

Copyright is owned by the Author of the thesis. Permission is given for a copy to be downloaded by an individual for the purpose of research and private study only. The thesis may not be reproduced elsewhere without the permission of the Author.

**Factors Influencing Chinese Agricultural Students' Intentions
towards Larger Dairy Farm Management Jobs**

A thesis presented in partial fulfilment of the requirements for the degree of

Master of Management

in Agribusiness

at Massey University, Manawātū,

New Zealand

Li Yanan

2015

Abstract

Larger dairy farms are recognised as the desired model and an increasing trend in the Chinese dairy industry. However, the ability to develop larger dairy farm models is restricted—not by financial issues, but by a lack of capable managers. Agricultural students tend to be the main resource for the knowledge and skills required on contemporary larger dairy farms; thus, attracting them is a topic of concern. However, most research on Chinese agricultural students has identified a reluctance to work in agricultural jobs. The career choice intentions of Chinese students has only attracted research interest in recent years, and tends to treat graduates in general regardless of majors. Moreover, motivation research in China has concentrated only on urban employees. Thus, the existing research does not match the urgent need to identify ways to attract students to this field of employment. There is a need for research that specifically explores agricultural students' intentions to work on larger dairy farms.

This study employs a conceptual model that combines motivation and career choice, based on job attributes theory and social cognitive career theory. By using a quantitative research method among students in two domestic agricultural universities, this study explores students' expectations and perceptions of larger farm management jobs, particularly in the dairy industry, and the factors influencing their intentions to work in these jobs. This study uses a descriptive method to address the research objectives, and a regression model to investigate the influencing factors.

The findings show that personal development is the most highly ranked students' expectations. The expectation of stable job was positively linked to the larger dairy

farm management jobs choice intention, whereas expectations of social dignity, high payment and developed region were negatively associated with this job choice intention. In aspects of perceptions of larger farm management jobs, especially dairy, people who perceived this job equivalent to raising animals were more likely to choose this job. And negative perceptions led to the negative intentions to choose this job, such as this job was not beneficial to find a boyfriend or girlfriend, this job brings inconvenience because of remote locations. In contrast, personal factors—such as voluntary enrolment, farm-related experiences and previous considerations of working on a larger farm—were significantly correlated with positive intention. Regarding contextual factors, parental influence was negatively correlated with intention, while school career support was positively associated with intention.

This study is the first attempt to investigate the factors influencing Chinese agricultural students' intentions to choose employment in larger dairy farm management jobs. The findings confirm the relevant theory regarding motivation and career choice intention, and the importance of the current cooperative programmes established between dairy farm enterprises and universities. This study recommends future research on agricultural students that involves more practical fieldwork experience—preferably in a direct context in larger dairy farm management roles—to further knowledge in this field.

Acknowledgements

First and foremost, thanks and gratitude are due to my supervisors: Professor Nicola M Shadbolt and Professor Claire Massey. I wish to thank them for their inspiration, guidance and patience. Their vast professional knowledge and amiable stance will always impress me.

I am also grateful for the contribution of the participants in the interviews and especially in the focus group discussion. The assistance from Han Jiqin, Bao Guorong, Yang Huilan and Hadeng Churiya was invaluable and greatly appreciated.

I would also like to thank the International Student Support Team and my classmates, who made my study experiences unique.

Last, but not least, I am indebted to my family in the other hemisphere for their support and encouragement, which saw this study to completion.

Table of Contents

Abstract.....	i
Acknowledgements.....	iii
Table of Contents.....	iv
List of Figures.....	vi
List of Tables.....	vii
List of Appendices.....	viii
Chapter 1: Introduction.....	1
1.1 Context.....	1
1.2 Theoretical and Practical Relevance of the Research.....	3
1.3 Current Scientific Situation.....	4
1.4 Scope.....	6
1.5 Problem Statement.....	8
1.6 Research Question.....	8
1.7 Research Objectives.....	8
1.8 Research Design.....	9
1.9 Outline of the Thesis.....	9
Chapter 2: Background.....	10
2.1 Contextual Factors.....	10
2.1.1 Demographics.....	10
2.1.2 The Residence register system.....	10
2.1.3 Administrative divisions.....	11
2.1.4 Labour market overview.....	12
2.1.5 Education overview.....	14
2.1.6 Agricultural education.....	18
2.1.7 Agricultural employment.....	20
2.2 Characteristics.....	21
2.2.1 Structure change in economy.....	21
2.2.2 Disparities in regional economic and social development.....	23
2.2.3 Cultural values.....	25
2.3 Summary.....	27
Chapter 3: Literature Review.....	30
3.1 Factors Influencing Motivation and Career Choice.....	30
3.1.1 Motivating job attributes.....	33
3.1.2 Organisational factors.....	36
3.1.3 Individual factors.....	38
3.1.4 Proximal factors.....	43
3.1.5 Societal factors.....	44
3.2 Career Choice in Agriculture.....	46
3.2.1 University students' expectations.....	47
3.2.2 Perceptions and attitudes towards agricultural careers.....	51
3.2.3 Influential factors in agricultural career choice.....	53

3.3 Summary.....	58
Chapter 4: Methodology.....	60
4.1 Participants.....	60
4.2 Questionnaire Development.....	61
4.2.1 Interview.....	62
4.2.2 Focus group discussion.....	62
4.2.3 Questionnaire.....	64
4.3 Survey Administration.....	65
4.4 Data Analysis.....	66
4.5 Ethical Considerations.....	68
4.6 Limitations of the Study.....	68
4.7 Summary.....	69
Chapter 5: Results and Discussions.....	70
5.1 Profile of Respondents.....	70
5.2 Students' Expectations.....	71
5.2.1 General expectations.....	72
5.2.2 Concrete expectations.....	76
5.3 Perception of Larger Farm Management Jobs, Especially Dairy.....	78
5.3.1 Perception of larger farm management jobs.....	78
5.3.2 Perceptions of larger dairy farm management jobs.....	81
5.4 Factors Influencing the Intention to Choose Larger Dairy Farm Management Jobs.....	83
5.4.1 Exploratory work.....	83
5.4.1.1 <i>Intention and individual factor variables</i>	84
5.4.1.2 <i>Intention and (expected or perceived) job attributes variables</i>	85
5.4.1.3 <i>Intention and organizational variables</i>	88
5.4.1.4 <i>Intention and proximal context factor variables</i>	89
5.4.1.5 <i>Intention and societal context factor variables</i>	91
5.4.2 Suggestions of measures to increase the attractiveness of larger dairy farm management jobs.....	92
5.4.3 Regression model.....	93
5.4.3.1 <i>Factors influencing both intentions to choose and not choose</i>	97
5.4.3.2 <i>Factors influencing the intention to choose</i>	99
5.4.3.3 <i>Factors influencing the intention to not choose</i>	101
5.5 Summary of Results.....	102
Chapter 6: Conclusion and Recommendations.....	106
6.1 Conclusion.....	106
6.2 Recommendations.....	110
6.3 Future Research.....	112
References.....	113
Appendices.....	124

List of Figures

<i>Figure 1.1.</i> Individuals' career behaviour context (Lent et al., 2000, p. 45).....	7
<i>Figure 2.1.</i> Population trend by residence (1949–2013).....	22
<i>Figure 2.2.</i> Per capita income of urban and rural households (1978–2013).....	24
<i>Figure 5.1.</i> Respondents' general expectations.....	72
<i>Figure 5.2.</i> Percentage of respondents by expected payment level.....	74
<i>Figure 5.3.</i> Respondents' perceptions of larger dairy farm management jobs.....	79

List of Tables

Table 4.1 <i>Questionnaire Description</i>	64
Table 4.2 <i>Variables in the Regression Model</i>	67
Table 5.1 <i>Demographic Characteristics of Respondents (n = 380)</i>	71
Table 5.2 <i>Frequency Distribution of Respondents by Expected Payment Level</i>	75
Table 5.3 <i>Expected Payment Level by University</i>	75
Table 5.4 <i>Expected Payment Level by Gender</i>	76
Table 5.5 <i>Respondents' Intentions to Choose Larger Dairy Farm Management Jobs</i>	84
Table 5.7 <i>Multinomial Logistic Results for Intention to 'Choose' or 'Not Choose' a Larger Farm Management Job, Compared to 'Consider Choosing' (n = 380)</i>	96

List of Appendices

Appendix A: Questionnaire.....	124
Appendix B: Focus Group Discussion Guide.....	128
Appendix C: Survey Letter and Participation Consent Form - Individual.....	129
Appendix D: Group of Respondents Based on Demographic Variables.....	132
Appendix E: Mean and Rating in Concrete Value Expectations.....	136
Appendix F: Frequency and Rating of Perceptions of Larger Farm Management Jobs, especially Dairy.....	138
Appendix G: Exploratory Work on Influencing Factors.....	140
Appendix H: Suggestions to Facilitate and Attract University Students to Choose Larger Dairy Farm Management Jobs.....	143
Appendix I: Collinearity Statistics (Dependent Variable: 'High Payment').....	145
Appendix J: Logistic Regression Model Results.....	147

Chapter 1: Introduction

Recruiting and retaining qualified employees is a constantly challenging issue in the contemporary world, in which the balance of power has shifted from “a buyer’s market for employers towards a seller’s market for employees” (Nankervis, Compton & Baird, 2008).

The need for and challenge of motivating young people to be involved in agriculture is even more difficult than in other sectors due to urbanisation and industrialisation, especially in developing countries (Long, Liu, Li & Chen, 2010). The concern regarding human capital succession in agriculture is global (Han, 2014; Penda, 2012) and in 2012, the International Food and Agribusiness Management association forum had a special session on human capital to highlight the urgency of this issue (Shelman & Connolly, 2012).

1.1 Context

In China, agriculture has served the purpose of ensuring food security and rural stability and sustainability (Schwoob, 2014). The issues of agriculture, farmers and rural areas (referred to collectively as ‘*Sannong*’) have been prioritised in the government’s *No. 1 Central Document* since 2004. In 2007, it highlighted the importance of promoting agricultural modernisation; in 2013, it confirmed its continuing support for ‘scaling up and consolidation of the livestock industry’ (Sharma & Rou, 2014, p. 17); in 2014, it reemphasised the development and maintenance of

modern agriculture as the foundation of the economy. Moreover, the issue of the land use right transfer policy in 2014 promoted the scale economy in agriculture.

The contemporary dairy sector in China has attracted concern from various stakeholders, including the government, industry and research. The modernisation of the Chinese dairy industry was called for in the national Twelfth Five-year Plan. This promoted the model of larger dairy farms and dairy community, while traditional small holders are gradually withdrawing because of disadvantages in productivity, safety and sustainability compared to the larger dairy farms and dairy community (Li, Zhang, Liu, Zhou & Cao, 2010; Sharma & Rou, 2014; Yu, 2012).

The Chinese government promotes both the production and consumption of dairy products (Wiley, 2011). It also enforces international cooperation in the industry in the areas of research, breed imports and technology transfer. In addition, it advocates a milk-drinking habit by highlighting the health benefits of protein and calcium (Sharma & Rou, 2014; Wiley, 2011). The current dietary guidelines for Chinese residents (2007 edition)¹ suggest consuming 300 grams of milk or milk products daily, in addition to high-quality protein and vitamins. The recommended daily intake is higher for milk than meat and other protein, and has increased by 200 grams per day from the previous guidelines. The school milk programme in China began in 2000, and has reached 67 million students in 60,000 schools in 660 cities, according to Tetra Pak.

¹ Dietary guidelines for Chinese residents were published in 1989, and revised in 1997 and 2007. A new version is expected to be released in 2015. These guidelines are mainly developed by the Chinese Nutrition Society and proclaimed by the Ministry of Health (www.fao.org).

In 2013, the Dairy Association of China completed a survey on scaled farms in China. The prevailing concern among the sampled 162 dairy farms was the need for young qualified farm managers who have a good knowledge of both animals and management. In this survey, 68.24% of the surveyed dairy farm managers were born before 1970, while managers born after 1980 only constituted 8.24% (Chen, 2012). As Chen (2012) mentioned, it usually takes at least three to five years to foster a manager, which indicates the urgent need to recruit new farm managers to undertake this arduous task.

In response to this need, remarkable moves have been undertaken. Training programmes and courses have been implemented at different levels with different stakeholders. In 2012, Nestlé built the Dairy Farming Institute in Shuangcheng of Heilongjiang Province, and a cooperation memorandum was signed with the Northeast Agricultural University in July 2014 (*Nestlé and Northeast Agricultural University Cooperate in Dairy Farming Management Training*, 2014). In 2013, the first short-term contemporary dairy farm manager training class began at the Agricultural University of China, with around 20 dairy farm managers from different regions. This training comprises three days of classes and two months of farm practice (*Inauguration of the Seminar of Senior Talents on Modern Dairy Farms*, 2013).

1.2 Theoretical and Practical Relevance of the Research

Theoretically, attracting and retaining potential employees and human capital development belongs to the motivation regime in management. Moreover, because students have not entered the work environment, theories about career decision-

making intention are applicable. In practice, the results of this study will provide information to industry policymakers, educational institutions and private shareholders in the dairy sector to help the creation and implementation of developmental interventions.

1.3 Current Scientific Situation

There is an urgent call to motivate young people to be involved in dairy production. However, markets and consumers are the main focus in research related to the dairy sector in China. This is because the gap in demand and disparity in production and consumption has been highlighted by previous studies, such as those by Wang, Parsons and Zhang (2010) and Wang, Zhou and Shen (2008). This is also because a positive correlation between dairy consumption and income increase has been proven, which means studies are more interested in consumer segmentation (Xu, Zheng & Zhou, 2011). For example, the study by Xu et al. (2011) targeted Chinese college students in Beijing, and found that students who are health conscious, eat Western-style food less often, and are from small families with daily milk drink habit will consume more milk. A study by Gale (2006) indicated that dairy and other high-value products are consumed 50 to 86% more frequently in high-income households than in median-income households.

Even in research of agricultural human capital, domestic studies have focused on the fact that there is a loss of human capital (Xiang, 2006) and that agricultural students are reluctant to choose agriculture jobs (Lee & Malin, 2013). In some domestic studies, agricultural human capital was considered equivalent to rural human capital. These

studies also focused on the outflow of rural young people to urban areas or into non-agricultural sectors. In some domestic studies, agricultural human capital has often been explored through the topic of surplus rural labour force, such as in Cook (1999) and Long et al. (2010). These studies investigated either the effect of the surplus rural labour force on agricultural productivity, or the development of rural areas. This implies that agricultural human capital is considered to be comprised of low-skilled young people in rural areas.

For potential future employees of contemporary agriculture, agricultural students are often targeted to investigate their expectations, perceptions or attitudes towards agricultural jobs, or their intentions to choose an agricultural career in the future globally. This has been investigated in the studies of Ibitoye (2011) in Nigeria; Hamill (2012) in Australia; Alibaygh, Afsharzade, Moradi and Pirmoradi (2014) in Iran; and Webster and Ganpat (2014) in the United States (US), among others. These studies have generated different findings, and the results should be generalised with caution. Among these studies globally, quite a number of have found a positive attitude towards or perception of agricultural jobs among their participants, such as the studies by Overbay (2006) in the US and Hamill (2012) in Australia. Meanwhile, the misperception and illiteracy of agricultural jobs has also been found to prevail in general (Ilenloh, Onemolease, & Erie, 2012). The perception of agricultural careers in China is generally assumed to be negative, although no updated or tested evidence is available on domestic agricultural students.

The need for adjustment of job expectations is mentioned in research both internationally and domestically. Comparatively, research that examines general university students exceeds research that specifically examines the expectations of agricultural students. In addition, research on career decision making in China is limited and has only recently drawn attention. In addition, this topic has been investigated only generally, rather than in terms of particular job choice intentions. The work by Jin, Watkins and Yuen (2009) investigated the 'personality, career decision self-efficacy and commitment to the career choices process among Chinese graduate students', while the study by Chung (2002) examined 'career decision-making self-efficacy and career commitment'.

As the above discussion demonstrates, the lack of attention given to future agricultural employees, especially in the dairy industry, does not align with the practical importance of this issue.

1.4 Scope

Most studies of career choice intention have applied the social cognitive career theory (SCCT), while others focus on self-efficacy or personality, such as Frazee, Wingenbach, Rutherford and Wolfskill (2011) and Rajabi, Papzan and Zahedi (2012), respectively. Similarly, the current study uses a conceptual framework based on SCCT, but focuses on expectations and the personal and contextual factors that influence the concrete job choice intentions of working on a larger farm, particularly in the dairy industry. The personal and contextual influencing factors are mainly drawn from the literature (see details in Chapter 3) and categorised according to the context of a person's career

choice based on the work by Lent, Brown and Hackett (2000). The context includes the individual, proximal and societal context (see Figure 1.1).

