that the monthly expenditure is the same, which to a certain extent shows the significant differences in their consumption level. This shows, to a certain extent, the big difference in their consumption level.

3.4. The consumption level of college students is highly differentiated

According to the survey, college students believe that the factors affecting their financial intelligence level come from various aspects, among which 69.97% of them believe that it is due to the increase in external temptations, and 54.08% of them believe that their parents' awareness of financial intelligence is weak and they are unable to provide them with training in financial intelligence. In addition to external factors, the lack of financial planning is also one of the most critical factors affecting the level of financial literacy of college students, with 59.24% of college students believing so. Young college students are unable to resist external temptations, which makes them fall into consumption traps. 60.89% of college students believe that the problem mainly focuses on the lack of financial knowledge, lack of practical experience, and lack of financial planning, which all reflect the lack of financial literacy of college students.

4. Empirical analysis of college students' financial literacy

4.1. Gender differences in financial literacy among college student

In order to explore the gender differences in financial literacy among college students more visually, the collected data was analyzed, and the data was obtained by the Shapiro-Wilk method, which did not satisfy the normal distribution, so the Mann-Whitney U test was used for each dimension, and the results were obtained as shown in Table 2:

As shown in Table 1, from the median point of view, to a certain extent, male students perform

better than female students, but overall, the difference is relatively small. From the point of view of significance, there is a significant difference in the level of financial literacy among college students; there is no significant difference between men and women in the situational dimension, probably because financial decisions usually depend on the environment in which they are made, and in daily life, everyone needs to face all kinds of financial decisions so that they can perform at a similar level in the situational dimension.

Table 2: Mann-Whitney U test for financial literacy by gender.

variable name	variable value	upper quartile	(statistics) standard deviation	P	median value difference	Cohen's d-value
content dimension	male	21	5.562	0.000***	1	0.259
	daughter	20	4.925			
process dimension	male	14	3.834	0.000***	1	0.24
	women	13	3.49			
situational dimension	male	23	5.061	0.255	0	0.063
	women	23	4.414			
financial literacy	male	58	13.542	0.001***	4	0.205
	daughter	54	11.397			

4.2. Grade level differences in financial literacy among college students

Financial literacy education, as an essential cornerstone of college education, is conducive to college students planning for their individual careers and future development. In view of this, it is more important to pay attention to whether there are differences in financial literacy education among students of different grades.

Since this data does not satisfy normal distribution with chi-square, the dimensions were tested by the Kruskal-Wallis test, and the statistical results were significant, but the magnitude of their differences was all less than 0.1, which is a minimal degree of difference. Considering post hoc multiple comparisons, according to Table 3, we get that there is a significant difference between the fourth-year students and the first-year students, with a greater degree of difference in the content dimension and the process dimension, probably because the students, through the four years of study, have a richer and more comprehensive knowledge of finance and economics than the first-year students and the fourth-year students start their internships, and they have more planning for financial management.

Table 3: Post hoc multiple comparisons of financial literacy by grade level.

	Subgroup A	Subgroup B	P	median difference	Cohen's d-value
financial literacy	third-year college student	first-year college student	0.001***	5	0.319
	third-year college student	second-year college student	0.574	2	0.064
	third-year college student	fourth-year college student	0.041**	3	0.204
	first-year college student	second-year college student	0.103	3	0.237
	first-year college student	fourth-year college student	0.000***	8	0.482
	second-year college student	fourth-year college student	0.017**	5	0.248

Note: ***, **, * represent 1%, 5%, and 10% significance levels, respectively.

4.3. Regression analysis of college students' financial literacy

Taking college students' financial literacy and its specific dimensions as dependent variables, students' planning for living expenses, investment attitudes, participation in family education and school activities as independent variables, and grade, major, and monthly living expenses as control variables, a multiple linear regression model was established, and the results were obtained as in Table 4:

Table 4: Regression model of financial literacy and its dimensions among college students.

variant	(1) financial literacy	(2) content dimension	(3) process dimension	(4) situational dimension
programmatic	2.255	0.82	0.473	0.962
investment climate	4.302	2.345	1.023	0.934
family education	2.698	0.768	0.695	1.235
School activities	4.189	1.666	1.497	1.026
grade	1.525	0.647	0.491	0.388
specialized field	0.856	0.312	0.209	0.335
monthly living expenses	1.393	0.567	0.392	0.434
_cons	36.52	12.449	7.881	16.19
R^2	0.125	0.135	0.116	0.072
$Adj R^2$	0.119	0.129	0.109	0.065

Note: ***, **, * represent 1%, 5%, and 10% significance levels, respectively.

