

# Research on the Effect of the Institutional Environment on College Students' Willingness to Engage in Agricultural-related Employment

Yuqian Dai<sup>1</sup>, Jiaqi Cheng<sup>2</sup>, Xinmeng Lu<sup>3</sup>, Ju Xu<sup>4\*</sup>

<sup>1</sup>School of Economics and Management, Shanghai Ocean University, Shanghai, China.

<sup>2</sup>School of Economics and Management, Shanghai Ocean University, Shanghai, China.

<sup>3</sup>School of Economics and Management, Shanghai Ocean University, Shanghai, China.

<sup>4\*</sup>School of Economics and Management, Shanghai Ocean University, Shanghai, China. Email: xuju0421@126.com

**Abstract:** College students represent essential human capital for modernizing China's agricultural sector and rural regions and for achieving the nation's goal of becoming an agricultural powerhouse. Recent years have witnessed the continued introduction of policies designed to support agricultural development and cultivate a skilled workforce. However, university students' current level of interest in pursuing agricultural careers remains low, posing a challenge to the timely realization of China's agricultural ambitions. Accordingly, studying the factors influencing university students' willingness to pursue agricultural-related employment is necessary. According to this context, this paper analyzes 526 survey responses (based on institutional theory and the theory of planned behavior) to appraise how the institutional environment affects university students' interest in agricultural careers. The results exhibit that regulatory, normative, and cognitive institutions exert a significant positive effect on university students' willingness to pursue such careers. Moreover, attitudes towards farming, subjective norms, and perceived behavioral control mediate this influence. Parental occupation also plays a moderating role: students whose parents work in agriculture are more susceptible to the effect of the agricultural employment institutional environment, which strengthens their attitudes towards farming, subjective norms, and perceived behavioral control. This mediating effect of attitudes towards farming, subjective norms, and perceived behavioral control on the relationship between the institutional environment and willingness to engage in agricultural employment is amplified in this group. This paper explains how the institutional environment influences university students' career choices in agriculture, thereby contributing to the application of institutional theory and offering valuable theoretical insights for realizing China's ambition of building a strong agricultural sector.

**Keywords:** Institutional Environment of Agricultural-related Employment, College Students' Employment, Willingness to Engage in Agricultural-related Employment, Institutional Theory.

## Introduction

Strengthening investment in agricultural human capital and developing a cohort of highly skilled agricultural producers and operators are essential for establishing a robust agricultural sector and achieving agricultural modernization. These efforts play a critical leading role in advancing agricultural scientific and technological innovation, cultivating growth in the agricultural industry, and strengthening rural social governance [1]. College students, particularly those pursuing degrees in agricultural sciences, represent a crucial source of human capital for modernizing agriculture and rural areas in China [2]. Encouraging and supporting the entry of college graduates into agricultural careers, offering expertise in areas such as management and technology for agricultural and rural development, offers an effective mechanism for optimizing the rural talent structure [3]. However, current challenges, including shortages and skills gaps among agricultural professionals, coupled with a lack of intrinsic motivation to remain in the agricultural sector, constrain the progress of agricultural modernization. Therefore, assessing the factors influencing college students' willingness to pursue agricultural careers in building a strong agricultural sector holds significant importance for furthering China's agricultural development and ensuring an adequate supply of skilled professionals for a modern agricultural workforce.

Research analyzing the willingness of college students to pursue agricultural-related employment mainly covers two aspects: external environmental factors and individual student characteristics. The external environment primarily involves national policy treatment [4], social values and atmosphere [5], the setting of talent cultivation courses and activities in colleges and universities [6], and the treatment and environment of agricultural-related work [7]. For individual factors, research typically considers the social and cultural capital of students' families [8], in addition to the students' own human capital, personal values, and demographic characteristics [9]. While existing research has explored the effect of various external environmental factors—including the development of the agricultural industry and the overall employment environment, the prevailing social and cultural climate, and the nature of talent cultivation programs and initiatives in colleges and universities—on the willingness of college students to consider agricultural-related employment, various institutional environmental factors related to agricultural employment frequently appear separately in the research literature. Few studies have developed a comprehensive and integrated approach, based on established institutional theory, to categorize and integrate institutional environments at various levels systematically. Secondly, in current research, most of the factors affecting the willingness of college students to pursue agricultural-related employment are often analyzed separately, and the relationship and impact mechanism between the institutional environment and the willingness of college students to enter the agricultural workforce remain insufficiently explored.

Drawing upon institutional theory, this paper evaluates the effect of the institutional environment surrounding agricultural employment on college students' willingness to pursue agricultural careers. This environment is categorized into three distinct levels: regulatory institutions, normative institutions, and cognitive institutions. The study evaluates the effect of this multi-faceted agricultural employment institutional environment on the willingness of college students to engage in agricultural-related work in developing a robust agricultural sector. In addition, according to the theory of planned behavior, strengthening an individual's attitude, subjective norms, and perceived behavioral control will enhance their willingness to pursue employment in a given field [10]. Therefore, this study will further analyze the mediating mechanism of attitude, subjective norms, and perceived behavioral control among college students considering agricultural-related employment, specifically analyzing the relationship between the institutional environment and their willingness to engage in agricultural work. Parental occupation can significantly affect the career inclinations of their children by offering access to valuable resources and relevant experiences, which can encourage individuals to pursue similar occupational paths [11]. Accordingly, this study will propose and test a model explaining how the institutional environment influences college students and increases their willingness to pursue agricultural-related employment, particularly when their parents' occupations are connected to the agricultural sector.

This study surveys 526 currently enrolled college students as its subjects to study how the institutional environment affects their willingness to pursue agricultural-related employment. The research will discuss the intermediary role of attitude, subjective norms, perceived behavioral control, and the moderating effect of parental occupation. This research contributes to an improved understanding of how the institutional environment impacts college students' willingness to engage in agricultural-related employment, thereby enriching the application of institutional theory and the theory of planned behavior in the specific context of agricultural employment among college student populations.

## **Theoretical Basis and Research Hypotheses**

### ***Institutional Environment***

Scott (1987), integrating previous scholars' perspectives, proposed an institutional theory model [12]. The term “institution,” in institutional theory, comprises regulative, normative, and cognitive elements. Regulative institutions involve established laws, regulations, and policy systems. Normative institutions involve commonly held values, beliefs, and moral principles in society. Cognitive institutions reflect the shared cognitive structures and accumulated knowledge of the masses in society, including subconsciously accepted rules and practices. Institutions exert coercive, mimetic, and normative pressures on organizations, resulting in variations among organizations across different regions (DiMaggio and Powell, 1983) [13]. Institutional theory is primarily employed in research related to organizational behavior and entrepreneurship. For instance, Rao, H. B. Liu, and Y. F. Zhang (2022), drawing upon institutional theory and beginning with the three fundamental institutional elements of regulative, normative, and cultural-cognitive, analyzed the current state of intellectual property management practices in new research and development institutions [14]. H. Zhang, X. H. Zhou, and Y. Chen (2021) utilized institutional theory to explore how the interaction between the institutional environment and economic factors impacts regional entrepreneurial activities [15]. In recent years, institutional theory has been

increasingly applied to employment-related research. For instance, Y. F. He (2024), based on institutional theory, studied the regulative, normative, and cognitive factors influencing the willingness of German youth to invest in skills development [16]. Z. N. Gao (2023), employing institutional theory, discovered that government attention directed towards the elderly population promotes the employment of the elderly through three channels: strengthening legal rights protection, enhancing corporate social responsibility, and promoting a culture of respecting, loving, and caring for the elderly [17]. Currently, the application of institutional theory remains less prevalent in research related to college students' agricultural employment. In this study, and concerning agricultural employment specifically, regulative institutions refer to national policy systems and local regulatory frameworks related to agricultural development and the various agricultural-related employment directions that college students can consider when pursuing agricultural employment opportunities; normative institutions emphasize public perceptions and attitudes towards the agricultural industry and agricultural-related work at the societal level; cognitive institutions are embodied in the specialized knowledge and practical skills of agricultural-related professionals.

### ***Theory of Planned Behavior***

The theory of planned behavior offers a valuable theory for analyzing the formation of individual behavioral intentions. This theory hypothesizes a decision-making process sequenced as "cognition-behavioral intention-behavioral outcome," arguing that behavioral intentions are influenced by attitude, subjective norms, and perceived behavioral control [10]. Attitude represents an individual's internal disposition, including their positive or negative evaluations toward a particular behavior. Subjective norms reflect the effect of the external environment, specifically the social pressure an individual perceives when considering a specific action. Perceived behavioral control describes an individual's assessment of their capacity to perform a behavior. When individuals believe they have ample experience, resources, and opportunities and foresee few impediments, their perceived behavioral control over the behavior is enhanced. Domestic researchers have extensively applied this theory to explain individual behaviors. For instance, J. L. Wang, G. C. Guo, and L. Y. Tan (2023) analyzed farmers' willingness to relinquish their homesteads, exploring contributing factors such as farmer demographics, behavioral attitudes, subjective norms, and perceived behavioral control [18]. Similarly, N. Yan, W. Y. Yuan, and L. Ren (2023) empirically evaluated how college students' perceptions of emerging business models influence their employment intentions, focusing on attitude, subjective norms, and perceived behavioral control [19]. This study draws upon the theory of planned behavior to study how the institutional environment surrounding agricultural employment affects college students' willingness to pursue agricultural careers.