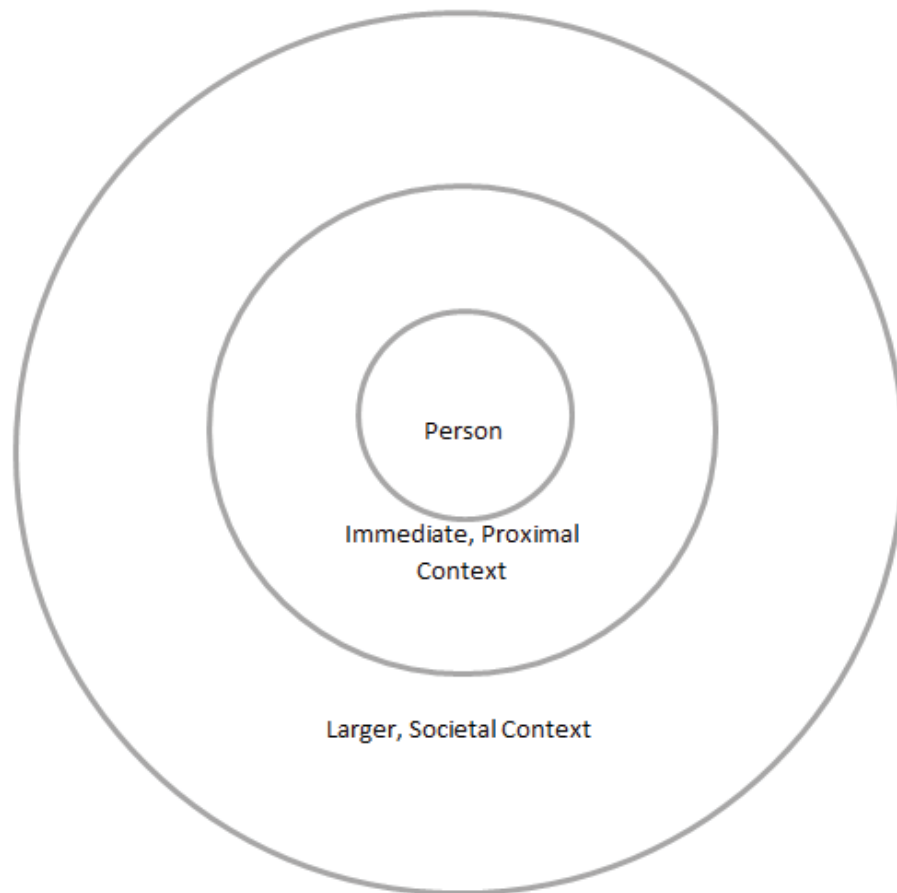


Figure 1.1. Individuals' career behaviour context (Lent et al., 2000, p. 45).

Based on consideration of the discontinuous career development in China's current distorted job market (Zhang, 2010), as well as indecision regarding students' job explorations (Feldman, 2003), this study does not investigate students' intentions to choose larger dairy farm management as a future career. Instead, this study only examines the intention of choosing larger dairy farm management jobs.²

² This rationale was confirmed during the research interviews. One school faculty commented that it is very common for most students to find jobs and change jobs frequently. Further, not many students voluntarily choose agricultural-related work as a career choice upon graduation.

1.5 Problem Statement

Currently, the contemporary dairy sector is facing a shortage of skilled and qualified Chinese managers for larger dairy farms. Understanding the motivations and job choice intentions of future agricultural employees towards larger farms is a prerequisite to implementing effective development interventions. However, previous studies examining these motivations in China have only focused on urban subjects or examined job choice intention at a broad level. Moreover, studies have not specifically investigated the perceptions of students regarding larger dairy farm management jobs.

1.6 Research Question

In order to investigate the motivations and career choice intentions of future agricultural employees, this study's research question was formulated as:

What are the factors that influence Chinese agriculture students' intentions to choose or not to choose larger dairy farm management jobs?

1.7 Research Objectives

The key objectives of this study are to answer the following questions:

1. What are the job expectations of agricultural students in China?
2. What are students' perceptions of larger farm management jobs, especially dairy?
3. What factors influence students' intentions to choose or not choose larger dairy farm management jobs?

1.8 Research Design

This study applied quantitative methods during data collection and analysis. In addition, interviews with school faculties and focus group discussions with students were used to inform the questionnaire. Students in two domestic agricultural universities were chosen based on convenience. Descriptive analysis was used to examine the students' job expectations and perceptions of larger farm management jobs, especially dairy. A multinomial regression model was applied to determine the significant explanatory variables, with the intention measured via three outcomes: choose, not choose and unsure.

1.9 Outline of the Thesis

This thesis is comprised of six chapters. Chapter 1 introduces the research problem, research objectives and significance of the study. Chapter 2 presents the background of China in terms of its contextual factors and issues. Chapter 3 reviews the relevant theory and previous studies relating to students' job expectations, perceptions of agricultural careers, and influencing factors on agricultural career choice. Chapter 4 describes the methodology used to collect and analyse the data obtained. Chapter 5 presents the results and discussion. Finally, Chapter 6 synthesises the entire study, and discusses its implications and recommendations.

Chapter 2: Background

2.1 Contextual Factors

2.1.1 Demographics.

Demographics and development are interrelated (Shiue, 2013). For example, the one-child or birth quota policy in China has created a high workforce rate, which has contributed to the economy development since the 1970s (Yu & Zhao, 2009). However, improvements in living conditions and health, as well as the low fertility rate, have also contributed to the accelerated ageing of Chinese society. From 1990 to 2000, China experienced an annual population growth of 0.57%, which was 0.5% lower than previous decades. This is in contrast to India, which had a population growth rate of 1.41% in 2010 (*Demographics of India*, 2014). The one-child policy and ageing society have created two challenges for China—the current and future labour shortage, and the burden placed on the young and middle-aged population to care for the elderly, which requires intensive labour (Wang, 2013).

2.1.2 The Residence register system.

The residence register system ('*hukou*' system) is a common statistic system of demographic inspection and administration used in China. According to the Regulation of the People's Republic of China on Residence Registration (1958), newborn babies should be reported and registered in this system within one month of birth. Other significant life events, such as beginning school in a new location, or marriage, must also be reported and recorded in the local police administration office within a stipulated period.

In China, households are divided into urban and rural categories. Citizens, especially those in rural areas, are 'locked in' to the *hukou* system (Schwoob, 2014, p.228), which means that, even if rural residents immigrate to urban areas, they still cannot enjoy the same rights as urban citizens. For example, access to social security and children's education is limited in urban areas for rural migrants (Schwoob, 2014). Similarly, migrants in different administrative municipalities across China do not gain the benefits of local policy in the areas of education and other welfare, as this only applies to locally registered citizens. Many previous studies—such as that by Chen and Groenewold (2010)—have stated that the residence register system is a barrier to mobility, and to the overall development of China. A reform of this system would narrow the income gap across regions and between rural and urban areas (World & Development Research Center of the State Council, 2013). In July 2014, the state council issued guidelines for a reform of household registration, which will ease the distinction between the urban and rural household register.

2.1.3 Administrative divisions.

Covering an area of 9.6 million km², China ranks third in the world after Russia and Canada in geographical size. China has 23 provinces, four municipalities, five autonomous regions and two special administrative regions that are governed directly under the central government. A hierarchical administrative entity follows the order of province, prefecture, county, township and village. At a regional level, mainland China is divided into six administrative divisions based on geography: north, northeast, east, southwest, mid-south and northwest.

In accordance with urbanisation, the unofficial division of cities based on economic development and size is common. China is changing and developing quickly; thus, these groupings may change over time. The grouping of four-tier cities in Millward Brown's *BrandZ: Top 100 Most Valuable Chinese Brands* is a reference. The most developed cities (such as Beijing, Shanghai, Guangzhou and Shenzhen) are in the first tier, while most provincial capitals belong to the second tier. Cities at the prefecture level are in the third tier, and county cities belong to the fourth tier. The total number of third- and fourth-tier cities is around 17 times the number of cities in tiers one and two.

2.1.4 Labour market overview.

Government organs, institutional organisations and enterprises are the main employment units for the majority of graduates in China. There are three main types of enterprises in China according to ownership: public enterprises, domestic private enterprises, and foreign enterprises or joint ventures (Velde, 2009). Public enterprises dominate the industrial sector, with control from the government at different levels. These include state-owned enterprises (SOEs), urban collective-owned enterprises and township-village enterprises (rural collectives) (Zheng, Liu & Bigsten, 1998).

The Chinese people's loyalty to their work unit is high (Faure & Fang, 2008). The choice of job is directly linked to the choice of work unit because the work unit is intertwined with a person's life. There is an overwhelming aspiration among students to enter government organs, institutional organisations or SOEs for job security, especially before the 1990s. The so-called 'iron rice bowl' represents this group of working units.

As Ikels (2006) mentioned, while SOEs have been asked to take charge of their own operations, with less intervention from the government, they still enjoy supportive policy. According to Millward Brown's *BrandZ: China Top 100 in 2014*, SOEs still dominate the total brand value by 71% in China.

The SOEs and government units are still popular among students or parents for these working units' indifference to market volatility, especially following the bankruptcy of many export-oriented companies during the global financial crisis of 2007 to 2008. According to the *Beijing Times* (2012, October 14), the recent slowing of economic development, which has contributed to employment pressures, explains the increased popularity of public servant jobs. After the reform and opening policy in the 1970s, enterprises began to draw attention from the whole society—especially foreign companies and joint ventures. The differentiated remuneration based on an individual's capability or performance is considered much fairer than the previous commune system. As stated by Velde (2009), references to an individual's competency upon entry—rather than family background, network ('*guanxi*') or political status—contribute to these enterprises' popularity. In addition, greater opportunity to train in SOEs or foreign companies is another attraction (Velde, 2009).

Students demonstrate pluralism in job choices—it is common for students to be employed in a job that has little or nothing to do with their major at university, except for some academic jobs. Students are open to many options during job exploration. Lv (2010) and Xiang (2006) pointed out that graduates from agricultural universities and vocational schools—who are presumed to contribute to agricultural production or

research—actually prefer to work in an administrative body (*'xingzheng jiguan'*) or institutional organisation. In addition, there is growing interest in business activities. As Zhang, Cooper, Deng, Parker and Ruefli (2010) mentioned, the outflow of entrepreneurial talent from government, state and agriculture to business has contributed to the economic growth in China since the 1980s.

The labour market in China is segmented by income, employees' social status and the residence register system (World & Development Research Center of the State Council P. R. C, 2013). Further, the increase of short-term or part-time jobs has enhanced the complexity of the labour market, and challenged the continuity of an individual's career path (Zhang, 2010). The current labour market is also featured by rising labour cost and talent drain, which is risky to the entire society (Wang, 2013). In addition, employment is influenced by the slowing economic growth. Student enrolment at universities increases each year, yet the overall employment rate drops in the labour market. Some previous research has examined the mismatch between market needs and graduates' aspiration, which is a result of the education system and historical perceptions. There is also a shortage of highly qualified and native-born managers, while the Chinese economy is transforming from labour intensive to knowledge and skill intensive (2030). Further, Rae (2008) stated that, if the average wage continues to rise, the shortage of labour and skilled labour will become even more severe.

2.1.5 Education overview.

Preschool, primary, secondary and tertiary or higher education constitutes China's formal education system. Education for a common Chinese citizen on the mainland

begins at kindergarten, which accepts children from three to six years of age. The primary schools (ages 6 to 12) and junior middle schools (ages 12 to 15) offer the nine years (6 plus 3 years) of compulsory education required for school-aged children and teenagers, based on the *Compulsory Education Law of the People's Republic of China* (1986). However, implementation of this law is challenged by the high dropout rate of students, especially among females in rural or remote areas, due to poor infrastructure and cultural factors (Wang & Yao, 2003).

Secondary education includes junior and senior middle school, each with three years of study. Secondary education also includes specialised secondary schools, vocational secondary schools and technical training schools after junior middle school. These vocational schools were attractive until the 1990s for their guarantee of a job after graduation (Andreas, 2004). In the mid-1980s, the government encouraged enrolment in vocational secondary schools, and set a goal of half of the country's students attending vocational school, rather than senior middle school, which is preparatory for university. Higher education offers bachelor, master and doctoral degrees, which require four, two to three, and three to four years of study, respectively. Higher education institutes also include junior vocational schools, which are considered by Chinese students and families to be inferior to universities (Lv, 2010).

Higher education in China has been undergoing a process of changing from elite education to mass education (Zhou & Zha, 2010). As such, students enrolled in higher education institutions have increased dramatically. There is also an increased number of students seeking higher education abroad. However, the close link between

education and examinations remains unchanged. During imperial times, exams were the major route to attaining important official positions, and accessing formal education was heavily dependent on the financial situation of a family; thus, the system was selective (Andreas, 2004; Young & Deng, 1999). During the fourteenth and nineteenth centuries, good performers in exams received rewards from the government and enjoyed increased respect in society (Shiue, 2013). However, the exam system was abolished and rural education became the main concern in education from 1966, when the Cultural Revolution began. This remained the case until 1977, when the university entry exam system was resurrected.

Zhou and Zha (2010) pointed out that higher education institutions have been asked to balance teaching and research since 1985, when education reform was announced. The possibility for average students to enter university was not high, which partly explained the popularity of the vocational schools, which promised jobs upon graduation until the 1990s (Andreas, 2004). The 1990s placed greater pressure on higher education institutes because universities were required to strengthen both research and teaching, with some key universities expected to reach an international level. In addition, the enrolment of students increased sharply, which symbolised the beginning of the 'massifying' of higher education (Zhou & Zha, 2010, p. 535). However, the university entry exam remains a significant concern, regardless of the 'massifying' of higher education. The entry exam is like the final sprint of schooling before entering university. Every year, during exam days, families of students wait outside the exam sites, and the general public must also be involved—for example, there is restricted

traffic in certain areas during certain times to ensure exams proceed without disturbance.

Successful entry into the desired university and study major not only depends on exam performance, but also other factors. In China, students in certain provinces have multiple lists of universities and majors from which to choose. The number of students from different regions is pre-set by the government, and students must fill their intention forms with multiple, yet limited, numbers of choices of schools and corresponding majors, either before or after the disclosure of exam results. The schools are grouped into different batches. Except for specialised universities—such as those for the military or arts—the batch number indicates the reputation of the university and the admission order. Universities choose students according to their grades and intention forms. Subsequently, a student who excludes a university in his or her intention form may lose the chance of being admitted to that university, even if he or she has a grade high enough to enable admittance.

Many studies blame either the mismatch between the market's required skills and the curriculum, or the failure of the education system to supply quality (*'suzhi'*) students to the education institutes or system (Huber, Kang & Wellendorf, 2011; Jiang, Liu & Wang, 2010; Velde, 2009). However, there has been institutional reform since 1990, although Zhou and Zha (2010) stated that this reform has only occurred at the individual level. Huber et al. (2011) pointed out that schools tend to compromise on the needs of the market or students due to the essential role that government plays in student allocation, fiscal support and performance measurement based on quantity standards.

In China, education content is greatly determined by political economy (Cantoni & Yuchtman, 2013); thus, the policy driver outweighs the market driver, and the current dual system is subsequently not effective for fostering market-required talent.

2.1.6 Agricultural education.

According to Rivera (2006), agricultural education involves three types of education: in-service training, informal extension programmes and school curricula. This thesis focuses on formal schooling. Directly following the foundation of the People's Republic of China in 1949, a central government concern was elevating the populous rural residence and popularising education. The government's establishment of an agricultural middle school in 1958 was an initial attempt to create a rural-oriented education system, even though it failed (Andreas, 2004). Currently, formal agricultural education in China mainly involves both vocational and academic degree-delivering universities at the secondary and tertiary level. Vocational schools include three levels: junior secondary, senior secondary and higher vocational education at the tertiary level (Velde, 2009). The qualifications offered include bachelor, master and doctoral degrees.

According to Xiang (2006), in recent decades, the student enrolment numbers in over 40 tertiary agriculture institutes comprises less than 5% of the total student enrolment numbers in tertiary institutes in China. At present, the demand for graduates with a master degree from an agricultural university is greater than the supply, while the supply of students with a bachelor degree is in balance with the demand, and the

supply of students with a secondary level graduation is greater than the demand (Gao & Zhang, 2009).

Due to historical and contextual factors, agriculture education has a low regard among Chinese people. Being a farmer is considered more of an 'inherited situation rather than a life choice' (Schwoob, 2014, p. 225). In addition, perceptions of vocational agriculture institutes are even worse than those of agricultural universities (Velde, 2009). Degree-delivering universities have priority over vocational institutes in student allocation by the government. Decisions regarding university and study major are not the result of pure personal choice, but also related to government allocation (Huber et al., 2011). Most students enrol in agriculture vocational school because they fail to enter universities, which require higher academic performance—although there may be exceptions in which a low family income is also a contributing factor. This contributes to the general inferior quality of students, especially in vocational institutes, and a lack of incentive to study (Lv, 2010).

Aside from the low volume of agricultural talent, the curriculum also creates challenges in developing the advanced skills required for agricultural modernisation. In this aspect of the curriculum, previous research has highlighted the emphasis on theory, and neglect of practice (Velde, 2009). Usually, the curriculum involves basic knowledge, with major theory taught in the form of lectures, and internships only occur during the last year of study, directly before graduation. Further, as stated by Ma (2009), there is a historical lack of market and managerial subjects in agriculture institutes.