According to Table 4, investment attitude has a more significant influence on financial literacy than other factors, indicating that college students' investment enthusiasm plays an essential role in cultivating their financial literacy, and they are more inclined to take the initiative to learn financial knowledge and participate in investment practice, so as to improve their financial literacy. Secondly, school activities and family education have a more significant influence on financial literacy, and the more college students participate in financial activities, the more financial knowledge they acquire in practice. In conclusion, participation in financial education activities has a significant impact on improving college students' financial literacy.

Investment attitude has the highest level of influence on the content dimension, suggesting that college students with positive investment attitudes may be more proactive in increasing the amount of financial knowledge they accumulate. Participation in school activities has the highest influence on the process dimension, suggesting that the more opportunities college students have to apply their financial knowledge to real-world situations, the higher their ability to understand, analyze, and solve financial problems. Family education has the most decisive influence on the context dimension, probably because family education permeates daily life and has an important influence on improving college student's ability to make financial decisions in various situations.

5. Suggestions for improving the financial literacy of college students

As a result of analyzing the existing literature, the authors propose a series of policy recommendations and practical approaches aiming to enhance the financial literacy of college students and cultivate high-quality students in order to meet the needs of the new era.

5.1. Enhancing policy guidance and inputs on financial literacy education

Compared with international advanced experience and China's actual needs, China's policy

guidance and investment in financial literacy education still need to be strengthened^[6]. Therefore, it is necessary to improve the construction of a standardized system for financial literacy education courses further, promote the implementation of financial literacy education, and provide more institutional support for the development of financial literacy education for college students.

5.2. Building a comprehensive financial education system

Colleges and universities are the main battlefield for promoting the construction of a financial literacy education system, and they should actively build an all-around education system. Firstly, the curriculum should be optimized, and financial literacy education should be integrated into the teaching of professional courses so that it complements professional knowledge. Secondly, colleges and universities should make full use of the second classroom, such as carrying out simulated investment competitions and other activities to enhance students' practical ability and innovative thinking. In addition, colleges and universities should also strengthen the construction of faculty, effectively improve the financial literacy of teachers, and improve the quality of teaching^[7].

5.3. Contributing to financial literacy education for college students

It is also important that all sectors of society participate in the financial literacy education of college students. Enterprises can cooperate with schools and enterprises to build a financial education practice system that deeply integrates production, learning, and research and provide various practice platforms for college students so that practical activities can become an effective extension and supplement of classroom education; in addition, the media can also play its publicity function to improve the public's awareness of risk prevention by popularizing financial knowledge, interpreting financial policies, and exposing network fraud.

5.4. Strengthening the Role of the Family in Financial Literacy

The family is the starting point for children's education and plays a fundamental role in the cultivation of financial literacy. Parents should cultivate their children's awareness of financial literacy from an early age and educate them to establish a correct view of money, consumption, and finance. At the same time, college students already have a certain foundation of financial knowledge, and parents can encourage their children to participate in financial management practices, such as regular savings, in order to enhance their financial management skills^[8].

5.5. Translating Financial Literacy into Practical Action Skills

Practice is the only way to test the truth. College students should take the initiative to learn financial knowledge and understand the domestic and international economic situation, policy changes, and market dynamics. Secondly, they should set up correct financial attitudes and scientific and rational consumption concepts and utilize their spare time to practice personal finance; finally, they should set up correct financial concepts and risk awareness, i.e., they should apply the financial knowledge and skills they have learned from the college courses and daily life to financial activities, and they should act according to their ability and avoid exceeding their ability when choosing financial products. Thus, the combination of knowledge, concepts, and skills can be realized.

To summarize, enhancing the financial literacy of college students requires the joint efforts of the government, colleges and universities, families, and all sectors of society. By building an all-round, multi-level education system and practice platform, forming a linkage mechanism of

financial education channels, sharing resources, and complementing each other's strengths, we can cultivate high-quality talents with solid financial knowledge, keen market insight and a strong sense of social responsibility, and contribute to the sustainable and healthy development of China's economy and society.

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