### ***Institutional Environment and College Students' Willingness to Engage in Agricultural-related Employment***

Institutional theory suggests that institutional factors, such as legal frameworks, societal values, and cultural beliefs in the external environment, can influence the development of individual intentions and decision-making processes [20]. A thriving entrepreneurial and employment ecosystem requires institutional policies and actions that shape individual cognition and behavior through three key mechanisms: regulation, normalization, and cognition [21]. Concerning regulatory institutions, the government places significant emphasis on agriculture. The comprehensive implementation of the rural revitalization strategy has resulted in the introduction of numerous subsidies and industrial policies designed to promote agricultural development. These policies are essential for cultivating university students' interest in agricultural careers; whereas, the absence of a robust employment security system can reduce students' enthusiasm for pursuing agricultural work [22]. Regarding normative institutions, primarily social beliefs and values, these establish normative guidelines through social interaction, impacting individual behavior. In agricultural employment, the increasing modernization of agriculture has resulted in evolving social values related to agriculture, rural areas, and agricultural workers. Government policies are expected to further align industry standards with the agricultural sector, creating employment opportunities in agriculture. There is a growing trend of university graduates and migrant workers returning to their hometowns to establish agricultural businesses and pursue entrepreneurial opportunities in the agricultural sector [23]. Professional large-scale farms, family farms, agricultural cooperatives, agribusinesses, and operational agricultural social service organizations represent new forms of agricultural business entities actively supported by the government, contributing to the transformation and modernization of industrial structures in county regions (B. H. Wei, M. Z. Luo, and C. Y. Zeng, 2023; Y. Deng, Z. B. Wu, H. Qiu, and L. F. Luo, 2024) [23], [24]. Public engagement in agricultural entrepreneurship and employment cultivates a supportive normative institutional environment, which encourages university students to consider agricultural careers. Cognitive institutions also influence university students' interest in agricultural employment. For instance, in contrast to other institutions of higher education, agricultural and forestry universities tend to offer more courses focused on agricultural employment guidance and field-based practical training. These

opportunities allow students to develop a comprehensive understanding of the current state and future prospects of the agricultural industry, cultivate a positive perspective on agricultural employment, and acquire practical skills in agricultural production [22], thereby increasing their willingness to pursue agricultural work.

H1: The institutional environment of agricultural employment has a positive effect on college students' willingness to pursue agricultural careers. More accurately, regulative, normative, and cognitive institutions concerning agricultural employment for college students positively affect their willingness to pursue such careers.

### ***The Mediating Effect of Farming Attitude***

A student's farming attitude refers to both their personal positive or negative sentiments towards agricultural practices, as well as their individual assessments of such farming behaviors [10]. When students recognize the substantial value and meaningful significance of participating in agricultural-related work, and maintain strong enthusiasm and determination to engage in such work, these factors contribute significantly to improving their willingness to pursue agricultural-related employment opportunities. The broader institutional environment surrounding agricultural-related employment plays a crucial role in shaping college students' farming attitudes. In regulative institutions, the state places considerable emphasis on college student employment and has put forward numerous measures and relevant policies that specifically target agricultural entrepreneurship and innovation. Besides, various agricultural colleges and universities create favorable conditions for students' employment and entrepreneurial activities, which generates opportunities to effectively address societal development needs, cultivate the pursuit of admirable career aspirations, and fulfill the educational role of employment values [22]. From the perspective of normative institutions, the widespread attitudes and shared perspectives held by the general public regarding agriculture and agricultural-related employment significantly affect the farming attitudes of college students following graduation. The observed pattern of "studying agriculture, leaving agriculture, and abandoning agriculture" among agricultural college and university graduates reflects the joint impact of environmental influences and personal cognitive factors. By promoting broader societal understanding and acknowledgment of building a strong agricultural nation, while nurturing a genuine appreciation for "agriculture, rural areas, and farmers," students can develop a deeper sense of responsibility and self-awareness in their dedication to modern agricultural development [25]. In relation to cognitive institutions, students' perspectives on agricultural-related occupations are significantly influenced by their exposure to professional courses, elective subjects, and various agricultural education programs [26]. The nature of one's farming attitude directly affects one's willingness to pursue agricultural-related employment opportunities. A more favorable farming attitude correlates with a stronger willingness to engage in farming activities, while the opposite holds true as well. In comparison to other industrial sectors, agricultural engagement demands greater physical capabilities, mental dedication, and overall energy investment. It necessitates the ability to "endure loneliness and withstand trials" while fully appreciating the intrinsic value and advantages of agricultural development. Nevertheless, many students continue to view modern agriculture as a "rustic industry" and fail to recognize the substantial development potential in the agricultural sector, which consequently leads them to actively avoid agricultural and rural positions reflected by challenging conditions and lower compensation when making career choices [2], [6]. Therefore, this paper puts forward the following hypothesis:

H2: Farming attitude mediates the relationship between the institutional context of agricultural employment and college students' willingness to pursue agricultural careers.

### ***The Mediating Effect of Subjective Norms***

Subjective norms represent the extent to which social relationships influence students' behavioral decisions when they consider pursuing agricultural-related work opportunities [10]. Throughout the career selection process, students are particularly susceptible to the effect of significant social connections, including their family members, relatives and friends, teachers and classmates, as well as senior students [27]. The institutional environment surrounding agricultural-related employment significantly shapes college students' subjective norms. In regulative institutions, the national strategy of building a robust agricultural sector, which functions as an integral component of the agriculture-related regulatory framework, motivates agricultural colleges and universities to synchronize their efforts in building expert teams, offering training for grassroots personnel, and nurturing students. This enables both educators and students to establish strong roots in rural communities and dedicate themselves to serving "agriculture, rural areas, and farmers," while developing an appreciation for agriculture [28]. Regarding normative institutions, agricultural and forestry colleges and universities cultivate

an institutional spirit and campus culture that reflects the characteristics of "agriculture, rural areas, and farmers," which effectively promotes faculty members' dedication to the Party and country, while encouraging students' engagement with "agriculture, rural areas, and farmers." This approach also works to strengthen the enthusiasm for farming and agricultural work among influential social figures in students' circles. With respect to cognitive institutions, when educational institutions actively communicate information about employment opportunities for agricultural majors and demonstrate the potential career paths to students' parents, while expanding their knowledge and understanding of agriculture and agricultural-related work, this can significantly help rectify parental misconceptions about their children's employment prospects [29]. Subjective norms act as crucial factors that affect college students' willingness toward agricultural-related employment. When making career choices, college students invariably take into consideration the perspectives of others [27]. The career-seeking behavior of each college student throughout their job search and employment process is considerably impacted by the career expectations and professional experiences of their families, relatives, and friends [30]. Nevertheless, certain students and parents maintain biased viewpoints, perceiving agriculture as merely basic farming that lacks technological sophistication and future potential. As a consequence, college students exhibit reluctance to pursue agricultural careers after graduation, and many farmers similarly express a desire to distance themselves from agricultural work [5]. Based on these observations, this study puts forward the following hypothesis:

H3: Subjective norms mediate the relationship between the institutional context of agricultural employment and college students' willingness to pursue agricultural careers.

#### ***The Mediating Effect of Perceived Behavioral Control***

Perceived behavioral control refers to an individual's understanding of their past experiences and future expectations. When an individual perceives access to a greater number of resources and opportunities, coupled with fewer obstacles in a particular domain, their perceived ability to control the relevant behavior is enhanced [10]. Specifically, regarding agricultural employment, if college students perceive abundant resources and opportunities in the agricultural field, and anticipate that they will not encounter significant challenges in engaging in agricultural activities, their perceived behavioral control over agricultural engagement will be strengthened, and thus, their willingness to engage in agriculture will also increase [27].

The institutional environment surrounding agricultural employment influences college students' perceived behavioral control. In terms of regulative institutions, the development of a robust agricultural sector necessitates the establishment and improvement of training, education, and public outreach programs designed to enhance agricultural literacy among farmers. Additionally, for individuals pursuing careers as agricultural science and technology professionals, social service providers, and agricultural entrepreneurs, among other roles, enhancing the development of robust talent pipelines increases access to opportunities and resources for these specific groups [31]. Regarding normative institutions, if college students perceive strong social support in the agricultural field, they are more likely to develop the confidence and willpower necessary to overcome challenges encountered when engaging in agricultural work, and they will also be more willing to pursue and achieve personal and social value through such efforts [2]. Regarding cognitive institutions, if college students believe that they possess the requisite knowledge, skills, and abilities necessary to engage in agricultural work, they will be more confident in participating in relevant work in the agricultural industry [32].