2.1.7 Agricultural employment.

Agricultural employment is positively linked to output, and negatively linked to productivity (Mai & Peng, 2012). As productivity increases, agriculture employment drops. The 1980s witnessed an increase in the productivity of Chinese agricultural labour, although it was still low compared to developed countries (Mai & Peng, 2012). Traditionally, a farmer is considered an occupation that is inherited, rather than chosen (Schwoob, 2014). However, creating a modernised and industrialised agricultural field requires advanced skills and interdisciplinary knowledge that is not merely limited to cropping or animal raising. Unfortunately, farmers' current level of education and knowledge is limited, and young people's involvement in agriculture is low, which may impede the growth of agricultural productivity.

One dilemma for agriculture is that education is usually pursued as a way to escape agriculture (Andreas, 2004; Lee & Malin, 2013). Lee and Malin (2013) highlighted the significance of education in labour reallocation from agricultural to non-agricultural sectors. Students go to school and study with the hope of getting a job outside the agriculture sector, especially if they come from rural families (Zhang, Tang & Yao, 2007). According to Xiang (2006), there has been an outflow of 10 million students graduating from tertiary agricultural institutions from the agricultural sector since the foundation of the People's Republic of China.

Another significant concern for agriculture is the challenge regarding succession in human capital, which is not unique to China. An example is dairy farm management positions. According to a survey by the China dairy periodical office, with a sample of

162 scaled dairy farms across China, 68.24% of the surveyed dairy farm managers were born before the 1970s, while managers born after 1980s only constituted 8.24%. The youngest farm manager was born in 1984 (Chen, 2012). As Chen (2012) stated, it usually takes at least three to five years to foster a manager, which indicates the urgent need to recruit new farm managers to undertake this arduous task.

2.2 Characteristics

2.2.1 Structure change in economy.

Since 1978, China has become export-oriented and manufacturing industry has developed rapidly. As a result of industrialisation, changes have occurred in the gross domestic product (GDP) and employment involvement in the main three sectors in China—namely, agriculture (the primary sector), industry and construction (the secondary sector) and service (the tertiary sector) (Huang & Rozelle, 2009; Huang, Rozelle, Martin & Liu, 2007; Mai & Peng, 2012). Agriculture comprised over 40% of the national GDP in 1970, 30% in 1980, 20% in 1995 and 11% in 2007. In contrast, the service sector comprised 13% in 1970, 21% in 1980 and 40% in 2007 (Huang & Rozelle, 2009). According to the China Statistical Yearbook (2014), the proportion of people employed in the primary industry has dropped each year. In 1952, the primary industry comprised 83.5% of employed people, while the secondary and tertiary industries comprised 7.4% and 9.1%, respectively. At the end of the twentieth century, half of the employed population was in the primary industry, and employment in the tertiary industry was slightly higher than that in the secondary industry. In 2013, of the 769.77 million employed people in China, 31.4% were in the primary industry, 30.1% were in the secondary industry and 38.5% were in the tertiary industry.

Due to rapid urbanisation, 15 to 20 million people have been added to the urban population, and it is estimated that, by 2050, 75% of the total population of China will live in urban areas (Schwoob, 2014). According to the China Statistical Yearbook (2014), in 2011, the urban population exceeded the rural population, and, at the end of 2013, the urban population by residence was 731.11 million (53.73% of the total population) and rural population was 629.61million (46.27%). The highest proportion of urban population is in Shanghai (89.6%) and Beijing (86.3%), and the lowest proportion is in the Tibet Autonomous Region (23.7%).

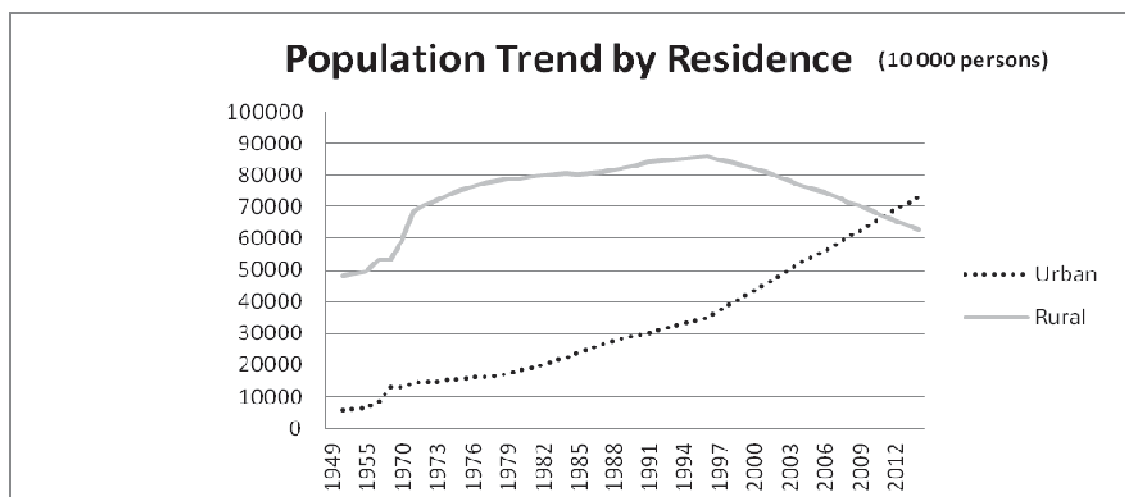


Figure 2.1. Population trend by residence (1949–2013). Source:

<http://www.stats.gov.cn>

The prosperity of the non-agricultural sector has been supported by resource outflow from agriculture into urban areas, as well as town and village enterprises (Tsakok, 2011; Yu & Zhao, 2009). This phenomenon has contributed directly to an increase in farmers' income, and to China's achievements in poverty alleviation (Yu & Zhao, 2009).

2.2.2 Disparities in regional economic and social development.

Disparities in economic and social development exist across China because of the region's vast territory and long history. According to the *Human Development Report* (2013) from the United Nations Development Programme, China, together with Brazil and India, have been high achievers in human development since the 1990s, and the regional disparity is also mentioned with China. However, Zhao, Li and Chai (2011) stated that the economic development disparity between regions is growing. Of the six administrative divisions based on geography, in 2010, the eastern region contributed nearly 60% of GDP, the middle regions contributed less than 30%, and the western region contributed 10% (Zhao et al., 2011). Further, agriculture is concentrated in the western provinces, which are the less developed areas, while the industrial sectors are concentrated in the more developed areas (Chi & Qian, 2013).

Differences also exist in social aspects. Access to social services and entitlements differ across regions, including the chance to receive a quality education, job opportunities and other social protections (World & Development Research Center of the State Council, 2013). For example, Shiue (2013) stated that access to education across China was determined by regional distribution, even during the Ming Dynasty (1368 to 1644). In addition to education, transportation convenience and health standards also differ between the eastern and mid-western areas of China (Xiang, 2006).

Similar differences also exist within regions—especially between rural and urban areas. Income level and consumption are two of the main areas of significance (Rae, 2008; Yu & Zhao, 2009). Income, consumption and access to other social services are also

regarded sources of inequality (World & Development Research Center of the State Council, 2013). Rural residents' income has significantly increased since 1978 (Veeck, 2013) and, since 1984, this has contributed to China's remarkable poverty alleviation (Yu & Zhao, 2009). However, urban residents' income increase outpaces that of rural residents (see Figure 2.2). The income gap decreased at the beginning of the rural reform, and reached the top in the mid-1980s. In 2009, urban citizens' disposable income was more than three times that of rural citizens (Gao, Zheng & Bu, 2014). Gao et al. (2014) attributed this income gap to sectorial reallocation of rural labour, while others have stated that resource reallocation has a negative effect on agricultural growth (Wang, Weaver & You, 2013).

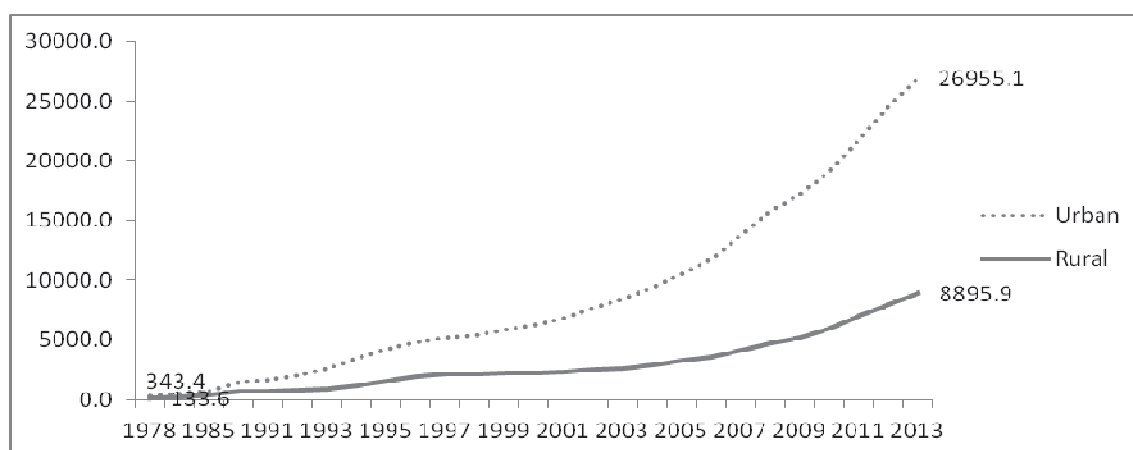


Figure 2.2. Per capita income of urban and rural households (1978–2013). Source:

<http://www.stats.gov.cn..>

The reform of the household register system is stated by the World and Development Research Center of the State Council (2013) as one of the ways to narrow the income gap between rural and urban areas, and across regions. The disparity between regions is widely acknowledged as an influential factor in talent flow and graduate job preferences (Gao & Zhang, 2009; Xiang, 2006; Zhao et al., 2011). The preference towards the eastern and coastal regions has reduced the talent in agriculture because

of agricultural occupations being concentrated in less developed areas (Zhao et al., 2011).

2.2.3 Cultural values.

Chinese cultural values have drawn attention from scholars in the fields of business and management (Faure & Fang, 2008). The influence of cultural values on motivation and work behaviour has also been highlighted in cross-cultural management (Fu & Kamenou, 2011). However, the research groups in previous studies are often urban workers in much more developed regions of China.

Jackson and Bak (1998) stated that work from Hofstede in the 1980s is frequently cited when discussing Chinese cultural values. In their work, Chinese people are noted as:

- respecting hierarchy and authority, which is linked to age
- valuing ‘face’, which means the truth may be compromised
- being tolerant of uncertainty to avoid making mistakes and being punished.

In addition, the culture features masculinity, work plays a central role in people’s lives, and the human factors rather than regulations is found to prevail in management practices in China (Fu & Kamenou, 2011). Moreover, informal networks or relationships based on personal contacts—called ‘*guanxi*’—is very important outside of work (Fu & Kamenou, 2011).

Faure and Fang (2008) stated that value is too complex to be measured by dimensions such as collectivism, individualism, and short-term or long-term orientation. Further,

values are not static, and their change does not simply involve moving one aspect to another aspect within a certain dimension. In reality, old and new values coexist in China (Ikels, 2006). For example, while China is often cited as a society of collectivism (Jackson & Bak, 1998), Jackson and Bak (1998) cited research that found that individualism is increasing in China. However, although young people have more exposure to the Western culture of individualism, the dependency on and bond to family is still strong. For example, according to a nationwide survey undertaken in 2004, young Chinese people still acknowledge that filial piety (*'xiaoshun'*) is the norm in China, and are willing to care for elderly parents (Ikels, 2006). This indicates that family-related values still play an important role in young people's lives.

China is frequently referred to as a long-term-oriented society that values thrift and perseverance (Jackson & Bak, 1998). However, short-term benefits, such as the pursuit of financial wealth, are values found among young Chinese people with an open and direct attitude towards wealth aspiration (Rosen, 2004). The introduction of the market is greatly attributed to creating growing incentives for wealth (Zhang et al., 2010). A 2001 survey undertaken in Shanxi province found that young people who work in enterprises or government offices demonstrate impatience regarding the pace at which their lives improve (Rosen, 2004). Further, high turnover of employees may also be attributable to students' pursuit of promotion opportunities (McKeen & Bu, 1998). Work centrality and high achievement by individuals is expected in China (Jackson & Bak, 1998). In addition, as Loughlin and Barling (2001) stated, young workers may care more about the balance between work and non-work activities.

2.3 Summary

China is a country with a vast territory and ageing population. Behind the astonishing growth of its cities and its comfortable middle-class citizens, there is a disparity between urban and rural areas and across regions, which is an issue for a balanced and sustainable development of the whole nation. The government's policy focus shifted from agriculture to non-agriculture between 1949 and 1978; however, entering the twenty-first century, the government has sought to rebalance development between urban and rural areas, and between agriculture and other sectors.

The 1970s was a turning point in China's contemporary development—since then, China's economy has undergone a series of reforms. The initial reforms related to agriculture, which influenced Chinese society in many aspects (Shiue, 2013; Tsakok, 2011). The introduction of the Household Responsibility System, market liberation and the government's investment in agricultural input all contributed to the agricultural development of the 1980s. However, later, in a context of urbanisation and industrialisation, investment in agriculture was sacrificed. Instead, the government's policy tended to favour urban areas, which caused industry and the service industry to become increasingly attractive for graduates. High education is more accessible for common Chinese, whereas the discontent is widely expressed by scholars and students in university. This dissatisfaction stems from the focus of the curriculum, which neither offer students the ability and skills required by work places, nor meet the needs of social development. This critique is particularly prevalent in the area of agricultural education (Gao & Zhang, 2009; Jiang et al., 2010).

Although China has become more open to international trade, some changes have not automatically occurred as a result of this. For example, free mobility of labour among sectors or between rural and urban regions is not regulated by the ‘invisible hand’ of the market, but is instead limited by the household registration system. In addition, the education system has not modified the curriculum according to the needs of employers and markets as a result of the government’s ongoing role in student allocation and control over the system. Thus, the policy of a planned economy still dominates the growing marketing economy. At the same time, the government is demonstrating a will to issue policies to help balance this development.

China is facing the challenges of an ageing society, increasing wages and a shortage of a highly qualified and skilled labour force. In agriculture, the situation is worse. Agriculture is transforming from a traditional labour-intensive sector into a more contemporary industry that encompasses knowledge beyond simple production to include market knowledge, management knowledge and many other aspects. However, graduates’ perceptions of agriculture are outdated and limited, which influences their willingness to study and work in the agricultural sector. The poor perception of agriculture and society’s preference to work in the industrial and tertiary sectors has created an ongoing problem for agricultural education, employment and human capital.

In summary, despite the government’s supportive policy to promote agriculture modernisation and foster talent, contextual factors—especially regarding people’s

perceptions of the agricultural sector—remain a significant barrier to the sustainable development of agriculture in China.

Chapter 3: Literature Review

The central issue related to attracting employees is motivation, while the central issue related to students' career choice is decision making. As such, in this chapter, the literature on these two topics is explored under two main headings. The first section addresses the factors influencing motivation and career choice with reference to relevant theories, and the second section focuses on students' career choices in agriculture.

3.1 Factors Influencing Motivation and Career Choice

Motivation is an individual's source of energy, and the factors that direct and sustain it (Bain & Mabey, 1999, p. 146). Motivation explains 'decisions and behaviours that cannot be explained by ability alone' (London, 1983, p. 620). Motivation also explains the reason for, intensity of and duration of the intention behind an action (Ambrose & Kulik, 1999).

From a theoretical perspective, motivation theories are categorised into:

1. motive and need theories
2. reinforcement theories
3. cognitive theories
4. an integrated model (Bain & Mabey, 1999).

The motive and need theory is the most traditional theory of motivation. It states that people are satisfied or motivated only when their needs are met. Murray (1984) found that the needs for autonomy, deference, aggression, dominance, power, achievement

and affiliation are the main needs under the motive and need theory (Bain & Mabey, 1999). Maslow's (1954) hierarchic needs theory is based on basic physiological needs to the top need for self-actualisation belongs to this group (Bain & Mabey, 1999). The reinforcement theory introduced by Hull (1943) and Skinner (1953) focuses on the link between an action and its consequences. Cognitive theories are 'process' theories of motivation. Equity theory and expectancy theory belong to this category. Equity theory proposes that individuals judge inputs and outcomes (what they give and receive) (Adam, 1963). Expectancy theory is also known as 'VIE'—valence, instrumentality and expectancy, and an individual's motivational state is: $M = E * I * V$ (Vroom, 1964). Expectancy (E) refers to the link between efforts and attainable performance. Instrumentality (I) refers to the link between performance and rewards. Valence (V) refers to the value attached to the outcome. Any weakness in E, I or V significantly affects the entire motivational state of an individual (Isaac et al., 2001). Finally, the integrated model of motivation comprises interaction between the nature of a particular job, the characteristics of the individual and the culture of the organisation.

Motivation theory originated in the United States of America; thus, an essential aspect of research, such as cross-cultural studies, is to determine whether this Western theory is applicable in different countries or contexts. The prevailingly- tested theories are self- determination theory (SDT) by Edward Deci and Richard Ryan and social cognitive theory (SCT) by Albert Bandura. China does not have its own motivation theory, and most research test the Western theory (Cooke, 2009; Poon & Rowley, 2007). In China, human resource–related topics gained interest after the country's economic opening and reform in 1978, when Western investment, as well as

international theories and practices, entered China (Poon & Rowley, 2007). Motivation research in China has concentrated on topics regarding talent management (2010; Preece, Iles & Chuai, 2011), talent localisation (He & Hong, 2012; Linjie & Xing, 2010) and examination of benefit systems (Ding, Akhtar & Ge, 2006; Lin, Trenberth & Kelly, 2010). One reason for this is that, after the economic transformation, Western human resource theories and practices were introduced by foreign investors. The second reason may be attributed to the easier accessibility to information from foreign companies (Cooke, 2009).

Study of work choice behaviour is a crucial area in work and motivation theory (Wahba & House, 1974). Treating an individual as a decision maker has been popular in psychology since the 1950s, and the interest in cognitive processes had been grown (Maehr & Meyer, 1997). Lent, Brown and Hackett (1994) introduced the framework of SCCT to explain the dynamic process of job choice, based on more than 2,000 university students. SCCT arose from social cognitive theory by Albert Bandura. The SCCT framework comprises three parts: self-efficacy, outcome expectation and goals (Lent et al., 1994). According to SCCT, career decision making is a complicated process, through which different variables continuously interact and shape the final choice. This framework has been used to investigate college students' job decision making (Lent, Hackett & Brown, 1999; Lent et al., 2002) and decision-making intentions (Jin et al., 2009; Rajabi et al., 2012; Turner & Hawkins, 2014).

Based on literature, there are five main groups of factors that are closely linked to motivation: job attributes, organisational factors, individual factors, proximal factors and societal factors. Each group is detailed in the following sections.

3.1.1 Motivating job attributes.

One commonly applied theory in motivation research is the job attribute theory, also known as the 'two-factor' or 'motivator-hygiene' (M-H) theory. This theory was introduced by Herzberg in the middle of the last century (2001). Herzberg's two-factor theory belongs to the traditional motivation theory of motives (Ambrose & Kulik, 1999). Herzberg divided work needs into motivator needs and hygiene needs (Hodson, 2001). The motivator needs represent the intrinsic attributes of the job itself. For example, satisfaction is likely to increase by meeting an individual's intrinsic needs through offering responsibility and opportunity for personal growth in a job. The hygiene factor most frequently relates to the work environment and remuneration, which are important to keep employees satisfied and to avoid turnover (Hudson, 2001). Empirical research on motivation also categorises motivation into intrinsic motivation and extrinsic motivation (Amabile, 1993). There are overlaps between hygiene needs and extrinsic motivators, and motivator needs and intrinsic motivators (Hodson, 2001, p. 37).

Motivation is an abstract concept that can only be measured by attitudes and behaviours (Ambrose & Kulik, 1999). In research, concrete job attributes are used as criteria to test both the satisfaction of current employees and ways to attract potential employees. Generally, in investigations of employee satisfaction, perceived motivating

job attributes have a positive relationship with career motivation (Noe, Noe & Bachhuber, 1990). Noe et al. (1990) examined personal characteristics and situational characteristics—two correlated constructs of career motivation—and found that situational characteristics—such as feedback, autonomy, using a wide range of skills, and work role salience—had a significant positive relationship with career motivation.

Although literature suggests that using extrinsic motivators, such as monetary benefits, should be applied with caution to prevent the deterioration of intrinsic motivation, remuneration or material benefits is widely acknowledged to have direct links to the attractiveness of a job, as well as employee satisfaction (Chiu, Luk & Tang, 2002; Judge & Bretz, 1991; Nielsen & Smyth, 2008; Oloruntoba & Ajayi, 2003; Wu, 1993). In the agricultural sector, Oloruntoba and Ajayi (2003) investigated the motivating factors for employees in large-scale private farms in Nigeria, and found that the main motivating factors were high remuneration, promotion, a good pension scheme, job security and recognition of staff. The main demotivating factor was a lack of participation in decision making. In similar research examining extension workers' satisfaction, Ibrahim, Muhammad, Yahaya and Luka (2008) found a significant relationship between payment of allowance, rate of promotion, regular training and job satisfaction. Alzaidi, Muneer and Gaballa (2011) also investigated the work motivation of agricultural extension workers in the Kingdom of Saudi Arabia. The most significant motivating factors were appreciation by supervisors and colleagues, understanding of work rules and regulations, and relevant training that generates benefits for agricultural extension workers.

In China, research on work motivation or incentives has previously focused on the urban workforce in non-agricultural sectors (Nielsen & Smyth, 2008). When researching the topic of human capital in Chinese agriculture, the surplus rural labour force draws much of the attention.

Some studies indicated that financial factors are an important motivator in China (Björkstén & Hägglund, 2010; Wu, 1993). Based on a historical investigation of China's employee benefit system, Lin et al. (2010) suggested employing a good benefit system as a supplement to salary to attract and retain talents in China.

Aside from monetary benefits, advancement potential has been found to be another key element in job attractiveness (Judge & Bretz, 1991). As found by Oloruntoba and Ajayi (2003) and Ibrahim et al. (2008), in the agricultural field, promotion is an important motivating factor. Ye and Ye (2009) indicated that—according to a survey by AON Hewitt Consulting—Chinese employees value training and career development as more important than remuneration and benefits.

In addition, location is often mentioned as a demotivating factor globally in agricultural jobs, particularly amongst young people (Zhao et al., 2011). Jobs located in less developed regions in mainland China discourage young people from seeking employment in those sectors (Xiang, 2006; Zhao et al., 2011). Finally, job choices are also made based on evaluation of job attributes (Chapman, Uggerslev, Carroll, Piasentin & Jones, 2005). Specific job attributes have been used to investigate job aspirations and preferences. Boswell, Roehling, LePine and Moynihan (2003) found

that job attributes have varying effects on choice decisions at different stages. These stages start from the onset of the recruiting season, after receiving a job offer, to after making an employment decision.

3.1.2 Organisational factors.

The specific attributes sought by applicants are job and organisational factors (Chapman et al., 2005, p. 929). Job and organisational factors have been found to be essential in attracting job applicants (Turban, Forret & Hendrickson, 1998). Boswell et al. (2003) combined job and organisational factors when investigating their influence on job choice decisions, while other research has examined them separately. In reality, job and organisational factors are not clearly defined, but are more intertwined. For example, location is a job attribute, yet this is influenced by organisational factors, especially organisational type, in China's context. Ding et al. (2006) examined detailed organisational differences in compensation and benefits among Chinese firms.

Studies examining person–organisation fit have highlighted a perceived value congruence between an individual and an organisation (Cable & Judge, 1996). Cable and Judge (1996) found that job seekers care more about the fit between the person and organisation than the fit between the individual and job, especially in the context of interview. Yu (2014) found that person–organisation fit explained nearly one third of organisational attraction. However, Cable and Judge (1996) highlighted that, in reality, people may acknowledge the importance of person–organisation fit, yet do not achieve it.

For applicants who have not yet entered an organisation, their perception of the organisation is likely to be based on recruiter behaviours. Turban et al. (1998) highlighted the role of recruiters, and found that recruiters' 'reasonableness' cannot explain the applicant attraction. Recruiters have been found to positively influence applicants' perceptions of job and organisational attributes because applicants can receive all information about the job and organisation from the recruiter. If more information is provided by recruiters, perceptions of the job and organisation tend to be more positive (Turban et al., 1998).

Organisational factors, such as culture, leadership, prospects and remuneration level, contribute nearly 50% to employee commitment (Ye & Ye, 2009). First, organisational culture or corporate culture is often included in motivation studies in the workplace. Organisational culture can be approached by organisational value system because values are the core of organisational culture (Meglino, Ravlin & Adkins, 1989). Second, in research from the 1980s, organisation type was found to be one of the influential factors in job choice (Judge & Bretz, 1991). The type of organisation or work unit is a concern among Chinese people historically because it links to remuneration and welfare at different levels (Chiu et al., 2002). Wu (1993) stated that China is more focused on choice of ownership types, rather than choice of job. Ownership or firm types are often included in studies of Chinese human resource management practices (Cooke, 2009), managerial compensation and benefits (Ding et al., 2006), young people's job preferences (Wu, 1993) and students' job expectations (Björkstén & Hägglund, 2010). Third, organisational reputation can positively influence applicants' perceptions of job and organisational attributes, yet can negatively influence an

organisation's ability to attract applicants (Turban et al., 1998). Organisational reputation (or image) can influence the decision to accept a job, but not the decision to reject a job (Boswell et al., 2003).

3.1.3 Individual factors.

Career psychology states that factors that arise before the occupational experience can influence attitudes and behaviours, such as values and interests (Super & Bohn, 1970). Personal values and goals have the potential to be behaviour motivators, according to social cognitive theory (Turner & Hawkins, 2014). There is evidence from research that individual differences create variance in motivation (Fiske, 2014; Johnstone, 1997). The individual differences mentioned in motivational research are primarily related to personality and demographics.

Personality can be examined either in a narrow or broad sense. In a narrow sense, individuals are grouped into different personality groups. In occupational psychology, individuals are categorised into six personality types: "realistic, intellectual, social, conventional, enterprising and artistic" (Holland, as cited in Super & Bohn, 1970, p. 103). Holland (as cited in Super & Bohn, 1970) proposed that people of different personality types are oriented by different careers, and prefer different job contents. For example, 'realistic' individuals expect concrete factors, rather than abstract factors, while 'artistic' individuals are more likely to be involved in creative occupations.

Broadly, according to career psychology, personality variables include an individual's interests, values and needs (Super & Bohn, 1970). According to Super and Bohn (1970),

interest is comparatively stable throughout an individual's life, and has 'predictive validity' in occupational choice, as proven by longitudinal studies. However, some studies have found that interest cannot predict real job choice. For example, little relationship was found between interest and career choice among Asian American students (Tang, Fouad & Smith, 1999). When investigating the influence of interest on job choice, it is important to remember that interest may not be apparent, especially among young people. This is because it can take time for interest to be determined via experiences (Overbay, 2006). Moreover, young people's interest is less stable than that of middle-aged employers for predicting behaviour (Fiske, 2014). They are at the trail stage of their career lives as stated by Noe et al. (1990).

Value is the 'driving force' in one's life (Overbay, 2006). Thus, value congruency—the match between career and personal values—is often investigated in the area of work motivation. Values can be either approached as a personal factor or as a construct that interacts with personal characteristics and job choices (Overbay, 2006). There is a causal relationship between value and work attitudes and behaviour (Ravlin & Meglino, 1989). For example, a person with economic values is more likely to be satisfied with a high-paying job, and more likely to overlook unpleasant working conditions. In contrast, a person with aesthetic values may not be motivated by being offered a large monetary bonus.

Psychologists have found correlation between value type and individuals' choices in study and work (Super & Bohn, 1970). Johnstone (1995) found that students enrolled in different majors at university showed varying levels in their different needs. For

example, students who chose a management major usually demonstrated a high need for power. In addition, some needs change over time. For example, graduating students' need for affiliation was lower than that of students in their first year at school (Johnstone, 1995).

Values act "as a guide or standard for decision making" (Ravlin & Meglino, 1987, p. 672). Values are often investigated at two levels. The first is the within-subject level, which focus on the different categories to which an individual belongs. The second is the broad level, e.g. Chinese employees' values. At this level, individual differences are ignored, and individuals are treated as a group based on their demographic features. The origin of an individuals' family is also a concern in value research because research has indicated that this demographic feature explains differences in job-related attitudes and behaviours.

Previous studies have found that some variables such as values and needs can over-lap, and the same specific content can be considered as either needs or values. For example, a need for autonomy can be considered a value for autonomy. People who have economic values also have economic drive as their central need. Generally, people in the same career group share the same likes, dislikes and values (Super & Bohn, 1970). Thus, career psychology suggests that different careers can be used as a measure to differentiate people. This measure is considered more reliable and straightforward than measuring personality in a narrow sense (Super & Bohn, 1970). Previous research has also indicated that demographic factors such as gender, age and career stage can explain differences in job-related attitudes and behaviours. Personal

characteristics (e.g. career stage, perceived distance from career goal, and match between personal and organisational goals) and situational characteristics (e.g. managerial support and motivating job attributes) have been found to be influential on career motivation (Noe et al., 1990).

Motivation differs among individuals; thus, demographic factors have been considered in motivation research, although the findings are not unanimous. In a study of large private farms in Nigeria, Oloruntoba and Ajayi (2003) found that demographic characteristics do not influence employees' motivation. Nielsen and Smyth (2008) found that demographic factors, such as age, differentiate motivations among urban employees in China. Rajabi et al. (2012) found that gender did not make a difference in career intention among agricultural students in Iran. However, gender has been found to play an important role in choices regarding study and career in the areas of science, technology, engineering and mathematics (Sadler, Sonnert, Hazari & Tai, 2012).

An important personal variable of SCCT for career decision making is self-efficacy. The concept of self-efficacy arose from the research of Bandura (as cited in Tsojon, Ehiemere & Bonjoru, 2013). Self-efficacy is equivalent to the confidence, self-assessment, belief or judgement one has about oneself regarding one's effort to achieve an expected outcome (Tsojon et al., 2013). Zarafshani and Knobloch (2008) stated that self-efficacy is both a personal and social construct that differs with gender. Therefore, it is reasonable to have different levels of self-efficacy across cultures. A 1997 study by Schwarzer and Born compared self-efficacy in 13 cultures, and found that students in Costa Rica, Peru and Russia had the highest score in self-efficacy,

whereas Japanese students had the lowest score (Zarafshani & Knobloch, 2008). Self-efficacy is important for individuals to be successful in their careers (Overbay, 2006). It is also found to be strongly linked to career indecision (Chantara, Kaewkuekool & Koul, 2011).

Self-efficacy arises mainly, but not solely, from one's experiences (Lent et al., 1999). Self-efficacy is not static, but can be built up and elevated through successful performance, positive observations from peers, and interactions with others—especially in the form of feedback (Zarafshani & Knobloch, 2008). Positive experience is more likely to elevate future performance through the enhancement of self-efficacy, while negative experience will probably weaken self-efficacy (Lent et al., 1999). Self-efficacy relates to gender, race, health status and other individual factors (Lent et al., 1994).

Jin et al. (2009) found that graduate students in China are low in self-efficacy, which can impede their career decision-making intentions. Tsojon et al. (2013) found that the self-efficacy of its 186 agricultural students in Nigeria was high. Hamill (2012) found that agricultural students in the south-west region of Victoria, Australia, had high self-efficacy. Zarafshani and Knobloch (2008) found that male agricultural students in an Iranian college had higher self-efficacy than did female students; however, they both had high self-efficacy.

Personality type, as an element of occupational psychology, has also been tested in terms of its relationship with motivation. Jin et al. (2009) and Rajabi et al. (2012)

included the five-factor model of personality in their research of university students' career decision-making intentions, with variance in their findings.

Lent et al. (2000) and Lent et al. (2002) have both commented on the focus given by SCCT to cognitive person variables, such as self-efficacy, and proposed that greater emphasis should be given to the contextual factors that influence an individual's career choice process.

3.1.4 Proximal factors.

Lent et al. (2002) undertook interviews with 31 students from one state university and one technical college in the US. Previous studies have applied qualitative methods and investigated potential influencing factors in the context. The contextual factors can be grouped into proximal and societal factors based on the influence distance (Lent et al., 2000). Proximal context includes family, peers, teachers and any others who have the potential to have a direct and close influence on an individual's job decision making.

Duffy and Dik (2009) mentioned the influence of family on individuals' career choice in terms of monetary and emotional support, networking and social resources. In some collectivist societies, families arrange the career path plan for their children. Even in individualist America, some research has found that low or middle-class Americans' main motivation is to meet their family's needs (Duffy & Dik, 2009). In Australia, Hamill (2012) found parents to be the third most influential factor contributing to agricultural students' decisions to pursue an agricultural career. Even talented students in the US make career choices based on the wishes of their parents, and their parents have the

greatest influence of all the factors affecting career decisions (Overbay, 2006). Families also influence the job selection values of Chinese students (Wu, 1993). Moreover, if a student's job can be arranged by parents, they would show different motivation direction in their schooling and other activities (Maehr & Meyer, 1997).

Individuals' estimation of their ability and evaluation of jobs are affected by the people around them, with some influence being implicit, such as that from peers (Fiske, 2014). Teachers at school can also be influential on students' self-efficacy and self-awareness (Tsojon et al., 2013). For example, Zarafshani and Knobloch (2008) found that male professors at Razi University in Iran acted as role models for their male agricultural students, and these students subsequently had a more positive attitude towards themselves and agricultural jobs.

3.1.5 Societal factors.

According to Lent et al. (2000), societal context is the external influence that derives from society and culture at a much broader level. For example, public commentary offers a context in which individual perceptions and career expectations are formed. These perceptions then influence people's career choices. If a career is mostly negatively perceived and not considered respectable in a society, the career will be less popular. Research has indicated that the public image of agricultural careers remains associated with planting, low payment and low skill requirements, which is not reflective of contemporary agriculture (Hamill, 2012). In this larger context, students' choices regarding an agricultural career are uncertain, even if students have a positive perception of agricultural careers (Hamill, 2012).