Perceived behavioral control significantly affects students' willingness to participate in agricultural-related employment. Students' assessments of the feasibility of engaging in agricultural-related work are closely associated with their overall willingness to engage in agricultural occupations [33]. For instance, Chinese colleges and universities often prioritize the impartation of theoretical knowledge while neglecting the cultivation of practical abilities. This imbalance frequently results in many graduates lacking sufficient skills in applying agricultural knowledge with limited practical experience in the field. Accordingly, this deficiency can easily lead to a decline in confidence among college students regarding their ability to participate in agricultural-related work and a reduction in their willingness to engage in such work [34]. Therefore, this study proposes the following hypothesis:

H4: Perceived behavioral control mediates the relationship between the institutional context of agricultural employment and college students' willingness to pursue agricultural careers.



### *The Moderating Role of Parents' Occupational Types*

Familial resources and support significantly affect the employment results of college students [35]. Parental occupations, influenced by their own educational attainment and professional paths, represent a crucial form of family capital. Moreover, studies indicate that graduates from rural backgrounds, particularly those whose parents are farmers, demonstrate a more serious awareness of employment policies targeting rural and difficult areas [36]. These graduates also express stronger confidence in the effectiveness of these policies for their own career prospects [37], leading to a more serious altruistic desire to contribute, a deeper recognition of agriculture [38], and a more positive outlook on agricultural activities. Moreover, in families where individual aspirations align with familial objectives, a higher proportion of family members residing in rural areas correlates with increased encouragement for college graduates to pursue careers in agriculture [39]. Graduate students whose families have rich family social capital in specific sectors benefit from expansive professional networks that increase their negotiating power during job searches. This access helps them acquire industry-specific policy resources and information, strengthening their competitive edge, rendering them more confident in job hunting [40], and enhancing their perceived behavioral control; whereas, for students whose parents hold non-agricultural positions, parental experience in non-agricultural sectors and informal labor markets offers access to a broader range of non-agricultural and informal employment information, skills, and resources. This exposure can affect their children's career preferences [41], affecting their career selection attitudes, the employment guidance they receive, and their perceived control over their career path in a given industry.

From this perspective, we suggest that parental occupations may moderate the mediating mechanism by which the institutional environment influences students' willingness to pursue agricultural-related employment through farming attitude, subjective norms, and perceived behavioral control. When parents work in agriculture, college students are more willing to internalize institutional support, demonstrating greater attention to and understanding of relevant policies [36]. Accordingly, this helps to enhance their social support and well-being in rural communities, facilitates access to greater resources [42], and enables the acquisition of relevant opportunities with increased timeliness and accuracy [43]. Accordingly, these students are more predisposed to pursue careers in the same occupation as their parents' [44], thereby increasing their willingness to engage in agricultural-related employment. Therefore, when parental occupations are related to agriculture, students, influenced by prior knowledge and access to resources, demonstrate a strengthened intention to pursue agricultural-related employment. This strengthens the mediating roles of farming attitude, subjective norm, and perceived behavioral control (Figure 1).

The following hypotheses are proposed in this paper:

H5: The effect of the institutional context of agricultural employment on farming attitude, subjective norms, and perceived behavioral control is moderated by the types of parents' occupations. Students whose parents are farmers are more susceptible to the effects of the institutional environment on their farming attitude, subjective norms, and perceived behavioral control than students whose parents work in non-agricultural occupations.

H6: Parental involvement in agriculture moderates the mediating roles of farming attitude, subjective norms, and perceived behavioral control in the relationship between the institutional context of agricultural employment and students' willingness to pursue agricultural careers. Specifically, for students whose parents work in agriculture, the mediating effects of farming attitude, subjective norms, and perceived behavioral control on the relationship between the agricultural employment environment and their willingness to pursue agricultural careers are stronger than for students whose parents do not work in agriculture.

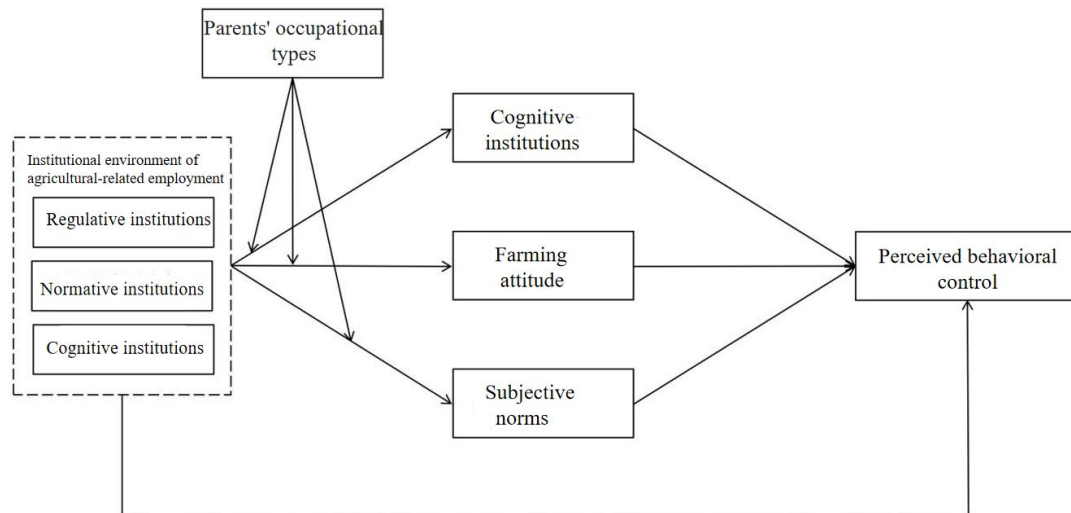


Figure 1. Theoretical Model

## Research Design

### Sample Selection and Data Sources

This study surveyed currently enrolled college students utilizing questionnaires distributed through the Wenjuanxing online platform. Data were collected through random sampling, including 34 provincial-level administrative units across the country, with a relatively even distribution among regions. The resulting data set is representative of the target population. A total of 526 valid questionnaires were retrieved, and descriptive statistics are presented in Table 1.

Table 1: Sample Composition

	Options	Frequency	Percentage
Gender	Male	271	51.5
	Female	255	48.5
Political Affiliation	Masses	56	10.6
	Communist Youth League Members	359	68.3
	Probationary CPC Members	77	14.6
	CPC Members	34	6.5
Household Registration	Agricultural Household Registration	223	42.4
	Non-agricultural Household Registration	303	57.6
Major	Agricultural-related Majors	165	31.4
	Non-agricultural-related Majors	361	68.6
Educational Background	Currently Enrolled in Junior College	138	26.2
	Currently Enrolled in Undergraduate	371	70.5
	Currently Enrolled in Postgraduate	17	3.2
School Type	Agricultural and Forestry Colleges and Universities	185	35.2
	Non-agricultural and Forestry Colleges and Universities	341	64.8
Location of School	Northeast Region (Heilongjiang, Jilin, Liaoning)	78	14.8
	North China Region (Hebei, Beijing, Tianjin, Shanxi, Inner Mongolia)	87	16.5
	East China Region (Shandong, Jiangsu, Zhejiang, Shanghai, Anhui, Jiangxi)	71	13.5
	Central China Region (Henan, Hubei, Hunan)	76	14.4
	South China Region (Guangxi, Guangdong, Hainan)	74	14.1
	Northwest Region (Xinjiang, Qinghai, Gansu, Ningxia, Shaanxi)	62	11.8
	Southwest Region (Sichuan, Chongqing, Guizhou, Yunnan, Xizang)	78	14.8
Parents' Occupational Types	Agricultural related	230	43.8
	Non agricultural related	296	56.2

### ***Variable Measurement***

#### **Explained Variable**

The measurement of willingness to engage in agricultural-related employment was based on a three-item scale adapted from Z. Y. Yin [29], including items such as "When looking for employment, if there is a suitable unit or position in the agricultural field, I would like to try." The scale employed a 5-point Likert response format, where "1" represents "strongly disagree" and "5" represents "strongly agree."

#### **Explanatory Variables**

The measurement of the institutional environment of agricultural-related employment refers to the measurement items of Manolov, aEunni, and Gyoshev [45], which includes regulative, normative, and cognitive institutional aspects. The regulative institution's subscale consists of four items, including, for instance, "In my region, the government has introduced policies to support agricultural-related employment." The normative institution's subscale includes four items, such as "Engaging in agricultural-related occupations is recognized." The cognitive institution's subscale includes four items, such as "I understand the capabilities required to engage in agricultural-related work." All subscales utilized a 5-point Likert scoring method, where "1" represents "strongly disagree" and "5" represents "strongly agree."

#### **Mediating Variables**

Referring to the measurement items developed by Z. Y. Yin [29], farming attitude is measured utilizing four items, including, for instance, "Finding suitable employment opportunities in the agricultural field can achieve self-worth." The measurement of subjective norms comprises four items, such as, "My family supports me in finding suitable work in the agricultural field." Perceived behavioral control is measured with five items, one example being, "If I work in the agricultural field, as long as I make the necessary efforts, I will be able to overcome all kinds of difficulties encountered in the work." All scales utilize a 5-point Likert scale, where 1 represents "strongly disagree" and 5 represents "strongly agree."