Another issue is that jobs must be clearly acknowledged as a career option. In China, many people are confused about the differences between certain careers due to the absence of detailed occupational classification (Tang, 2001). Research by Tang (2001) showed that religious activities are isolated from other conventional occupation categories in China, with preaching not regarded a career. Similarly, the majority of people in China still believe agriculture is 'an inherited situation rather than a life choice' (Schwoob, 2014, p. 225). This may imply that, if farming is considered a status, rather than a career, farm management jobs may not be considered a career option.

Different communication mediums play important roles in leading public values and delivering (or not delivering) certain information, based on which students make choices or compromises in job-related behaviour. For example, in China, mediums such as magazines and television programmes promote successful entrepreneurs and wealthy people, while everyday people are under-represented (Rosen, 2004). The information delivered through Chinese mediums contributes to young people's growing pursuit of materialism and pragmatism (Rosen, 2004). Wu (1993) and Rosen (2004) stated that the unselfish labour model is no longer valued by employers, as it was in the last century, and practical pursuits are more popular than scholarly pursuits for university students. Rosen (2004) argued that wealth has become a value in China that is considered equal to status and success. Given that students form their expectations and evaluations of job choice based on the information available, a lack of necessary information can be a significant barrier to students making job decisions (Tsojon et al., 2013). Feldman (2003) indicated that a lack of information on specific jobs can lead to job indecision.

The labour market situation and job availability are also important influences on students' attitudes towards employment. In industries in which there are greater job opportunities, individuals demonstrate a lower probability of accepting a job in that industry (Cable & Judge, 1996).

Both proximal and societal factors comprise the external elements in an individual's decision-making process. These contextual factors work either as barriers, resources or moderators between internal factors and outcomes in the career decision-making process (Duffy & Dik, 2009). Lent et al. (2002) undertook interviews with 31 students from one state university and one technical college in the US. They investigated the influencing factors on occupational choices, divided these factors into supports and barriers, and explored students' coping behaviour. Studies such as those by Lent et al. (1999) and Lent et al. (2000) have suggested developmental and remedial interventions in individuals' career choice process, with the involvement of contextual stakeholders—both proximal and societal.

3.2 Career Choice in Agriculture

This section begins by examining agricultural university students' expectations because these students are often targeted as the potential future employees of contemporary agriculture. Following this, this section examines these students' perceptions and attitudes towards agricultural careers. Finally, it examines the potential factors influencing students' career choices in agriculture.

3.2.1 University students' expectations.

In the SCCT, outcome expectations refer to the perceived consequences of a particular action being taken (Lent et al., 2000). This is an evaluation of the “resulting production” (Maehr & Meyer, 1997, p.373). Based on a multiple regression model, Betz and Vuyten (1997) suggested that ‘exploration intentions’ in career behaviour can be predicted by outcome expectations, whereas self-efficacy best predicts career indecision. Individuals’ perceived chance of realising their personal values is an important aspect of studies of students’ expectations and aspirations. Expectations are also conceptualised by job and organisational attributes (Yu, 2014).

Turner and Hawkins (2014) applied a qualitative method in the conceptual framework of SCCT, and found that students’ choices about studying agricultural science were influenced by expectations regarding job security, flexibility, use of existing skills, goal fulfilment or pursuit of interests. An existing value instrument was used in a descriptive study by Overbay (2006) on agricultural students in the US. The results showed that achievement was the highest value expectation for both males and females. Ability use, personal development, altruism and economic security also had high scores, with slight differences according to gender. Overbay compared the results with different subjects in 1989, and found that economic rewards and security were decreased to some extent, whereas other values were similar.

Previous studies have found that earning expectations are associated both with job search efficacy and employment outcomes (Hogue, DuBois & Fox-Cardamone, 2010; Po, 2011). Po (2011) found that students with a reasonable payment expectation had a

higher probability of gaining employment after graduation, while low payment expectations could be used as a reference for later interventions to help improve job-search efficacy. Hogue et al. (2010) found that their female participants' expected wage was lower than their male participants' expectation, and that increased self-efficacy contributed to an increase in the expected wage level.

Some studies have found that money is a motivator for students (Chiu et al., 2002; Webster & Ganpat, 2014). Tang's (2001) findings indicated that the top themes in Chinese college students' vocational interests were those perceived as having money-generating potential, such as enterprising and conventional themes. Tang (2001) explored the confusion between personal interests and the pursuit of high-income occupations among Chinese students. Research on the career goals and expectations of Chinese undergraduates in hospitality and tourism management have also found that young people do not wish to start a job with a low salary (Lu & Adler, 2009). Developing countries may have the same situation, with expectations of high wages (Webster & Ganpat, 2014).

The preference towards foreign companies among Chinese university students is partly attributed to the high wages offered by these companies (Tang, 2001). The preference is also attributed to the companies' clear regulations and equal competition based on performance, in contrast to the rule-by-human practices in traditional Chinese domestic organisations (Björkstén & Häggglund, 2010). According to Wu (1993), 49.6% of 548 postgraduates in China declared a preference for foreign enterprises or joint ventures located in China. Gamble (2000) also pointed out that most well-educated

young Chinese prefer to work in foreign-owned companies to State-Owned Enterprises. The overwhelmingly positive perception of foreign companies causes young Chinese people who work in foreign companies to speak and dress differently (Tang, 2001). Students see little difference between the roles of an office machine operator and a manager if these jobs are in foreign companies because both positions have a higher wage than a position in a domestic firm (Tang, 2001).

Some cross-cultural studies have examined job expectations because cultural background is an important consideration, as suggested by Jusoh, Simun and Chong (2011). McKeen and Bu (1998) examined the career and life expectations of Chinese business students with their counterparts in Canada. The results showed that the occupational role of Chinese students was higher, as these tend to allocate longer time to working than their counterparts in Canada. However, this time allocation decreased five years after graduation. The Chinese students also expected a work and life balance. These findings are consistent with the value descriptions in Jackson and Bak (1998) and Loughlin and Barling (2001), that work plays a central role for Chinese people, yet young Chinese people expect a balance between life and career.

In China, university students are treated as the 'next generation of China's professional middle class', and are increasingly attracting research in China (Rosen, 2004, p. 32). This research has included surveys on job preferences by Wu (1993), job prospects by Huber et al. (2011), vocational interests by Tang (2001) and career decision-making intentions by Jin et al. (2009). These studies generally examined students regardless of different majors. In addition, there have been many published articles on the

expectations of business and hospitality students, such as the studies by Kong, Wang and Fu (2015); McKeen and Bu (1998) and Lu and Adler (2009). This may be attributed to the development and prosperity of the business and service industry. However, research on agricultural students' expectations is largely scanty, and the job values of agricultural students have not received close investigation.

While graduates have certain expectations about jobs, employers also have expectations regarding graduates. Gaps between the expectations of students and employers (not limited to the agricultural field) have been proven by a number of studies. For example, DuPre and Williams (2011) surveyed German undergraduates, and found that their rating of perceived important skills was different to the employer's rating. In addition, Jusoh et al. (2011) investigated the expectations and experiences of new graduates in Malaysia and found that employers were not meeting the graduates' expectations, particularly in terms of training and leadership. The students expected greater guidance, whereas employers expected them to perform independently.

These expectation gaps will negatively influence job choice and satisfaction; thus, it is important to adjust students to have more practical expectations (Jusoh et al., 2011). Wu (1993) commented that Chinese students generally have high expectations, which may require revision. Turner and Hawkins (2014) also indicated that students in Iran should have more realistic expectations.

While expectations that have been formed before entering a certain industry or organisation can be influential on job choice and satisfaction (Yu, 2014), they cannot predict job choice alone. Turban and Eyring (1993) pointed out that preference can be similar to the reasons given for accepting a job, yet cannot accurately reflect the reasons a job is rejected. They found that the type of work is the most preferred job attribute and is the most important reason a job offer is accepted, yet it is the second most important reason a job offer is rejected. In contrast, location is the main reason a job offer is rejected. In reality, compromise often occurs, in which students may choose a job that is more feasible, yet not completely desirable.

3.2.2 Perceptions and attitudes towards agricultural careers.

Misunderstandings about agricultural career opportunities prevail in many societies (Overbay, 2006). Previous research has found that agricultural jobs are perceived as physically tedious, unprofitable, requiring little skill and even dangerous (Hamill, 2012; Illeloh et al., 2012; Turner & Hawkins, 2014). Turner and Hawkins (2014) found that Tasmanian university students believed that an agricultural career requires a low level of ability. This indicates that the multidisciplinary knowledge and skills required in contemporary agriculture is not understood. According to Webster and Ganpat (2014), this perception is even worse in agricultural production due to the traditional perceptions of land labour and lack of capital. However, in China, the attitudes and poor perceptions of agricultural jobs have been included without empirical evidence.

Agricultural students' perceptions of an agricultural career cannot be reliably generalised. For example, in a study by Hamill (2012) in Australia, agricultural students

and their parents had positive perceptions about agricultural careers, which was different to the career teacher's assumption. In Hamill (2012), students' perceptions of payment, skill levels and career pathway in agriculture were positive, and even non-agricultural students believed agricultural jobs required high skills, and that low qualified people were not suitable. However, non-agricultural students' knowledge of agricultural careers was limited (Hamill, 2012). In contrast, in a study by Ilenloh et al. (2012), more than half of the sampled Nigerian agriculture students did not think agriculture was a job suitable for university graduates, while over one third of respondents thought agricultural jobs were appropriate for people who had dropped out of school.

Similar to these perceptions, the findings on agricultural students' attitudes towards agriculture vary. Tsojon et al. (2013) found that agricultural students in Nigeria had a great interest in agricultural practice. In contrast, Ibitoye (2011) found that Nigerian agricultural students had a negative attitude towards an agricultural career. In addition, attitude is not static, but variable; thus, attitude towards agriculture as a subject or career may change over time because of life experiences. Overbay (2006) undertook a longitudinal study on gifted agricultural students' values and attitudes towards agricultural careers, at the beginning and end of an agricultural programme. He found that experience in this programme elevated students' attitudes towards agricultural careers. Frazee et al. (2011) also found that attitudes towards agriculture as a subject, study major and career improved through an internship training of communication workshop.

Although perceptions of and attitudes towards agriculture are often examined in studies, these two factors are not sufficient to predict career choices in agriculture. Ajayi, Okorie and Yusuf (2008) found that internship training in agriculture did change attitudes towards studying agriculture, but did not change job aspirations to choose agriculture. Hamill (2012) also stated that a positive individual attitude towards agriculture will not necessarily predict job choice in a society that clings to the old perceptions of this sector.

3.2.3 Influential factors in agricultural career choice.

Globally, in recent decades, there has been increased interest in agricultural students' career choice intentions. Examples include the research by Hamill (2012); Turner and Hawkins (2014), which focused on university undergraduates; Adedokun and Balschweid (2008); and Mukembo, Edwards, Ramsey and Henneberry (2014), which focused on vocational school students, in response to the global concern about future employees in agriculture. In China, concerns about talent succession in agricultural have been emphasised, such as in the study by Han (2014). However, there is a gap in the research of empirical studies exploring agricultural students' career decision making and intentions of working in the agricultural industry.

SCCT is often used as a conceptual framework in these studies. For example, it was employed by Rajabi et al. (2012) to explore person-cognitive variables (self-efficacy and personality) with outcome expectations, and Turner and Hawkins (2014) to explore outcome expectations only. Different methods have been applied to suit each previous study's objectives, with many studies using quantitative methods to

investigate the significant influencing factors. Hamill (2012) examined the perceptions of agricultural careers of students, parents, career teachers and industry representatives, and the influencing factors in students' agricultural career choice decision making. This study used mixed methods, survey, focus group discussions and individual semi-structured interviews. Turner and Hawkins (2014) undertook an in-depth semi-structured interview to attain a holistic view of the changes in students' outcome expectations during their years at university. Adedokun and Balschweid (2008) and Ilenloh et al. (2012) used surveys and regression models for data collection and analysis. Finally, Mukembo et al. (2014) used an embedded quantitative case study, while Ilenloh et al. (2012) applied quantitative research methods.

Previous research has undertaken classification or categorisation of the factors that affect students' intentions to pursue an agricultural career. These have been classified into personal and contextual factors, or intrinsic and extrinsic factors, such as in the study by Mukembo et al. (2014). However, different studies have had different objectives.

In the regression model of the study by Ilenloh et al. (2012), which explored university students in Nigeria, the respondents' socioeconomic exploratory variables explained 51.7% of their willingness to pursue an agricultural career. Variables such as 'gender', 'attitudes towards agricultural occupations', 'academic performance' and 'class level' were found to correlate with the respondents' willingness to pursue an agricultural career, whereas 'present farming experience', 'parents' farming background' and other variables were found to be insignificant in predicting willingness to pursue an agricultural career. Another study by Ibitoye (2011) on secondary students in Nigeria

found that gender and a rural or urban background statistically explained the most difference in students' agricultural career preferences.

Rajabi et al. (2012) found that females without farm experience were less likely to choose an agricultural career. Turner and Hawkins (2014) did not find gender differences in students' agricultural career intention, and highlighted that positive, holistic, on-farm experiences could be motivators for students to pursue an agricultural career, rather than general school farm experiences. This is because these on-farm experiences offer the chance to explore various aspects of the farm business, which may make the career choice more vivid (Turner & Hawkins, 2014).

Further, the results of Hamill (2012) showed that industry-focused training was the most influential factor on students' likelihood to pursue an agricultural career. This result aligned with the study by Ajayi et al. (2008), which found that informal training may not necessarily change job expectations and the subsequent intention to choose to work in agriculture. During the focus group discussion in Hamill's (2012) study, students commented that specific training, such as a Certificate II of Agriculture (15 to 16 years) was a motivating factor for them to pursue agricultural studies or careers.

Conversely, Mukembo et al. (2014) found that 'training outside of school' and 'co-curricular activity' were not significant in influencing secondary students' (aged 13 to 19) career intentions in agriculture. They explained that this may be because students did not associate these activities or training with agricultural career preparation.

The expectations of ‘security’, ‘flexibility’ and ‘helping others’ were highlighted by students in Turner and Hawkins’s (2014) study as reasons for students to choose agricultural study and an agricultural career path. Other intrinsic factors—such as the chance to realise one’s existing skills, fulfil one’s goals and achieve one’s dreams—were also found to be motivators to choose an agricultural career for university students (Turner & Hawkins, 2014) and secondary students (Adedokun & Balschweid, 2008; Mukembo et al., 2014). The value of social status had little influence on young secondary students’ aspirations to pursue an agricultural career in Uganda (Mukembo et al., 2014).

While perceptions of the ability to succeed in a career were found to be important for career choice in agriculture among Young Farmers Club members in Uganda (Mukembo et al., 2014), Turner and Hawkins (2014) mentioned that the high perceived ability and the perception of low-level ability required by agriculture was a barrier for university students to pursue an agricultural career.

Adedokun and Balschweid (2008) investigated the community context’s influence on rural secondary agriculture science students’ choice of an agricultural career in the US. Based on a logistic regression model, the community variables explained between 25.6 to 36.5% of variance in the choices. In addition to membership or club activity variables, ‘preference of living close to nature’ was found to be significant. ‘Community attachment’ was not found to be significant; however, in a study of secondary students in coastal and remote communities in Australia with focus group interviews, Alloway

and Dalley-Trim (2009) found that 'attachment to home' was a concern for rural students' career decisions.

Webster and Ganpat (2014) found that 78.3% of their sampled secondary students in agricultural science were likely to choose a career in food production in five years' time, and valued a high wage payment as the top incentive. These sampled students were young, with an average age of 16.8. At the same time, the sampled agricultural students in St Vincent tended to find more chance outside of the production segment, such as processing segment, which was ranked highest in interest, while production was not a favourable segment. Monetary incentive was also suggested by Ibitoye (2011).

Besides personal variables, contextual factors have also been investigated in relation to agricultural career choice decision. Hamill (2012) found that, aside from training, employers and parents have the most significant influence on agricultural students' decisions to pursue an agricultural career in Australia. He also found that industry promotion and career teachers' influence were least significant in students' career choices regarding agriculture. Similarly, in the study by Mukembo et al. (2014), peers and teachers were not significant in influencing students' agricultural career pursuits. However, male professors were found to be attributable to male students' intentions to choose agricultural careers in Iran (Zarafshani & Knobloch, 2008).

According to Lent et al. (2000), proximal factors play an essential role in revising students' outcome expectations and subsequently job choice intention. Based on the

studies mentioned above investigating agricultural career choice intention, generally, these proximal factors should have fulfilled but have not realised the potential to offer support for students to pursue an agricultural career. Correspondingly, studies have suggested that exposure to job opportunities information, farm business experiences and successful models will help promote the pursuit of agricultural careers (Ilenloh et al., 2012; Turner & Hawkins, 2014).

3.3 Summary

This chapter began by examining the essential factors drawn from motivation and job choice theory by exploring the literature in the fields of occupational psychology (e.g. Super & Bohn, 1970) and career decision making (e.g. Lent et al., 2000). These essential factors include job attributes, organisational factors, personal factors, proximal factors and societal factors. The second part of this chapter investigated students' career choices regarding agriculture. It explored students' expectations, perceptions and attitudes towards agricultural careers, followed by a discussion of the influencing factors in agricultural career choice.

This literature review has indicated an increase in recent research exploring agricultural students' career choice in response to the challenge of attracting and retaining young people in the agriculture sector. In China, motivation-related research has previously focused on the urban workforce in non-agricultural sectors (Nielsen & Smyth, 2008). Moreover, empirical research examining agricultural students' job choice is scarce. Students' expectations have only been examined in general, and there is no updated, empirical study on students' perceptions and attitudes towards

agricultural careers. Therefore, there is a need to investigate Chinese agricultural university students' job choice intentions and perceptions of specific agricultural careers in detail.

Chapter 4: Methodology

As discussed in the previous chapter, different methods have been used to examine career choice and motivation in research, and quantitative methods have been widely employed to investigate the factors that influence job decision making. Therefore, this study also used a questionnaire-based survey to answer its three research questions:

1. What are the job expectations of agricultural students in China?
2. What are students' perceptions of larger farm management jobs, especially dairy?
3. What factors influence students' intentions to choose and not choose larger dairy farm management jobs?

This chapter begins by discussing the research participants. This is followed by questionnaire development—which included using interviews and focus group discussions—and explanation of the questionnaire design. This chapter then discusses the survey administration, followed by explanation of the data analysis, ethical considerations and study limitations.

4.1 Participants

The main population of this study was Chinese graduating students in a domestic agricultural university. Undergraduate students in their last or second-last year were targeted because it was assumed that job choice was a more pressing concern for them. The choice of two agricultural universities was based on both convenience and research focus. Nanjing Agricultural University is located in Nanjing,³ the provincial

³ Nanjing has a local dairy brand, Weigang, which holds around 70% of the pasteurised milk market share in Nanjing.

capital of Jiangsu, around 300 kilometres northwest of Shanghai. Inner Mongolia Agricultural University is located in Hohhot, the regional capital of the Inner Mongolia Autonomous Region. Inner Mongolia is in the north of China, 520 kilometres from Beijing. This region is also where China's two famous dairy brand companies—Mengniu⁴ and Yili⁵—are located. Students majoring in animal sciences, veterinary medicine, agro-forestry economics and management, economic management and grass science were contacted both because of convenience and relevance to the research focus of larger dairy farm management jobs.

4.2 Questionnaire Development

As stated by Hinkin (1998), a questionnaire-based survey is one of the most commonly used means of data collection in organisational behaviour research. The current study is quantitative in nature, and a questionnaire-based survey was used. An initial form of the questionnaire was developed using the empirical findings on work motivation and job choice. To enhance the relevance and credibility of the questionnaire, interviews and focus group discussions were used to inform and improve the questionnaire. All participants were receiving the survey letter and signed consent forms. Details of the interviews and discussions, as well as the improved questionnaire, are presented in the following sections.

⁴ China Mengniu Dairy Company Limited is an investment holding company with subsidiaries engaged in dairy manufacture and distribution in China. It is the most successful company in the Chinese dairy industry in terms of both volume and value.

⁵ Inner Mongolia Yili Industrial Group Company Limited is mainly engaged in producing dairy products and mixed feedstuffs. These two companies have focused on ultra-high-temperature (UHT) milk since 2000, and lead the domestic dairy market at a national level.

4.2.1 Interview.

Two interviews were conducted at Nanjing Agricultural University and one interview at Inner Mongolia Agricultural University. The interviewees were either lecturers or working in students affairs or department administration. Each interview was semi-structured, and took one hour. At the beginning of each interview, the interviewer gave a brief introduction of the research, informed the participants of the main questions. The time was then left for the participants to elaborate and discuss other concerns, comments and suggestions. The interviewer only interrupted when new ideas or perspectives were contributed and elaboration was required to assist understandings.

The interviews used open-ended questions. As stated by Edmondson and McManus (2007), the benefit of open-ended questions is to help researchers maintain an open mind in order to facilitate learning during the process of research. The interviews asked the following questions:

- What values do you think students seek to uphold in their job expectations?
- What factors do you think influence students' choices regarding larger dairy farm management jobs?
- Do you have any other concerns or suggestions regarding students' career decision making?

4.2.2 Focus group discussion.

Two focus group discussions were held at Nanjing Agricultural University, and one at Inner Mongolia Agricultural University. All group discussions comprised students in

their last or second-last year of undergraduate study. The first group discussion at Nanjing Agricultural University comprised 10 students majoring in animal science. The second group discussion comprised eight students majoring in agro-forestry economics and management. The group discussion at Inner Mongolia Agricultural University comprised 10 students majoring in veterinary medicine.

Each group discussion was controlled within one hour. After a brief introduction, the main research questions were explained to the students. The students were then asked to state their opinions, and were given the chance to contribute. The researcher listened, responded and probed when it was necessary.

The design of the discussion guide included more open-ended questions to probe further answers and perspectives. The discussion guide included the students' background information, which was similar to the background information in the questionnaire. The guide also included the students' expected value of future jobs, perceptions of agricultural jobs, attitudes towards agricultural jobs, perceptions of larger dairy farm job attributes, and factors influencing their choice regarding dairy farm management jobs (see Appendix B). The participants were also encouraged to write down specific answers or general comments in the discussion guide to overcome possible personal or environmental factors that blocked verbal contribution. At the end of the discussion, these notes were collected; however, they were not solely relied on for reflection, as the researcher also made notes during the process.

4.2.3 Questionnaire.

After the interview and discussion at Nanjing Agriculture University, the questionnaire was improved. Revisions were made in the areas of concrete value expectations, and in the order of question arrangement. Concrete value expectations were measured with scales, and most data collected in this study were categorical and ordinal. The final questionnaire comprised six parts (see Appendix A for details):

- the background information of participants
- general job expectations
- job-related influencing factors
- perceptions of larger farm management jobs, especially dairy
- intentions to choose larger dairy farm management jobs
- suggestions to attract graduating students to larger dairy farm management jobs.

Table 4.1 presents the question type in each section, as well as relevant references.

Table 4.1 *Questionnaire Description*

Section	Question number	Question type	Relevant references
Background	1–12, 23, 25	Single choice	Ibitoye (2011), Ilenloh et al.(2012), Rajabi et al. (2012).
Expectation	13–21	Single choice	Gamble (2000), Loughlin and Barling (2001), Tang (2001), Jackson and Bak (1998), Webster and Ganpat (2014), Po.Y. (2011).
	26	Scaled	Overbay (2006), Judge and Bretz (1991), Ye and Ye (2009), Velde (2009), Jusoh et al. (2011), Jackson and Bak (1998), Mukembo et al.(2014), Fu and Kamenou (2011), Turban and Eyring (1993), Rosen (2004). Zhang et al. (2007).
Job-related	22	Scaled	Mukembo et al. (2014), Turner and

influencing factors			Hawkins (2014)
Perceptions of larger farm management jobs, especially dairy	24 26	Multiple choice Scaled	Ilenloh et al. (2012), Turner and Hawkins (2014).
Intentions to choose larger dairy farm management jobs	30	Single choice	
Suggestion	32	Multiple-choice statement	Boswell et al. (2003), Feldman (2003), Oloruntoba and Ajayi (2003), Tsojon et al. (2013).

4.3 Survey Administration

The choice of the sample was based on convenience. At Nanjing Agricultural University, the questionnaire was distributed to students majoring in animal sciences, veterinary medicine, agro-forestry economics and management, management and grass science. At Inner Mongolia Agricultural University, the sampled students were majoring in animal sciences, veterinary medicine and management.

The questionnaires were translated into mandarin and self-administrated. A cover letter was accompanied by the questionnaire to explain the purpose and nature of the study (see Appendix C). Two hundred copies of the printed questionnaire were initially distributed to students in each university with help from the instructor and student cadre. Twenty-five extra copies were reprinted at Nanjing Agricultural University by the instructor to include a few participants from grass science. The filled questionnaires at Nanjing Agricultural University were mailed to the researcher via postage-paid express mail, while the questionnaires at Inner Mongolian Agricultural University were collected when the researcher was on site.

4.4 Data Analysis

The Statistical Package for the Social Sciences (SPSS) version 22.0 was used to analyse the data. The descriptive data analysis results were attained via frequencies and means, such as students' job expectations and perceptions of larger farm management jobs, especially dairy. A multinomial logistic regression model was employed to analyse factors influencing the respondents' intentions towards larger dairy farm management jobs (see Table 4.2).

The typical logistic regression model used in this study was:

$$\text{Logit}(P_i) = \ln\left(\frac{P_i}{1 - P_i}\right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n$$

In the model, choice intentions of larger farm management jobs represented the dependent variable. The choice intentions described the intention to 'choose' or 'not choose' where respondents with the intention to 'consider' were set as the baseline group. It followed that P_i represented the probability of considering larger dairy farm management jobs, and $1 - P_i$ represented the intention to either choose or not choose larger dairy farm management job. In other words, the model was used to assess the odds of intention to choose against the intention to not choose.

Table 4.2 *Variables in the Regression Model*

Dependent variable			Coding
Intention to choose larger dairy farm management jobs			1 if choose, 2 if consider, 3 if not
Independent variables			Coding
Individual factors	Gender	Gender	1 if male, 2 if female
	Origin	Origin	1 if village, 2 if city
	Major	Major	1 if animal science, 2 if veterinary science, 3 if agro-forestry economic management, 4 if grass science, 5 if management
	Voluntary enrolment cause	enrol	
	Farm visit, training, work experience	experience	
	Previous consideration of working on larger farm	exconsider	1 if yes, 2 if no
	Have got plan after graduation	plan	
	Work in agricultural field expectation	agifield	
	Agricultural job payment can reach expectation	agpay	1 if yes, 2 if no, 3 if unsure
	Deciding career development direction on the basis of whether first job is suitable	dec	
Job and organisational attributes in expectation ⁶	Personal development	psndvlp	
	Advancement	advance	
	Training	training	
	Autonomy	autonomy	
	Lead others	leadothers	
	Altruism	altruism	
	Dignity	dignity	
	Social network	network	
	Developed region	dvlregion	1 if little, 2 if important, 3 if very important
	Close to home	closhome	
	High payment	payment	
	Stable job	stable	
	Company reputation	companyrep	
	Personal interest	psninterest	
Perceived job attributes in larger farm jobs, especially dairy	Dealing with animal	dealwithani	
	Change fate through job	change fate	
	Do not lag behind peers	donotlag	
	Equivalent to raising animal or plants	raiseani	1 if yes, 0 if no
	Involves manual work	manual	1 if yes, 0 if no
	Dealing with animals	ani	1 if yes, 0 if no
	Students of vocational schools are sufficiently qualified	voc	1 if yes, 0 if no
	Job and career option for university graduates	unic	1 if yes, 0 if no
	Not beneficial to finding a partner	find	1 if yes, 0 if no
Contextual factors	Inconvenient because of remote location	rlo	1 if yes, 0 if no
	Dairy farm management position attractiveness	dma	1 if yes, 0 if no
	China's dairy future	afu	1 if bright, 2 if moderate, 3 if no idea
	Parents' views	parents	1 if little, 2 if moderate, 3 if great
	Teachers' suggestions	teacher	

⁶ 'Living according to one's own will' was removed because this improved the pseudo R² by 0.003 to 0.004.

Peers' comments	peer	influence
School career support	schoolcare	
More concrete information on job	moreinfo	1 if yes, 0 if no
High market demand	mktdemand	1 if yes, 0 if no

4.5 Ethical Considerations

This research was assessed and approved as low risk by the Massey University Human Ethics Committee. The survey responses were anonymous, and unique identification numbers were used to identify each survey response. Moreover, data were analysed collectively; thus, no individual was identified from the results of this research. The survey responses will be securely held before being destroyed five years after completion of this research.

4.6 Limitations of the Study

This research investigates intention, rather than actual behaviour, and, as Vroom (1982) stated, there is difference between intended and actual job choice. However, intention can be generalised to actual choice because there is a proven link between intention and behaviour, and more research has investigated intended rather than actual job choice. This is attributed to the infrequent nature of job offers, which makes data difficult to collect (Cable & Judge, 1996).

In addition, the subject of this research is agricultural students in university, with relatively little work experience or knowledge about larger dairy farm management in general. The young people who already work in the larger dairy farm management jobs are not reached.

4.7 Summary

This chapter has described the design, process and data analysis of this research. To reach the objectives of this research, a questionnaire-based survey was used. This research used a value scale as the foundation to investigate the general job expectations and perceptions of agricultural jobs among Chinese students in domestic agricultural universities. Based on the supervisor's and researcher's contacts, students at Nanjing Agricultural University and Inner Mongolia Agricultural University were involved. To increase the study's credibility and validity, two focus group discussions and three interviews were used to inform the preliminary questionnaire, which was developed based on the literature review. After revisions, the questionnaire was distributed to students. The data were analysed using a quantitative method. Explanatory data analysis and a logistic regression model were used for this analysis.

This study's results regarding the perceptions of agricultural jobs can be compared with similar research findings in other countries. In addition, Chinese agricultural students' job expectations can be compared to the general job expectations of other Chinese university students. It is expected that this research will offer useful reference for human development activities in Chinese agriculture, especially in the area of larger dairy farm management.

Chapter 5: Results and Discussions

This chapter presents and discusses this study's results. It first presents the profile of respondents, followed by the descriptive results that summarise the students' job expectations and perceptions of larger farm management jobs, especially dairy. It then analyses the influencing factors in students' intentions to choose larger dairy farm management jobs.

5.1 Profile of Respondents

Of the 415 distributed questionnaires, 385 completed questionnaires were returned—a response rate of 92.8%. Of these returned questionnaires, five had missing data in the question regarding intention to choose a larger dairy farm management job. Therefore, 380 questionnaires were used for most descriptive analysis, except for the regression model thereafter.

The respondents came from two Chinese domestic agricultural universities—Nanjing Agricultural University (202 respondents) and Inner Mongolia Agricultural University (178 respondents). Most respondents (97%) were undergraduates in their graduating year or second-last year. Students were enrolled in five majors: veterinary medicine, animal sciences, management, agro-forestry economics and management, and grass science.

The majority of respondents were female (60.5%). Seventy-five per cent were of the Han majority, while 25% belonged to minority ethnic groups. The average age was 21.

Students from villages comprised 55% of the total. Fifty-seven per cent had made a voluntary choice to enrol in their university and study major, while 43% had enrolled as a result of university entry selection adjustment or university major changes in the first year of their entry (see Table 5.1).

Table 5.1 *Demographic Characteristics of Respondents (n = 380)*

Item	Frequency	Per cent
University		
Nanjing Agricultural University	202	53.2%
Inner Mongolia Agricultural University	178	46.8%
Major		
Veterinary medicine	119	31.1%
Animal science	113	29.7%
Management	69	18.2%
Agro-forestry management	61	16.1%
Grass science	18	4.7%
Study year		
Year 1	4	1.1%
Year 2	8	2.1%
Year 3	210	55.3%
Year 4	157	41.3%
Missing	1	
Gender		
Male	143	37.6%
Female	230	60.5%
Missing	7	1.8%
Ethnic group		
Majority	264	69.5%
Minority	87	22.9%
Missing	29	7.6%
Origin		
Village	207	54.6%
City	172	45.3%
Missing	1	
Enrolment cause		
Voluntary choice	216	56.8%
Adjustment or rearrangement	164	43.2%

5.2 Students' Expectations

The students' expectations were sought to gauge their potential preferences. They were asked nine questions to determine their general expectations. They were also asked to indicate the importance of 18 concrete values in their expected work settings.

5.2.1 General expectations.

The general expectations were investigated by work sector, payment level and two dimensions of values—work importance and work–life balance.

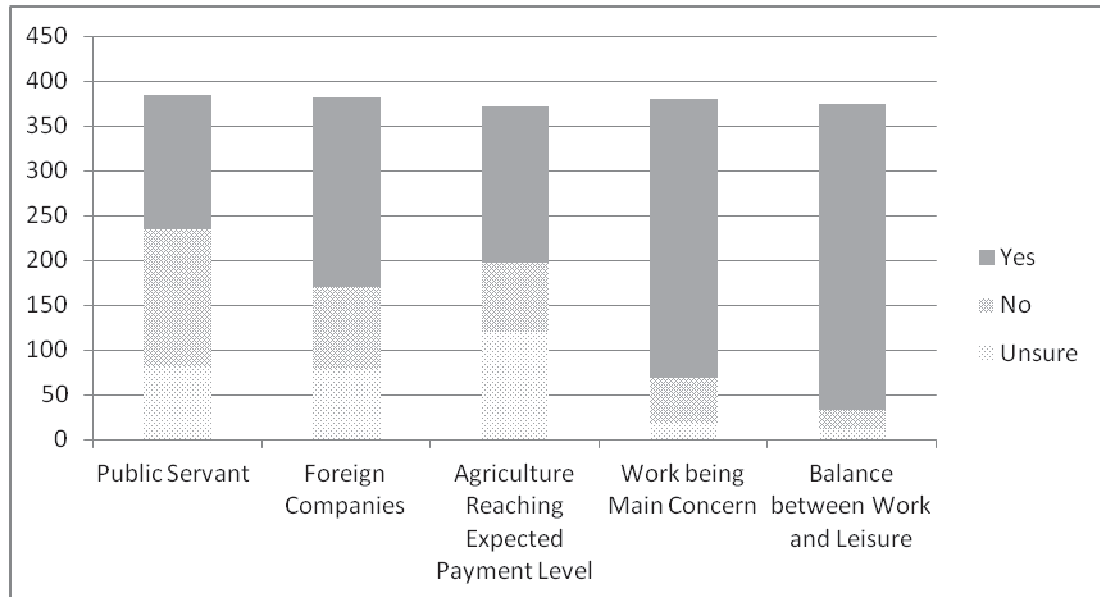


Figure 5.1. Respondents' general expectations.