#### **Moderating Variable**

In the questionnaire, parental occupational types are classified into two categories: "agricultural-related (at least one of the parents is engaged in agricultural-related work)" and "non-agricultural (neither of the parents is engaged in agricultural-related work)." Agricultural-related occupations are coded as 1, and non-agricultural occupations are coded as 0.

#### **Control Variables**

Gender (1 = male, 0 = female), household registration (1 = agricultural household registration, 0 = non-agricultural household registration), and student major (1 = agricultural-related major, 0 = non-agricultural-related major) are included as control variables.

### **Data Analysis and Results**

#### ***Reliability and Validity Tests***

In this study, Cronbach's alpha coefficients for willingness to engage in agricultural-related employment, the institutional environment of agricultural-related employment, farming attitude, subjective norms, and perceived behavioral control were 0.780, 0.876, 0.830, 0.863, and 0.862, respectively. The Cronbach's alpha coefficient for the entire questionnaire was 0.928. All of these values exceed the standard threshold of 0.7, indicating excellent reliability for each variable. Composite reliability (CR) for the study's variables ranged from 0.780 to 0.867, also surpassing the 0.7 standard. Moreover, the average variance extracted (AVE) for each variable exceeded the square of the corresponding correlation coefficient, demonstrating excellent discriminant validity among the variables. Results from the confirmatory factor analysis model comparison (CMIN/DF = 2.165, RMSEA = 0.047, IFI = 0.940, TLI = 0.930, CFI = 0.940, GFI = 0.902) indicate a strong fit between the observed data and the hypothesized model (Table 2).



Table 2: Measurement Items and Reliability Validity

Variable	Measurement Items	Factor Loading	Reliability and Validity Indicators		
			$\alpha$	CR	AVE
Willingness to Engage in Agricultural-related Employment	I will look for a job in the agricultural field by combining my professional expertise	0.740	0.780	0.780	0.542
	I plan to make a name for myself in the agricultural field	0.727			
	When looking for employment, if there is a suitable unit or position in the agricultural field, I would like to try.	0.741			
Regulative Institutions	In my region, the government strongly advocates agricultural-related employment.	0.849	0.842	0.894	0.679
	In my region, the government will help those who plan to engage in agriculture to find jobs.	0.810			
	In my region, the government will offer support for the development of agricultural-related units and talents.	0.818			
	The government in my place will introduce corresponding measures to protect the rights and interests of agricultural practitioners.	0.819			
Normative Institutions	Engaging in agriculture is a recognized career development path	0.817	0.845	0.896	0.682
	Engaging in agriculture helps achieve career success	0.818			
	Agricultural practitioners are respected	0.850			
	People admire agricultural practitioners	0.819			
Cognitive Institutions	I understand the capabilities required to engage in agricultural-related work	0.837	0.853	0.901	0.694
	I understand the risks and pressures that I will face when engaging in agricultural-related work	0.818			
	I know how to improve my professional ability related to agriculture	0.836			
	My school will offer courses and activities that are conducive to the development of agricultural-related professional abilities	0.840			
Farming Attitude	Finding suitable employment opportunities in the agricultural field can achieve self-worth	0.759	0.830	0.828	0.546
	Looking for suitable employment opportunities in the agricultural field is beneficial to personal development	0.749			
	Working in the agricultural field can obtain an income that meets expectations	0.717			
	Working in the agricultural field is a pleasant thing	0.731			
Subjective Norms	My family supports me to get employed in the agricultural field	0.773	0.863	0.857	0.546
	My friends support me to get employed in the agricultural field	0.686			
	My teacher support me to get employed in the agricultural field	0.684			
	My classmates support me to get employed in the agricultural field	0.797			
	The senior students who are already employed in the agricultural field support my choice of agricultural employment	0.747			
Perceive received Behavioral Control	If I engage in agriculture, as long as I make the necessary efforts, I will surely be able to overcome all kinds of difficulties encountered in the work	0.781	0.862	0.860	0.551
	I have extensive social connections in the agricultural field, which will prompt me to look for suitable work in the agricultural field	0.721			
	Giving up the originally comfortable and convenient life will hinder me from choosing to work in the agricultural field	0.731			

Variable	Measurement Items	Factor Loading	Reliability and Validity Indicators		
			$\alpha$	CR	AVE
	Accumulating rich agricultural practical experience during school will prompt me to look for suitable work in the agricultural field	0.740			
	I have a relatively good understanding of the current development status of agriculture and rural areas and know what rural areas lack most now, which will prompt me to look for suitable work in the agricultural field	0.737			

### Common Method Bias Test

The Harman single-factor method was employed to assess common method bias in the sample. The first factor accounted for 32.093% of the variance, declining below the 40% critical threshold. This suggests the absence of substantial common method bias in the study data.

### Descriptive Statistics and Correlation Analysis

Correlation analysis indicated significant ( $p < 0.01$ ) correlations among the explanatory variables, the explained variables, and the mediating variables. These results indicate a positive correlation between each variable dimension and college students' willingness to engage in agricultural-related employment. Specifically, students' willingness to engage in agricultural-related employment demonstrated a significant positive correlation with the institutional environment for such employment, which comprises regulative, normative, and cognitive institutions. Moreover, the institutional environment for agricultural-related employment exhibited a significant positive correlation with farming attitude, subjective norms, and perceived behavioral control. Farming attitude, subjective norms, and perceived behavioral control were also significantly and positively correlated with students' willingness to engage in agricultural-related employment. These findings offer preliminary support for Hypotheses 1, 2, 3, and 4.

Table 3: Descriptive Statistics and Correlation Analysis

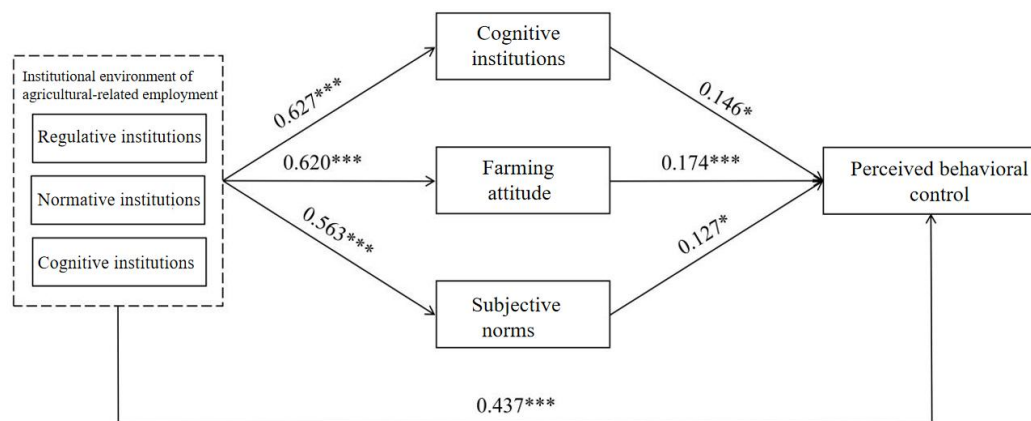
	1	2	3	4	5	6	7	8	9	10	11
1. Gender	1										
2. Household Registration	-0.015	1									
3. Major	0.000	0.017	1								
4. Regulative Institutions	0.023	-0.023	0.033	1							
5. Normative Institutions	-0.017	0.009	0.057	0.415** *	1						
6. Cognitive Institutions	-0.005	-0.072	-0.047	0.464** *	0.400** *	1					
7. Farming Attitude	0.003	-0.063	0.048	0.408** *	0.422** *	0.401* **	1				
8. Subjective Norms	-0.024	-0.024	0.007	0.424** *	0.389** *	0.423* **	0.346* **	1			
9. Perceived Behavioral Control	-0.015	-0.029	-0.004	0.362** *	0.413** *	0.323* **	0.389* **	0.407***	1		
10. Parents' Occupational Types	0.042	0.081	0.048	-0.050	-0.112*	0.113* *	0.121* *	-0.067	-0.057	1	
11. Willingness to Engage in Agricultural-related Employment	-0.030	0.000	0.014	0.451** *	0.471** *	0.439* **	0.439* **	0.457***	0.417* *	-0.100*	1
Mean	0.520	0.420	0.310	3.570	3.556	3.599	3.739	3.581	3.637	0.440	3.568
Standard Deviation	0.500	0.495	0.464	1.050	1.068	1.052	0.983	1.020	1.008	0.497	1.049

Note:  $n=526$ , \* $p \leq 0.05$ , \*\* $p \leq 0.01$ , \*\*\* $p \leq 0.001$  (two-tailed)

## Hypothesis Testing

### Tests of Main Effects and Mediating Effects

This study employed structural equation modeling to appraise main and mediating effects. The results of this analysis are presented in Figure 2. The institutional environment of agricultural-related employment significantly and positively affects farming attitude ( $r = 0.627$ ,  $p < 0.001$ ), subjective norms ( $r = 0.620$ ,  $p < 0.001$ ), perceived behavioral control ( $r = 0.563$ ,  $p < 0.01$ ), and willingness to pursue agricultural-related employment ( $r = 0.437$ ,  $p < 0.001$ ). Farming attitude ( $r = 0.146$ ,  $p < 0.05$ ), subjective norms ( $r = 0.174$ ,  $p < 0.01$ ), and perceived behavioral control ( $r = 0.127$ ,  $p < 0.05$ ) also exert a significant positive effect on college students' willingness to pursue agricultural-related employment. These findings suggest that farming attitude, subjective norms, and perceived behavioral control partially mediate the relationship between the institutional environment of agricultural-related employment and college students' willingness to pursue such employment. Hypotheses 1, 2, 3, and 4 are therefore supported.