Ninety-five respondents (25.1%) reported they would like to work in an agricultural field. When asked if they were offered the chance to work in agriculture, 70 respondents (18.4%) chose the production sector as their first choice, while 109 (28.7%) chose the production sector as the sector in which they were least willing to work. The results showed that 148 respondents (38.9%) reported they were planning to take the public servant selection exam, while 150 respondents (39.5%) reported that they were not expecting to do so, and 81 respondents (21.3%) were unsure.

In relation to the expectations of working in a foreign company, the results aligned with the literature in the field—209 respondents (55%) expected to work in a foreign

company, while 89 (23.4%) did not, and 78 (20.5%) were unsure. During the group discussion, a number of students (particularly females) showed interest in working in a foreign company, with enriching experiences the main reason for their interest in doing so. For respondents who had no interest in working in a foreign company, their concerns were related to English fluency and cultural factors.

Marked results were found in the two work-related values, with 309 respondents (81.3%) expecting work to be their main concern during a certain period after graduation, and 339 respondents (89.2%) expecting to achieve a balance between work and life. These results align with the findings of McKeen and Bu (1998) that Chinese students value occupational roles, and expect a work–life balance.

Three hundred and sixty-seven respondents answered the question examining whether agricultural jobs can reach their expected payment level. Of these, 173 respondents (47.1%) thought agricultural jobs could reach their expected payment level, while 118 respondents (32.2%) did not think so, and 76 respondents (20.7%) were unsure. In another question, 180 respondents (52.8%) stated that ‘payment level for the first job is not important’, while 162 students (42.6%) gave a concrete number for the expected monthly wage for their first job, with an average expected wage of 4950 yuan. Respondents with an expected wage below 3,500 yuan comprised 41.4%, and the cumulative percent of expected wage below 4,500 yuan was 63.6% (see Table 5.2 and Figure 5.2). This indicates that a great proportion of respondents had reasonable expectations regarding payment level. During the interviews and group discussions, students indicated awareness that the most commonly offered wage for a

first job is around 2,500 to 3,500 (yuan). While the school staff commented that this starting wage was quite promising, the students stated that this amount was not respectable.

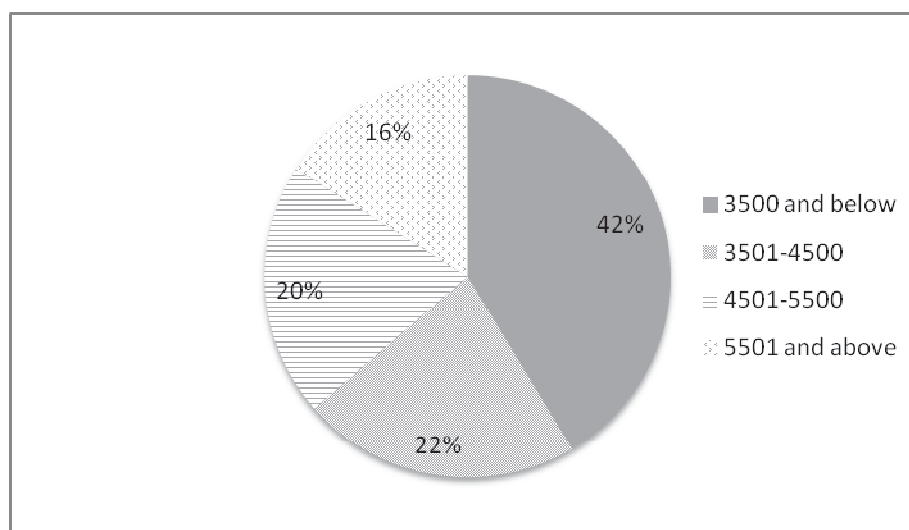


Figure 5.2. Percentage of respondents by expected payment level.

Differences were found between respondents in the two universities and between respondents of different genders. The general higher expectation of payment of students at Nanjing Agricultural University may be attributed to the university's location in a more developed region. According to the China Statistical Yearbook (2014), the average wage in Nanjing was 1.36 times higher than that in Hohhot, and, in agricultural urban units, the average wage was also 1.13 times higher. This may also be attributed to the greater number of job opportunities or students' confidence, which were beyond the scope of this study. Twenty-nine per cent of students at Nanjing Agricultural University expected a wage between 4,501 to 5,500 yuan, while 21% expected a wage above 5,501 yuan. Of the students at Inner Mongolia Agricultural University, 64.5% had an expected wage of 3,500 yuan or below (see Table 5.3).

Table 5.2 *Frequency Distribution of Respondents by Expected Payment Level*

Expected payment (CNY)	Frequency	Valid per cent	Cumulative per cent
3,500 and below	67	41.4	41.4
3,501–4,500	36	22.2	63.6
4,501–5,500	33	20.4	84.0
5,501 and above	26	16.0	100.0
Total		162	100.0

Note: 1 CNY = US\$0.16; 1 CNY = NZ\$0.21.

Table 5.3 *Expected Payment Level by University*

	Nanjing Agricultural University	Inner Mongolia Agricultural University	
Expected payment (yuan)	No. (% of total) % in university	No. (% of total) % in university	All (% of total)
5,501 and above	21 (13.0) 21.0	5 (3.1) 8.1	26 (16.0)
4,501–5,500	29 (17.9) 29.0	4 (2.5) 6.5	33 (20.4)
3,501–4,500	23 (14.2) 23.0	13 (8.0) 21.0	36 (22.2)
3,500 and below	27 (16.7) 27.0	40 (24.7) 64.5	67 (41.4)
Total	100 (61.7)	62 (38.3)	162 (100)

Note: 1 CNY = US\$0.16; 1 CNY = NZ\$0.21.

Females had lower expectations regarding payment than did males, which aligns with the findings of Hogue et al. (2010). This may be attributed to a lack of confidence or job-search skills. More than half of the females (50.5%) reported an expected payment level of 3,500 yuan or below, while the largest proportion of males (30.6%) reported an expected payment of 5,501 yuan or above (see Table 5.4).

Table 5.4 *Expected Payment Level by Gender*

Expected payment (yuan)	Male	Female	All (% of total)
	No. (% of total) % in male	No. (% of total) % in female	
5,501 and above	19 (11.9) 30.6	7 (4.4) 7.2	26 (16.4)
4,501–5,500	12 (7.5) 19.4	20 (12.6) 20.6	32 (20.1)
3,501–4,500	14 (8.8) 22.6	21 (13.2) 21.6	35 (22.0)
3,500 and below	17 (10.7) 27.4	49 (30.8) 50.5	66 (41.5)
Total	62 (39.0)	97 (61.0)	159 (100)

Note: 1 CNY = \$US0.16; 1 CNY = NZ\$0.21.

5.2.2 Concrete expectations.

In investigating the concrete expectations of respondents in a work setting, 18 values were listed in a chart, and respondents were required to mark the degree of importance of each value from ‘little important’ to ‘important’ to ‘very important’.

‘personal development’, ‘autonomy’, ‘living according to one’s own will’ and ‘advancement chance’ were tops values according to the rating result of 18 concrete value (see Appendix E-Table E.1). Slightly different from some studies that have found high expectations for high wage and training —such as the study by Jusoh et al. (2011)—in the current study, these two values were not considered the most important. Instead, they were listed in fifth and seventh place, respectively.

‘Developed region’ and ‘company reputation’ were in thirteenth and fourteenth place. The results from the discussion and interview may help explain the low rating of these two items. One interviewee commented that there had been changes in students’ consideration of region when making a job choice decision. Previously, students were

moving towards larger and developed regions to find better opportunities. However, in recent years, some regions have become more developed, and students are encouraged to return to their hometowns to find jobs, or even be entrepreneurs. This interviewee speculated that students may consider regions based on proximity to their hometown and families. From the rating results, 'close to home' was in the tenth place and 'developed region' was in thirteenth place.

In both universities, students commented that the names of companies they knew in their field were limited. One university staff member at Nanjing Agricultural University said most graduates were recruited by middle and small-sized enterprises. During the discussions with students, the students at both universities showed indifferent attitudes towards company reputation.

5.3 Perception of Larger Farm Management Jobs, Especially Dairy

Given that students may not have had sufficient chance or experience to develop a strong perception of larger dairy farm management jobs, this study asked about their general perceptions of larger farm management jobs via a multiple-choice question, before asking about their perceptions of dairy jobs. Seven statements were provided—three statements about the job content, two statements about career options (whether larger farm management was for university graduates or vocational school students), and two statements about the influence of larger farm management jobs. The concrete perceptions of larger dairy farm management jobs were investigated by the same value explored in Section 5.2.2.

5.3.1 Perception of larger farm management jobs.

According to the frequency analysis, the seven perception statements of larger farm management jobs ranked as follows: ‘equivalent to raising animals or plants’, ‘inconvenience caused by the remote location’, ‘job and career options for university graduates’, ‘mainly dealing with animals’, ‘involving hard manual work’, ‘vocational school students are qualified enough’ and ‘not beneficial in finding a boyfriend or girlfriend’ (see Figure 5.5).

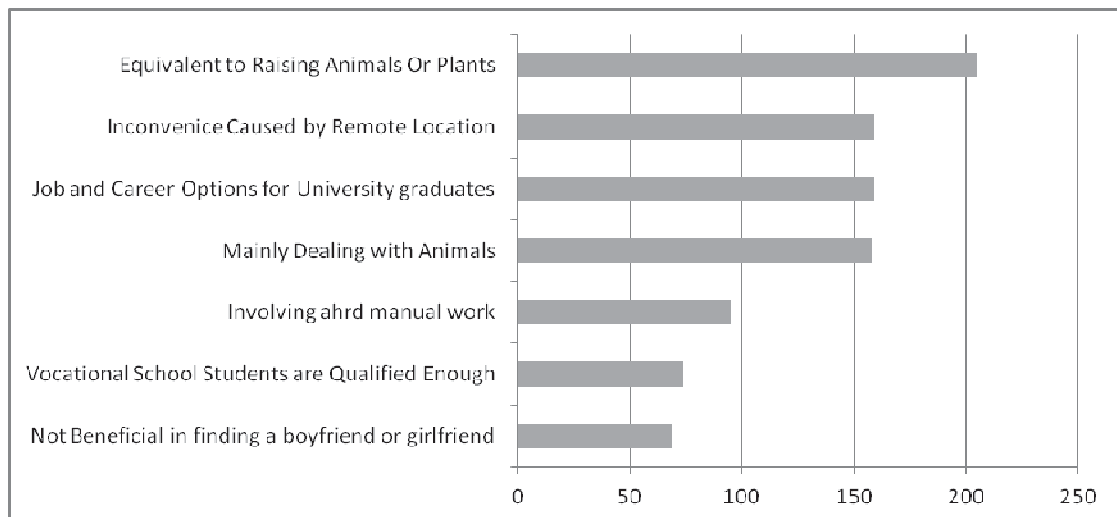


Figure 5.3. Respondents' perceptions of larger dairy farm management jobs.

In relation to job content, the statement of being 'equivalent to raising animals or plants' had the highest frequency, with 205 respondents, while 'mainly dealing with animals' was chosen by 159 respondents. This distribution of responses indicates that the respondents held the traditional view of agricultural jobs. The feature of 'involving hard manual work' was only chosen by 95 respondents, which was lower than the former two features. However, during the interviews, two interviewees mentioned manual work as one of the perceived features of larger farm management jobs. One interviewee also mentioned the perceived risky and low-profit features of the Chinese dairy industry.

The number of respondents (159) who perceived larger farm management jobs as 'a job and career option for university graduates' was more than double the respondents (74) who thought vocational school students were qualified to undertake larger farm management jobs. The latter statement was included and based on an assumption that university students might think vocational school students were qualified because

of a sense of superiority or perception that a high education level is not needed for larger farm management jobs. However, the choice of this statement should be interpreted with care. During the discussion with students, a few commented that vocational school students were qualified to undertake larger farm management jobs, and university graduates probably have no advantage when competing with them. This view coincides with one interviewee's comment that larger farm management jobs were more suitable for vocational school students. The interviewee explained that this was because of curriculum design—while university curricula focus on theory, vocational schools focus on practice, which means vocational school may better enable students to meet the needs of the enterprises. Thus, respondents' choice in this statement might not be based on a sense of superiority, but rather on consideration of the limits of self-ability.

Inconvenience caused by the location of larger farms was chosen by 156 respondents. This is one of the top four features of larger farm management jobs and subsequently one of the main features of these jobs, as often mentioned in the literature and found in previous research (e.g. Hamill, 2012). During the discussion, a few students commented that the location of larger farms far from urban areas made them concerned about being separated from society. In contrast, one student stated that, although the location is often remote, this would not be a concern for him.

Another effect of working on larger farms is the difficulty in finding a boyfriend or girlfriend. This statement was raised by one male student in the group discussion, and selected by 69 survey respondents. Given that there was agreement from a few

members in the group discussion, this statement was included in the questionnaire. Later, in another group discussion, two male students stated that, because they already had partners, this may not apply to them. Therefore, interpretation of this statement may work better together with individual differences. In other words, this statement is not suitable to be generalised to perceptions of larger farm management jobs.

5.3.2 Perceptions of larger dairy farm management jobs.

Of the respondents, 375 answered the question that asked how they perceived the future of the Chinese dairy industry, with 180 respondents (48%) choosing 'very bright', 139 (37%) choosing 'moderate' and 56 (15%) choosing 'no idea'. When respondents were asked whether a position in dairy farm management was attractive to them, 188 (49.1%) chose 'yes', 186 (48.1%) chose 'no' and 6(1.5%) respondents did not answer the question.

As mentioned in Section 5.2.2, the same 18 value descriptions were used to measure the perceptions of larger dairy farm management jobs. Each value was used as a standard to ask respondents 'can it be found in larger dairy farm management jobs?' — with three variations of 'yes', 'no' and 'unsure'. In the 'yes' category, 166 respondents (43%) thought 'training' existed in larger dairy farm management jobs, followed by 'advancement chance', with 128 respondents (33%), and 'stable job', with 124 (32%) respondents. 'Personal development' and 'altruism' were chosen by 111 respondents each. The remaining 13 values received responses below 100.

In the 'no' category, most respondents (106) thought 'proximity to home' would not be satisfied by larger dairy farm management jobs. An equal number of respondents (99) thought 'living according to one's own will' and 'developed region' would not be found in these jobs.

In the 'unsure' category, the job description receiving the most responses was 'do not lag behind peers', with 147 respondents. 132 respondents were unsure whether larger dairy farm management jobs could provide 'chance to change fate'. 'High payment' ranked third in this category, with 127 respondents unsure about whether larger dairy farm management jobs could meet this need.

5.4 Factors Influencing the Intention to Choose Larger Dairy Farm

Management Jobs

This section begins by discussing this study's exploratory work. Frequency distribution and chi-square tests were applied to provide a sketch of the respondents' characteristics, as well as the correlation between the three outcomes in the dependent variable and selected variables in categories of:

- individual factors
- job attributes factors
- proximal and societal contextual factors.

The results were discussed, complemented by the interviews and focus group discussions. Following the exploratory work, a multinomial regression model was employed using SPSS version 22.0 to investigate the larger farm job choice intentions of 'choose' or 'not choose'. The intention of 'consider' was established as the reference group to assess the odds of intention to 'choose' against 'not choose'.

5.4.1 Exploratory work.

The dependent variable in this study was larger dairy farm management job choice intention, which had three outcomes: 'will choose', 'will not choose' and 'will consider'. Among 380 respondents, 112 (29.5%) reported that they would choose a larger dairy farm management job, 73 (19.2%) respondents would not choose this job, and over half (51.3%) would consider choosing this job (see Table 5 5).

Table 5.5 *Respondents' Intentions to Choose Larger Dairy Farm Management Jobs*

Respondents' intentions	Frequencies	Per cent
Will choose	112	29.5
Will consider	195	51.3
Will not choose	73	19.2
Total	380	100

5.4.1.1 Intention and individual factor variables.

The respondents' demographic characteristics were described by the frequency distribution (see appendix—Table D.1a). Based on the chi-square test, the variables correlated to the dependent variable in this study were university, major, gender and enrolment cause. The year in university, ethnic group and city or village origin were found not to explain the difference in intention, according to the chi-square test (see appendix—Table D.1b).