Note:  $n = 526$ , \* $p \leq 0.05$ , \*\* $p \leq 0.01$ , \*\*\* $p \leq 0.001$  (two-tailed)

Figure 2. Results of Model Testing

The Bootstrap method was employed to appraise the multiple mediating effects. Utilizing the Process 4.2 plug-in for SPSS 27.0, 5000 resamples were generated to calculate the 95% confidence interval. The results of this analysis are displayed in Table 4. The total effect of the institutional environment of agricultural-related employment on employment intention is 0.725, the direct effect is 0.441, and the indirect effect is 0.284. As the confidence intervals do not contain 0, the presence of a partial mediating effect is confirmed, verifying Hypothesis 1. The confidence interval of the effect of the institutional environment of agricultural-related employment on employment intention, mediated by farming attitude, is (0.039, 0.163), verifying Hypothesis 2. The confidence interval of the effect of the institutional environment of agricultural-related employment on employment intention through subjective norms is (0.047, 0.176), verifying Hypothesis 3. Finally, the confidence interval of the effect of the institutional environment of agricultural-related employment on employment intention through perceived behavioral control is (0.021, 0.132), verifying Hypothesis 4.

Table 4: Results of Mediation Effect Testing

Path	Effect Value	Standard Error	95% Confidence Interval	
			Lower Limit	Upper Limit
Institutional Environment of Agricultural-related Employment → Farming Attitude	0.617	0.044	0.531	0.703
Institutional Environment of Agricultural-related Employment → Subjective Norms	0.638	0.046	0.549	0.728
Institutional Environment of Agricultural-related Employment → Perceived Behavioral Control	0.569	0.047	0.477	0.661
Institutional Environment of Agricultural-related Employment → Willingness to Engage in Agricultural-related Employment	0.441	0.057	0.329	0.554
Farming Attitude → Willingness to Engage in Agricultural-related Employment	0.161	0.044	0.076	0.247
Subjective Norms → Willingness to Engage in Agricultural-related Employment	0.174	0.042	0.091	0.257
Perceived Behavioral Control → Willingness to Engage in Agricultural-related Employment	0.130	0.042	0.048	0.211
Institutional Environment of Agricultural-related Employment → Farming Attitude → Willingness to Engage in Agricultural-related Employment	0.100	0.031	0.039	0.163
Institutional Environment of Agricultural-related Employment → Subjective Norms → Willingness to Engage in Agricultural-related Employment	0.111	0.033	0.047	0.176
Institutional Environment of Agricultural-related Employment → Perceived Behavioral Control → Willingness to Engage in Agricultural-related Employment	0.075	0.028	0.021	0.132
Total Effect of Institutional Environment of Agricultural-related Employment on Willingness to Engage in Agricultural-related Employment	0.725	0.045	0.637	0.813
Direct Effect of Institutional Environment of Agricultural-related Employment on Willingness to Engage in Agricultural-related Employment	0.441	0.057	0.328	0.553
Indirect Effect of Institutional Environment of Agricultural-related Employment on Willingness to Engage in Agricultural-related Employment	0.284	0.044	0.198	0.373

#### Test of the Moderated Mediation Effect

Process Model 7 was employed to test the moderated mediation model. Results demonstrate that the institutional environment of agricultural employment has a direct, positive correlation with college students' willingness to pursue agricultural careers. Moreover, this relationship is indirectly strengthened through students' farming attitudes, subjective norms, and perceived behavioral control. As detailed in Table 5, after controlling for demographic variables (gender, household registration, major, educational background), the interaction between the institutional environment of agricultural employment and parental occupation significantly and positively predicts farming attitude ( $\beta = 0.283$ ,  $t = 3.288$ ,  $P < 0.01$ , 95% CI [0.111, 0.455]), subjective norms ( $\beta = 0.381$ ,  $t = 4.191$ ,  $P < 0.001$ , 95%CI [0.202, 0.559]), and perceived behavioral control ( $\beta = 0.358$ ,  $t = 4.398$ ,  $P < 0.001$ , 95%CI [0.226, 0.590]). These findings indicate that parental occupation moderates the relationship between the institutional environment of agricultural employment and farming attitude, subjective norms, and perceived behavioral control, thus supporting Hypothesis H5.

Table 5: Test Results of the Moderating Effect of Parents' Occupational Types

	Farming Attitude		Subjective Norms		Perceived Behavioral Control		Willingness to Engage in Agricultural-related Employment	
	$\beta$	SE	$\beta$	SE	$\beta$	SE	$\beta$	SE
<b>Gender</b>	0.007	0.072	-0.054	0.075	-0.035	0.077	-0.048	0.071
<b>Household registration</b>	-0.062	0.074	0.011	0.076	-0.001	0.078	0.064	0.072
<b>Major</b>	0.078	0.078	-0.018	0.081	-0.04	0.083	-0.006	0.078

	Farming Attitude		Subjective Norms		Perceived Behavioral Control		Willingness to Engage in Agricultural-related Employment	
Institutional environment of agricultural-related employment	0.462	0.063	0.441	0.046	0.358	0.047	0.441	0.057
Farming attitude							0.159	0.044
Subjective norms							0.177	0.042
Perceived behavioral control							0.129**	0.042
Parents' occupational types	-0.121	0.074	-0.011	0.065	-0.001	0.078		
Institutional environment of agricultural-related employment * Parents' occupational types	0.283	0.088	0.381	0.076	0.408	0.093		
R <sup>2</sup>	0.297		0.298		0.25		0.398	
F	36.516		36.648		28.897		49.043	

Note: n=526, \*p≤0.05, \*\*p≤0.01, \*\*\*p≤0.001(two-tailed)

To explore the moderating effect of parental occupation on the relationship between the institutional environment of agricultural employment and students' farming attitude, subjective norms, and perceived behavioral control, respondents were categorized based on parental involvement in agricultural occupations. Interaction effect plots, depicting the scores for farming attitude, subjective norms, and perceived behavioral control at plus and minus one standard deviation of the institutional environment of agricultural employment for each parental occupation group, were generated. Simple slope tests were also performed. These findings are presented in Figures 3, Figure 4, and Figure 5. For students whose parents work outside of agriculture, the institutional environment of agricultural employment exerted a significant positive predictive effect on farming attitude ( $B = 0.464$ ,  $t = 7.366$ ,  $p < 0.001$ ), subjective norms ( $B = 0.438$ ,  $t = 6.717$ ,  $p < 0.001$ ), and perceived behavioral control ( $B = 0.358$ ,  $t = 5.374$ ,  $p < 0.001$ ). Among students whose parents work in agriculture, this positive predictive effect was even greater for farming attitude ( $B = 0.744$ ,  $t = 12.215$ ,  $p < 0.001$ ), subjective norms ( $B = 0.823$ ,  $t = 13.046$ ,  $p < 0.001$ ), and perceived behavioral control ( $B = 0.766$ ,  $t = 11.877$ ,  $p < 0.001$ ). This suggests that parental occupational type has a moderating effect on the relationship between the institutional environment of agricultural employment and farming attitude. Specifically, the positive predictive relationship between the institutional environment of agricultural employment and farming attitude, subjective norms, and perceived behavioral control is amplified when parents are employed in agricultural occupations.

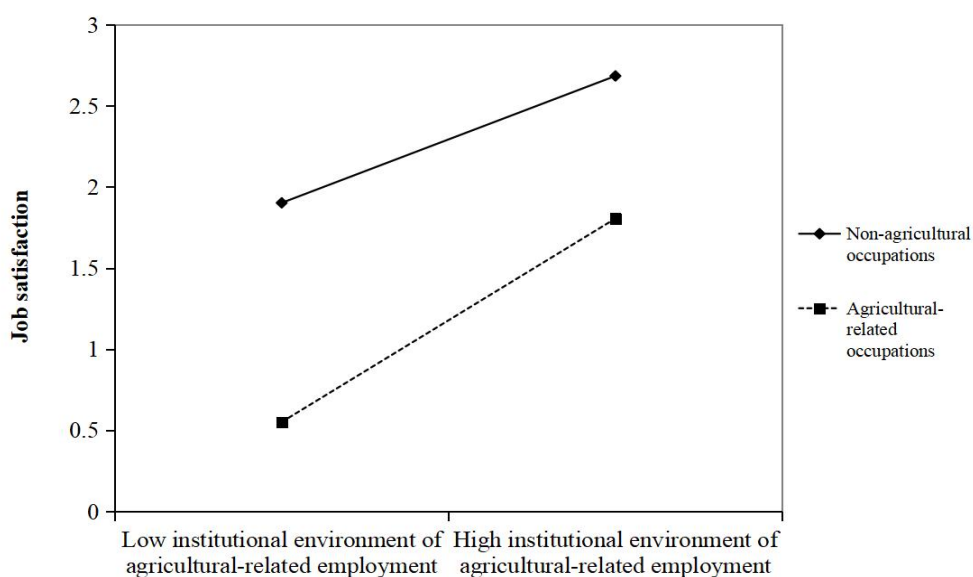


Figure 3. The Moderating Effect of Parents' Occupational Types on the Institutional Environment of Agricultural-related Employment and Farming Attitude

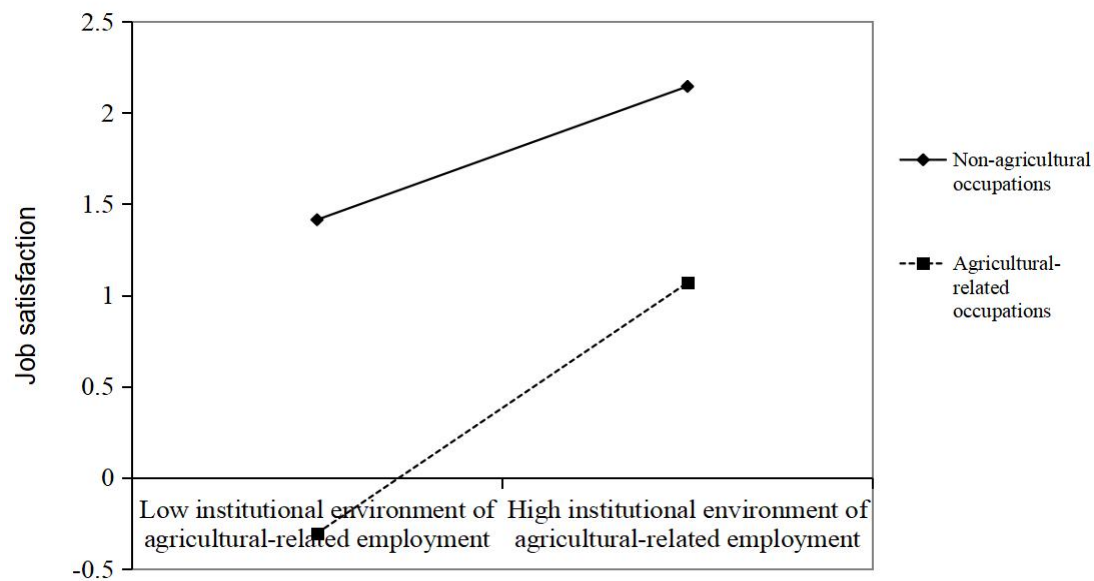


Figure 4. The Moderating Effect of Parents' Occupational Types on the Institutional Environment of Agricultural-related Employment and Subjective Norms

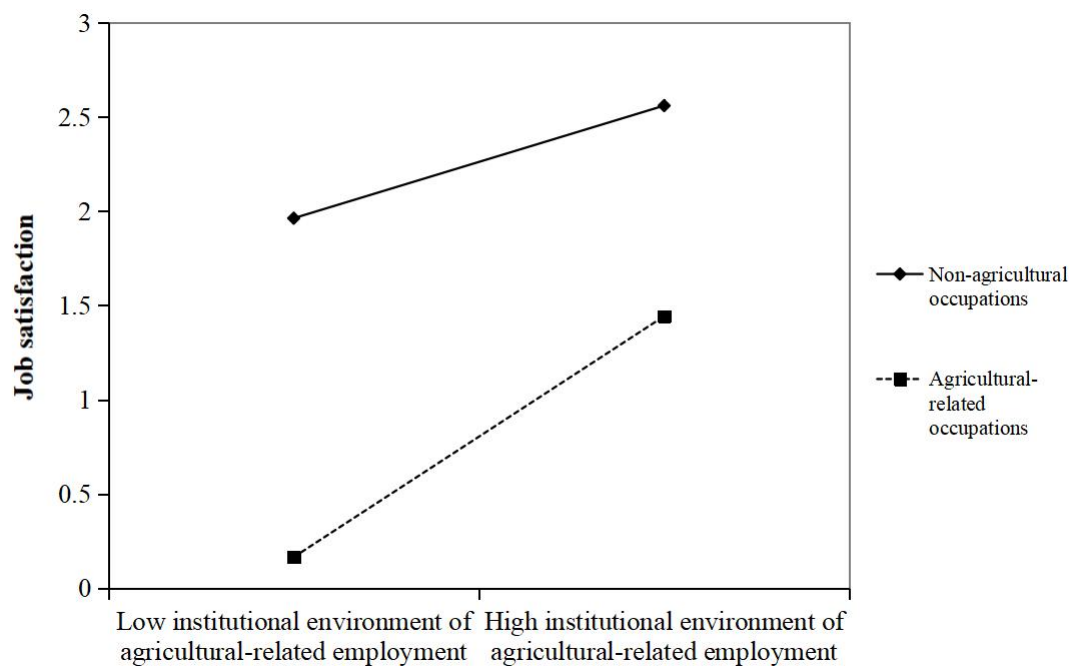


Figure 5. The Moderating Effect of Parents' Occupational Types on the Institutional Environment of Agricultural-related Employment and Perceived Behavioral Control

Table 6 presents the results of Bootstrap tests, demonstrating that the 95% confidence intervals for the mediating effects of farming attitude, subjective norms, and perceived behavioral control do not include zero, irrespective of whether the respondents' parents work in agriculture. Across both groups of parents' occupations related to agriculture or not, the mediating effects exhibit 95% confidence intervals of [0.012, 0.09], [0.024, 0.122], and [0.013, 0.0103], none of which contain zero, thus confirming the presence of a moderated mediation effect. Specifically, among college students whose parents' occupations are related to agriculture, the mediating effects of farming attitude, subjective norms, and perceived behavioral control between the institutional



environment of agricultural-related employment and the willingness to engage in agricultural-related employment are all stronger, and Hypothesis 6 is verified.

Table 6 Test Results of the Moderated Mediation Effect

Variable	Indirect Effect					Moderated Mediation Effect			
	Parents' Occupational Types	Effect Value	Standard Error	95% Confidence Interval Index		Index	Standard Error	95% Confidence Interval	
				Upper Limit	Lower Limit			Lower Limit	Upper Limit
Institutional Environment of Agricultural-related Employment → Farming Attitude → Willingness to Engage in Agricultural-related Employment	Non-farming	0.073	0.025	0.029	0.128	0.045	0.02	0.012	0.09
	Farming	0.118	0.038	0.047	0.196				
Institutional Environment of Agricultural-related Employment → Subjective Norms → Willingness to Engage in Agricultural-related Employment	Non-farming	0.078	0.026	0.031	0.135	0.067	0.024	0.024	0.122
	Farming	0.145	0.042	0.062	0.228				
Institutional Environment of Agricultural-related Employment → Perceived Behavioral Control → Willingness to Engage in Agricultural-related Employment	Non-farming	0.046	0.02	0.012	0.09	0.053	0.023	0.013	0.103
	Farming	0.099	0.037	0.029	0.171				

## Research Conclusions and Policy Recommendations

### Research Conclusions

With the background of developing a robust agricultural sector, this paper establishes an explanatory model to explain the factors influencing college students' willingness to pursue agricultural-related employment, based on findings from 526 valid questionnaires. This study evaluates college students' willingness to engage in agricultural employment, in the broader context of national efforts to strengthen the agricultural sector, analyzing the effect of four key dimensions: the institutional environment surrounding agricultural-related employment, student attitudes towards farming, subjective norms, and perceived behavioral control. Through empirical analysis of a range of relevant variables, the results indicate that the institutional environment of agricultural-related employment, including regulative, normative, and cognitive institutions, significantly and positively affects college students' willingness to consider agricultural careers. More specifically, regulative institutional mechanisms, such as policy measures and preferential subsidies designed to support agricultural-related employment and cultivate a skilled agricultural workforce, can effectively enhance students' willingness to engage in agricultural work. Moreover, normative institutions that cultivate respect for and appreciation of agriculture through emphasizing its importance in society, can effectively increase students' willingness to pursue agricultural employment. The presence of cognitive institutions, such as the availability of theoretical and practical agricultural coursework and employment guidance services offered by colleges and universities, also plays a significant role in enhancing student interest in agricultural careers. Student attitudes towards farming, subjective norms, and perceived behavioral control play a mediating role in the pathway through which the agricultural-related employment environment influences students' willingness to pursue agricultural careers. A supportive and well-developed agricultural employment environment can nurture positive student attitudes and perceptions regarding agricultural-related employment, deepen their appreciation for the value of agricultural work, cultivate greater support for agricultural career choices among family and friends, and strengthen students' confidence in the resources and capabilities they possess for engaging in agricultural activities, thereby strengthening their overall willingness to enter the agricultural field. Parental occupational background plays a moderating role in the relationship between the institutional environment of agricultural-related employment and student farming attitudes, subjective norms, and perceived behavioral control. In comparison to students whose parents are employed in non-agricultural occupations, students whose parents are engaged in agricultural-related occupations are more susceptible to the effect of the institutional environment in

developing positive farming attitudes, aligning with relevant subjective norms, and strengthening their perceived behavioral control. Moreover, the effect of the institutional environment on the willingness of students whose parents are engaged in agricultural-related occupations to pursue agricultural employment, mediated through their farming attitudes, subjective norms, and perceived behavioral control, is strong.

### ***Theoretical Significance***

This study offers several key contributions to the existing literature on agricultural employment and college graduates. First, it carries out a systematic analysis of how the institutional environment surrounding agricultural employment helps students' willingness to pursue agricultural careers. Existing studies on the environmental factors affecting students' willingness to engage in agricultural-related employment are relatively dispersed and lack a cohesive, systematic analysis [7]. Drawing upon institutional theory and employing a questionnaire survey method, this study systematically analyzes the effect of the institutional environment of agricultural employment on students' career decisions. Specifically, this study incorporates agricultural-related policies and regulations in the employment environment into the regulative environment for agricultural employment. Factors such as employment culture and the broader social atmosphere surrounding agricultural work are incorporated into the normative environment. Moreover, factors such as the availability and quality of agricultural-related theoretical and practical education in colleges and universities are incorporated into the cognitive environment. These three dimensions of the institutional environment are analyzed collectively to explain their combined effects on student willingness to pursue agricultural employment. This approach complements current research, which often focuses on factors such as policy perception, social capital, and college teaching methods [8], by explicitly integrating the specific components of the agricultural employment environment—such as policies and regulations, social and cultural contexts, and the content of college-level agricultural education—with the three dimensions of institutional theory. Second, this study offers a deep analysis of the mechanism by which the institutional environment affects students' willingness to engage in agricultural-related employment. The current literature lacks an accurate analysis of how the institutional environment affects students' agricultural career choices. Building upon the theory of planned behavior, this study thoroughly evaluates the mechanisms at play, analyzing the mediating roles of behavioral attitude, subjective norms, and perceived behavioral control. This analysis contributes to a more detailed understanding of planned behavior theory as it applies to college students' willingness to pursue agricultural careers. Third, this study analyzes the moderating role of parental occupations in the mechanism connecting the institutional environment to students' willingness to engage in agricultural employment. A moderated mediating model is tested to explore this relationship. While a significant body of the existing literature focuses on the direct impact of parents' occupations on their children's overall employment choices [41], this study evaluates parental occupations as critical contextual variables influencing how the institutional environment affects students' consideration of agricultural careers. The study finds that when parents are employed in agriculture-related occupations, the indirect effect of the institutional environment on students' willingness to engage in agricultural employment—as mediated through behavioral attitude, subjective norms, and perceived behavioral control—is significantly stronger. This finding offers valuable insights into the means the institutional environment interacts with family background to shape students' agricultural career choices and deepens the discussion on the underlying mechanisms at work.

### ***Practical Significance***

The findings presented in this paper have important practical significance and implications for optimizing the agricultural employment environment for college students and enhancing the appeal of agricultural careers. Based on these findings, the following specific policy recommendations are proposed: First, in terms of the agricultural employment institutional environment, considering its significant effect on college students' willingness to pursue agricultural-related employment, the government should continue to optimize and strengthen its policy support system for the agricultural sector. These efforts should include offering tax exemptions, subsidies for both agricultural entrepreneurship and employment, comprehensive technical support, and relevant training programs, thereby perfecting the regulative institutions governing the sector. Second, the government should prioritize publicizing the accomplishments of modern agricultural development and showcasing the success stories of college students engaged in agricultural-related employment and entrepreneurship. This focus will cultivate a positive social atmosphere that respects and recognizes the contributions of agricultural professionals and champions agricultural advancement, thus perfecting the sector's normative institutions. Third, colleges and universities should continuously adapt and enrich their curricula to

reflect the specific circumstances of local agricultural development and closely align with the evolving trends in agricultural-related industries, all in the broader national imperative of building a strong agricultural sector. Institutions should strengthen their collaborative relationships with a variety of enterprises and organizations in agricultural-related industries, offering coursework represented by strong practical relevance and applicability. In addition, colleges and universities should actively facilitate internship and employment opportunities for students pursuing agricultural-related studies, enabling them to access the most advanced technologies and management practices in the field. Moreover, these institutions should expand outreach and guidance services for students interested in agricultural-related majors, thereby perfecting cognitive institutions that encourage informed academic choices. Meanwhile, to enhance the positive effect of a supportive agricultural employment environment on college students' willingness to pursue agricultural careers, students should be guided to develop a well-informed career outlook, accurately understand the current state and promising future prospects of the agricultural sector, and recognize the potential for personal fulfillment through engagement in agricultural development. Simultaneously, outreach and advocacy efforts related to agricultural-related employment should be broadened to consist of wider society and families, increasing public awareness and appreciation of agricultural careers, and encouraging all stakeholders to understand and support students' pursuit of agricultural-related employment. Moreover, college students' confidence in participating in agricultural-related work should be strengthened through a full understanding of the opportunities in agricultural development, a proactive approach to addressing the challenges of working in the agricultural sector, and the ongoing development of practical problem-solving skills. Finally, agricultural colleges and universities should actively cultivate a new generation of "agriculture-knowing, agriculture-loving, and agriculture-developing" professionals to contribute to the ongoing construction of a strong agricultural nation.

### ***Deficiencies and Prospects***

Several issues in this study need further investigation. While this study made a concerted effort to consist of diverse regions, the collected data may not completely represent the circumstances of college students across the country. In future research processes, expanding the diversity of the samples could improve the generalizability of the research findings. Besides, this study employs cross-sectional data obtained through questionnaire surveys to study the relationship between the institutional environment surrounding agricultural-related employment and college students' intentions to engage in such employment. However, it should be noted that the institutional environment of agricultural-related employment typically evolves and changes over time. Future research could track the study at different time points. Finally, this study focuses solely on analyzing the behavioral intentions of college students to engage in agricultural-related employment. Regarding whether college students finally act upon these behavioral intentions, this study does not track such outcomes. Therefore, future research should consider conducting longitudinal surveys and analyses on the actual engagement of college students in agricultural-related employment.

### **References**

- [1] M. Z. Luo, "The basic paths of building a strong agricultural country in China from the perspective of human capital," (in Chinese), *Seeker*, no. 1, pp. 120-131, 2023.
- [2] L. P. Wang and X. L. Zeng, "Research on the rural employment willingness of agricultural university students," (in Chinese), *Higher Education Exploration*, no. 6, pp. 121-128, 2021.
- [3] P. Peng and J. M. Hou, "Research on the countermeasures to promote the rural employment and entrepreneurship of college graduates under the background of rural revitalization," (in Chinese), *Economic Review*, no. 12, pp. 123-128, 2021.
- [4] X. M. Zheng and X. L. Zeng, "Can agricultural science students become the main force of new-type professional farmers?—An empirical analysis based on the willingness of college students to serve at the rural grassroots level," (in Chinese), *Journal of Huazhong Agricultural University (Social Sciences Edition)*, no. 5, pp. 97-102, 2015.
- [5] X. Z. Chen, "Thoughts and suggestions on opening up the channel for the flow to rural areas through the diversion of higher education," (in Chinese), *China Higher Education Research*, no. 3, pp. 36-41, 2013.
- [6] J. Z. Chen and C. J. Gao, "Reform and practice of cultivating modern agricultural entrepreneurial talents in higher vocational colleges," (in Chinese), *Research in Higher Education*, vol. 41, no. 6, pp. 82-86, 2020.

- [7] Y. H. Zhong and S. Liu, "Analysis of the influencing factors of college students' rural employment willingness under the background of the rural revitalization strategy—From the perspective of push-pull theory," (in Chinese), *Research in Higher Education*, vol. 40, no. 8, pp. 88-97, 2019.
- [8] Y. Zhang, S. Y. Zhang, and L. Zhang, "Analysis of the impact of family cultural capital on the rural grassroots employment willingness of agricultural science college students based on SEM," (in Chinese), *Modern Education Management*, no. 4, pp. 93-99, 2018.
- [9] T. J. Zhang, "Can the post-95 college students become the new force of grassroots construction?—Based on the dual investigation of employment willingness and development willingness," (in Chinese), *Higher Education Exploration*, no. 10, pp. 120-128, 1991.
- [10] I. Ajzen "The theory of planned behavior," *Organizational Behavior and Human Decision Processes*, vol. 50, no. 2, pp. 179-211, 1991.
- [11] G. K. Song, T. Wu, and D. Li, "The impact of family status, human capital and policy on the willingness of college students to employ at the grassroots level," *Journal of Xi'an Jiaotong University (Social Sciences Edition)*, vol. 37, no. 5, pp. 71-78, 2017.
- [12] W. R. Scott, "The adolescence of institutional theory," *Administrative Science Quarterly*, vol. 32, no. 4, pp. 493-511, 1987.
- [13] P. J. DiMaggio and W. W. Powell, "The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields," *American Sociological Review*, vol. 48, no. 2, pp. 147-160, 1983.
- [14] Y. Rao, H. B. Liu, and Y. F. Zhang, "Intellectual property management of new-type R&D institutions from the perspective of institutional theory," (in Chinese), *Studies in Science of Science*, vol. 40, no. 6, pp. 1075-1084, 2022.
- [15] H. Zhang, X. H. Zhou, and Y. Chen, "Regional differences in entrepreneurial activities: An interactive analysis based on institutions and economy," (in Chinese), *Management Science*, vol. 34, no. 3, pp. 94-106, 2021.
- [16] Y. F. He, "Why are they willing to engage in skilled work?—A study on the willingness of German youth to invest in skills from the perspective of institutional theory," (in Chinese), *Journal of East China Normal University (Educational Science Edition)*, vol. 42, no. 4, pp. 63-75, 2024.
- [17] Z. N. Gao, "The impact of government attention on the employment participation of the elderly — A re-discussion from the perspective of institutional theory," (in Chinese), *Contemporary Economic Management*, vol. 45, no. 11, pp. 55-65, 2023.
- [18] J. L. Wang, G. C. Guo, and L. Y. Tan, "Analysis of farmers' willingness to withdraw from homestead and its influencing factors—Based on the survey data of 1292 farmers in Suzhou and Suqian," (in Chinese), *Journal of Agricultural and Forestry Economics and Management*, vol. 22, no. 1, pp. 123-132, 2023.
- [19] N. Yan, W. Y. Yuan, and L. Ren, "Research on the impact of college students' cognition of new business forms on employment willingness—An empirical analysis based on the theory of planned behavior," (in Chinese), *Social Security Research*, no. 3, pp. 80-91, 2023.
- [20] A. H. Ayob, "Institutions and student entrepreneurship: The effects of economic conditions, culture and education," *Educational Studies*, vol. 47, no. 6, pp. 661-679, 2021.
- [21] J. C. Ni and H. J. Li, "The impact of institutional environment on the entrepreneurial cognition and entrepreneurial behavior of scientific and technological personnel," (in Chinese), *Studies in Science of Science*, vol. 35, no. 4, pp. 587-592+624, 2017.
- [22] K. Chen and H. Ma, "SWOT analysis and strategies of employment value education for students in agricultural colleges," (in Chinese), *Heilongjiang Researches on Higher Education*, no. 8, pp. 71-74, 2018.
- [23] Y. Deng, Z. B. Wu, H. Qiu, and L. F. Luo, "How does the entrepreneurial spirit in the agricultural field promote the development of new-type agricultural management subjects—Taking farmer cooperatives as an example," (in Chinese), *China Rural Observation*, no. 3, pp. 62-79, 2024.

- [24] B. H. Wei, M. Z. Luo, and C. Y. Zeng, "Labor returning to hometown for entrepreneurship and the upgrading of county industrial structure: Theoretical clues and empirical evidence," (in Chinese), *Chinese Rural Economy*, no. 10, pp. 26-48, 2023.
- [25] H. Chen and B. Wu, "Research on the 'knowing agriculture, loving agriculture' education path of agricultural-related universities under the new development pattern—Taking Hunan Agricultural University as an example," (in Chinese), *Journal of Hunan Agricultural University (Social Sciences Edition)*, vol. 22, no. 5, pp. 79-85, 2021.
- [26] C. C. Ifeanyi-obi and T. Ewurum, "Influence of entrepreneurship education on career aspiration of agriculture undergraduates in Rivers State," *Journal of Agricultural Extension*, vol. 23, no. 4, pp. 107-118, 2019.
- [27] Z. Y. Yin, "The willingness of students in agricultural-related majors in higher vocational colleges to engage in farming and its influencing factors—From the perspective of the theory of planned behavior," (in Chinese), *Journal of Hunan Agricultural University (Social Sciences Edition)*, vol. 20, no. 4, pp. 63-69, 1991.
- [28] K. D. Wang, T. H. Zhuang, and L. Ding, "The direction and ideas of high-quality service of agricultural-related universities for building a strong agricultural country," (in Chinese), *China Higher Education*, no. 18, pp. 51-54, 2023.
- [29] Z. J. Wang and B. Pang, "Countermeasure analysis of improving the employment ability of college students in agricultural universities," (in Chinese), *Heilongjiang Researches on Higher Education*, no. 11, pp. 82-84, 2014.
- [30] M. Dai, "Research on the influencing factors of Chinese college students' willingness to participate in grassroots employment projects," (in Chinese), *China Youth Research*, no. 7, pp. 105-111, 2020.
- [31] H. K. Wei and K. Cui, "The connotation characteristics, construction basis and promotion strategies of a strong agricultural country," (in Chinese), *Reform*, no. 12, pp. 1-11, 2022.
- [32] R. L. Engle *et al.*, "Entrepreneurial intent: A twelve-country evaluation of Ajzen's model of planned behavior," *International Journal of Entrepreneurial Behavior & Research*, vol. 16, no. 1, pp. 35-57, 2010.
- [33] S. K. Roy, "Influencing factors for pursuing agriculture as a career for agriculture undergraduates: A two-stage approach," *Entrepreneurship Education*, vol. 6, no. 2, pp. 169-203, 2023.
- [34] L. F. Huang, "The current situation, dilemmas and countermeasures of the grassroots employment of graduates from ethnic minority colleges and universities under the background of rural revitalization," (in Chinese), *Social Scientists*, no. 11, pp. 58-63, 2023.
- [35] J. H. Liu, M. Zhang, and Y. Chen, "The influence of socio-economic background, education, and government policies on college graduates' employment choices," *Journal of Beijing Normal University (Social Sciences Edition)*, vol. 38, no. 4, pp. 82-89, 2018.
- [36] Y. Gao, Z. M. Liu, and P. Fang, "Human capital, family capital and the performance of college students' employment policy—Based on the empirical research of 20 colleges and universities in Jiangsu Province," (in Chinese), *Research in Higher Education*, vol. 31, no. 8, pp. 56-63+99, 2010.
- [37] J. H. Luo and X. L. Xiong, "Analysis of the Actual Effect of College Students' Employment Policy Based on Student Perception," (in Chinese), *Modern Education Management*, no. 6, pp. 51-55, 2013.
- [38] S. P. Wei, G. J. Zhuo, and Y. Y. Zhou, "The impact of family factors on the career motivation of college students," (in Chinese), *Journal of Chongqing University (Social Sciences Edition)*, vol. 15, no. 4, pp. 65-68, 2009.
- [39] R. L. Guo, Z. Y. Liu, J. L. Xiao, and Z. L. Weng, "Social capital, policy cognition and farmers' professionalization willingness—Based on the survey data of the 'one village one college student project' in Jiangxi Province," (in Chinese), *Journal of Agricultural and Forestry Economics and Management*, vol. 18, no. 3, pp. 337-346, 1991.
- [40] Y. Zhang, "Family capital and postgraduate employment cognition—Based on the empirical research of "211" colleges and universities," (in Chinese), *Higher Education Exploration*, no. 1, pp. 88-92, 2018.

- [41] R. Q. Li, "Intergenerational Characters of the Occupation Choice in Rural Families: Heterogeneity or Inheritance," (in Chinese), *Modern Economic Discussion*, no. 3, pp. 105-113, 2018.
- [42] X. M. Fei and C. J. Wang, "Survey on the rural grassroots employment willingness of agricultural-related majors college students," (in Chinese), *Research World*, no. 12, pp. 36-40, 2013.
- [43] Y. Du and J. A. Ding, "Family social capital and the first successful employment of college students," (in Chinese), *Journal of China Institute of Industrial Relations*, vol. 28, no. 5, pp. 52-55, 2014.
- [44] S. G. Xu, Y. P. Song, and Z. S. Xie, "Will there be no successors in Chinese agricultural production?—An examination of the farming situation of the new generation of rural population under the background of urbanization," (in Chinese), *Population and Development*, vol. 22, no. 3, pp. 63-70, 2016.
- [45] T. S. Manolova, R. V. Eunni, and B. S. Gyoshev, "Institutional environments for entrepreneurship: Evidence from emerging economies in Eastern Europe," *Entrepreneurship Theory and Practice*, vol. 32, no. 1, pp. 203-218, 2008.