The Inner Mongolia Agricultural University respondents comprised 57.1% of the total 'will choose' intention category. In contrast, the Nanjing Agricultural University respondents comprised the greater proportion of the 'will not choose' and 'will consider' categories, with 68.5 and 53.3%, respectively.

Regarding the different majors, students in veterinary medicine were more likely to choose a larger dairy farm management job, with a proportion of 40.2% in the category of intention to 'choose'. In addition, they were most likely to 'consider' these jobs, comprising 34.4% of this category. Students majoring in veterinary medicine only comprised 9.6% of the 'not choose' category.

Females comprised 61.7% of the whole sample, while 56.5% of females were in the 'will consider' category. The proportions of males in the category of 'will choose' and 'will not choose' were 32 and 25.3%, respectively, whereas, for females, the proportions were 27.8 and 15.7%, respectively. This seemed to indicate that males tend to have more clear intentions.

Students whose enrolments in their current study were a result of voluntary choice were more likely to choose and consider a larger dairy farm management job. Students who enrolled as a result of readjustment or rearrangement comprised 52.1% in the category of 'not choose'.

Other personal background factors—such as 'interest in major', 'perceived major's effect on job hunting' and 'existing consideration or choice in working on larger farm'—were also significantly related to choice intention, except for 'farm-related experiences' (see Appendix-Table D.2 to D.5). The insignificance of 'farm-related experiences' may be attributed to the choice of respondents. In this study, the respondents were not chosen based on a communal programme or training experience, and experiences were treated in general on an individual level. Personal interest and ability were found to have no significant relationship with larger dairy farm management job choice intentions.

5.4.1.2 Intention and (expected or perceived) job attributes variables.

The job attributes variables were drawn from Sections 5.2.2 and 5.3. Among the concrete expectations, the attributes related to intention were found to be:

- 'lead others' ($p < 0.01$)
- 'social dignity' ($p < 0.01$)
- 'developed region' ($p < 0.05$)
- 'dealing with humans (rather than animals)' ($p < 0.05$) (see appendix—Table G.2).

The value of 'lead others' was seldom mentioned during the interviews or discussions.

Comments during interview and discussion regarding larger dairy farm management jobs implied the lack of social dignity considered to be associated with these jobs.

Animal involvement was a concern raised during the discussions. At Nanjing Agricultural University, several students studying animal sciences—both female and male—stated that they did not expect to work with animals. Some wished to either continue academic study or to work in areas outside of production, such as sales. In contrast, the veterinary science students at Inner Mongolian Agricultural University showed great interest in working with animals. Two or three female students stated that they loved animals, but would like to work with smaller pet or companion animals, rather than farm animals, which are larger and potentially more dangerous.

Location was mentioned by two interviewees as an important concern in job decisions.

Both suggested that students were commented to expect to work and live in developed regions, but now they were more likely to expect to work and live close to home. The expectation of working in first-tier cities is no longer true, with large cities—such as Beijing and Shanghai—no longer as popular among students as they were in previous decades. One reason for is the job saturation and living expenses in those cities. The other reason is students tend to be more rational. They did consider

all relative factors, such as job availability, living standards, family needs and future prospects and made necessary compromise. However, based on the chi-square test, 'close to home' was not found to be correlated with the intention to choose to work in a larger dairy farm management job (see Appendix-Table G.2).

Although personal development was frequently mentioned during the interviews and discussions as an important job choice criterion, based on the chi-square test, it was not correlated with intention to choose a large farm management job. One interviewee stated that current students are more decisive, and expect visible chances for self-development. The expectation of high payment was not found to be correlated with the dependent variable in this study. One interviewee commented that an expectation of high payment is understandable because of the financial pressures of the current social context. Students need to pay a house mortgage, prepare for marriage and raise children, with healthcare and children's education requiring financial support. One interviewee suggested that a combination of brand and remuneration could be used as an attraction, which indicates that solely relying on remuneration to attract employees may not be successful.

For the variables examining perceptions of larger farm management jobs, especially dairy, notable correlations were found between the dependent variable and 'dairy farm management position attractiveness' and 'perception of the future of Chinese dairy' (see Appendix-Table G 2.2a, G 2.2b). Of the 374 respondents who answered the question about farm management position attractiveness, 188 chose 'yes' and 186

chose 'no'. The Pearson chi-square from the cross-tabulation between the different intention outcomes was 66.607, and the correlation was significant at a level of 0.000. The perception of larger farm jobs being 'job and career options for university graduates' was also significant, at a level of 1.7%. The negative perception of farm location was significant at a level of 2.4%. The perception of larger farm jobs being 'not beneficial in finding a boyfriend or girlfriend' had significance below 1%. The remaining larger farm management job perception statements were not found to be correlated with larger dairy farm management job choice intention, such as larger farm management jobs involving 'hard manual work' (see Appendix-Table G 2.2).

5.4.1.3 Intention and organizational variables.

The organisational factors selected in this study were 'company reputation' and two kinds of work unit ownership—government and foreign company. Ownership was limited to these factors based on their importance in the literature on Chinese students' expectations. Company reputation was found have no relationship with different intentions regarding larger dairy farm management job choice. Accompanied with the result of reputation having the least importance for job expectations (discussed in Section 5.2.2), company reputation seems to have little importance in agricultural students' intentions regarding larger dairy farm management jobs. This may be attributed to the limited number of companies for agricultural graduates and limited number of famous companies among them.

The expectation to work for the government or enter a foreign company after graduation was found to have a significant relationship with the different intentions to

choose to work in a larger dairy farm management job. For work unit ownership preference, the decision to sit the public servant exam was treated as a preference to work in a government job. Fifty-five per cent (209) of respondents reported that they expected to work in a foreign company. During the discussion, students' curiosity and interest in foreign companies were reinforced, especially for female participants. Male students expressed concern regarding the requirement for knowledge and skills, which they may not easily attain directly after graduation. Similar considerations that may prohibit them working in a foreign company included, but were not limited to, developing fluency in a foreign language and encountering cultural conflicts in the workplace.

5.4.1.4 Intention and proximal context factor variables.

Parents' ideas, teachers' suggestions, peers' comments, do not lag behind peers and career support from school were chosen as factors to cross-tabulate with larger dairy farm management job choice intentions. However, only parents' ideas were found to be significant ($p < 0.01$) in predicting different intentions (see Appendix-Table G.4). As shown in the frequency table (see Appendix-Table G.4.1), only 35 respondents indicated their parents' influence on job-related choice decisions to be limited. This may indicate a contextual factor that parents in China play an important role in job decisions by suggesting or even arranging jobs for their children. One male student at Nanjing Agricultural University commented that parents may only intervene when children do not have a clear goal for themselves. In his case, whatever decision he made, his parents would respect. One male student in a management major said he was preparing to study abroad, following his parents' ideas, even in the choice of

major. One male student with a rural background at Inner Mongolia Agricultural University said that his parents did farming work and did not have a formal education. Thus, he had to make all his education decisions, including the choice of university. After graduating, he would try to find a job in his hometown because his parents expected him to be close.

The results also indicated that 59.7% of respondents who would not choose a larger dairy farm management job were greatly influenced by their parents' ideas regarding job-related decisions. In contrast, 55.4% of the respondents who would choose a larger dairy farm management job reported this influence to be moderate. This may indicate that these students did not think the option of working on a larger dairy farm would be recommended or arranged by their parents.

In the chi-square test, teachers' suggestions were not found to be significantly related to the intention to pursue a larger dairy farm management job. However, during the interview, this was mentioned as playing an important role in a number of students' general decisions upon graduation. One male student majoring in animal science at Nanjing Agricultural University commented that he would follow one teacher's suggestion of seeking employment instead of continuing study because he agreed with the teacher's opinion that he was not suited to academic study, and enjoyed dealing with people. Another male student in a management major would continue studying after graduation based on his supervisor's advice. It seemed that suggestions from teachers were mainly about continuing to study or seeking work—no participants mentioned suggestions regarding the area of work, and no inspirational 'role model'

was mentioned, as found in research by Zarafshani and Knobloch (2008). This may be attributed to the choice of subject in this study, and the reality that most teachers were academics without experience in or exposure to larger dairy farm management.

5.4.1.5 Intention and societal context factor variables.

Society's opinions on the job and perceived market demand were selected as societal context variables. Neither of these was found to be significant in the chi-square test. During the interviews and discussions, both university staff and students were aware of the high demand for agricultural students. This is similar to the findings of Cable and Judge (1996) that, when job opportunities are plenty, individuals show less certainty of intending to accept a job in that field.

The interviewees held positive attitudes towards job opportunities for agricultural students. They attributed this demand to the major, and all remarked that students—especially those in agricultural science and veterinary medicine—are in high demand. Although this demand was confirmed by all interviewees from the two universities, a mismatch between demand and students' expectations was also indicated. One interviewee stated that some students have no financial pressures because they are their parents' only children, which partly contributes to their wish for ideal jobs, which are hard to find. Another form of mismatch was in skills, with one interviewee mentioning that vocational school students might better meet workplace demand in this aspect. This is because, at university, the curriculum is designed to emphasise theory, and neglects practical skills.

5.4.2 Suggestions of measures to increase the attractiveness of larger dairy farm management jobs.

In the survey's multiple-choice question about possible measures to facilitate and attract university students to choose larger dairy farm management jobs, an 'other' option was provided. Given that no significant different suggestions were provided, the results and analysis of suggestions were based on the frequencies of options that were provided (see Appendix H).

'Impressive reimbursement' topped the rank, with 233 respondents, while 'internship or development programmes between companies and university' earned 213 respondents. 'Clear advancement opportunity' was chosen by 181 respondents, followed by 'management trainee programme', with 163 respondents, and 'a large company with a solid reputation', with 161 respondents. 'High market demand' was in the sixth place, with 140 respondents. One hundred and twelve respondents chose 'recommendations from acquaintances or precursors in the field or company', which was the last option with more than 100 respondents. 'More concrete information being provided', 'nationally owned enterprises' and 'foreign enterprises' seemed to hold less regard as measures to increase the attractiveness of dairy farm management jobs.

These options were a mixture of selected job and organisational attributes, as well as potential actions that could be taken by companies or universities. 'Internship or development programmes between companies and university' was the top suggestion,

with 213 respondents, while 'management trainee programme' was the second most important measure, with 163 respondents.

During the interviews, the school faculty confirmed the positive results of a cooperative internship programme. One interviewee stated that the internship programme has helped many students clarify their interest, and some have gone on to work for the enterprise after graduation. Further, during the discussion, several students expressed their loss of trust in management trainee programmes. They stated that some enterprises advertised a promising career path; however, when students enrolled, they were given menial tasks to complete. One interviewee said that most job positions are offered by small to medium-sized enterprises to agricultural students. These comments either highlight the existence of a few unregulated and dishonest advertisers in the market, or indicate students' inaccurate expectations of visible career paths or impatience when they first enter the job environment.

5.4.3 Regression model.

A multinomial regression model was employed in SPSS version 22.0 because the dependent variable raised three outcomes. The intention to 'consider' was established as the reference group to assess the odds of 'intention to choose' against 'intention not to choose'. All explanatory variables in the regression model had been examined for multicollinearity. All explanatory variables were categorical, and 21 were ordinal. Although the Spearman's rank-ordered correlation is suggested for ordinal data, it is non-parametric, and was subsequently not applied in this study. Instead, the variance inflation factor (VIF) was used. Each of the 42 variables was treated as the dependent

variable against the remaining explanatory variables, and linear regressions were run. According to the VIF,⁷ none were higher than 2.5, which equalled a correlation of 0.6. Most variables' VIF was found to be less than two. Therefore, there was no issue of multicollinearity in the model (see Appendix I).

To overcome the biased analysis of including only complete cases, multiple imputations were used to fill in the blanks for missing data. In this study, the imputed data model was used for analysis and discussion. The regression model with original data is attached in Appendix J for reference. The results for the model are presented in Table 5.6. This table shows the estimated coefficients (β values), standard error, significance values and odds ratios of the variables in the model. The results of the Cox and Snell R^2 show that the model can explain between 47.2 to 54.2% of variance in the students' intentions. The log likelihood was significant at 0.1%, showing the overall model fit (see appendix J for case procession summary and model-fitting information). This implies that the exploratory variables in the model were generally significant determinants of the dependent variable in this study.

⁷ The VIF is determined as follows:

$$VIF = \frac{1}{(1 - R^2)}$$

Table 5.6 *Significant Variables in the Multinomial Regression Model Results for Intention to ‘Choose’ and ‘Not Choose’ a Larger Farm Management Job, Compared to ‘Consider Choosing’ (n = 380)*

Variable	Choose				Exp(B)	Not choose			
	B	Std. error	Sig.			B	Std. error	Sig.	Exp(B)
Intercept	4.391	1.62	.007	*		6.552	2.728	.016	*
Gender	-.689	.330	.037	*	.502	-.970	.452	.032	*
Existing consideration of working on a larger farm	-1.427	.418	.001	*	.240	-.349	.860	.685	
Agricultural job payment can reach expectation	-.326	.175	.063	.	.722	-.040	.249	.873	
Deciding career development direction on the basis of the 1 st job is suitable	-.542	.215	.011	*	.581	-.301	.285	.291	
Lead others	.199	.251	.429		1.220	.686	.350	.050	*
Altruism	-.472	.274	.085	.	.623	-.616	.354	.082	.
Dignity	-.487	.286	.088	.	.614	-.280	.415	.500	
Developed region	-.145	.242	.549		.865	.998	.377	.008	**
High payment	-.007	.297	.980		.993	-.743	.433	.086	.
Stable job	.664	.279	.017	*	1.943	-.296	.333	.374	
Dealing with animal	-.174	.229	.448		.840	-.617	.325	.058	.
Change fate through job	.170	.248	.493		1.185	-.798	.351	.023	*
Do not lag behind peers	.495	.267	.064	.	1.640	1.203	.381	.002	**
Equal to raise animal or plants	.710	.307	.021	*	2.034	.104	.422	.805	
Not beneficial in finding a boyfriend or girlfriend	-.433	.481	.368		.648	1.190	.486	.014	*
Inconvenient because of the remote location	.131	.317	.679		1.140	.763	.420	.069	.
Chinese dairy future	.140	.217	.519		1.150	.835	.281	.003	**
Dairy farm management position attractiveness	-.643	.320	.045	*	.526	2.654	.566	.000	*
Parents views	-.414	.247	.094	.	.661	.736	.328	.025	*

Note: Signif. codes = < 0.001 ***, < 0.01 **, < 0.05 *, < 0.1.

Table 5.7 *Multinomial Logistic Results for Intention to 'Choose' or 'Not Choose' a Larger Farm Management Job, Compared to 'Consider Choosing' (n = 380)*

Variable	Choose				Not choose			
	B	Std. error	Sig.	Exp(B)	B	Std. error	Sig.	Exp(B)
Intercept	4.391	1.621	.007	**	-6.552	2.728	.016	*
Gender	-.689	.330	.037	*	-.970	.452	.032	*
Origin	.033	.301	.912		-.154	.445	.729	
Major	-.145	.116	.210		.152	.165	.357	
Enrolment cause	-.731	.309	.018	*	.482	.287	.410	
Farm-related experiences	.066	.312	.834		1.068	.784	.449	
Existing consideration of working on a larger farm	-1.427	.418	.001	**	-.349	.860	.685	
Have got plan after graduation	-.040	.322	.901		-.245	.460	.595	
Expect to work in agricultural field	.016	.202	.935		1.017	-.183	.293	
Agricultural job payment can reach expectation	-.326	.175	.063	.	.722	-.040	.249	
Deciding career development on the basis of the 1 st job is suitable	-.542	.215	.011	*	.581	-.301	.285	
Personal development	-.256	.290	.378		.774	-.171	.371	
Advancement	.208	.293	.478		1.231	-.052	.425	
Training	-.354	.267	.185		.702	-.453	.359	
Autonomy	-.050	.263	.850		.952	.575	.377	
Lead others	.199	.251	.429		1.220	.686	.350	*
Altruism	-.472	.274	.085	.	.623	-.616	.354	.
Dignity	-.487	.286	.088	.	.614	-.280	.415	
Social network	.445	.273	.103		1.561	.108	.378	
Close to home	.163	.232	.482		1.177	.418	.331	
Developed region	-.145	.242	.549		.865	.998	.377	**
High payment	-.007	.297	.980		.993	-.743	.433	.
Stable job	.664	.279	.017	*	1.943	-.296	.333	
Company reputation	-.137	.258	.597		.872	.221	.354	
Personal interest	.203	.260	.434		1.225	.140	.331	
Dealing with human beings rather than animal	-.174	.229	.448		.840	-.617	.325	.
Change fate through job	.170	.248	.493		1.185	-.798	.351	*
Do not lag behind peers	.495	.267	.064	.	1.640	1.203	.381	**
Equal to raise animal or plants	.710	.307	.021	*	2.034	.104	.422	
Involve manual work	.212	.337	.530		1.236	.217	.456	
Dealing with animal	.054	.294	.853		1.056	-.620	.411	

Students of Vocational schools are enough qualified	-.315	.401	.433		.730	.469	.469	.317		1.598
Job and career option for university graduates	.163	.301	.587		1.178	-.185	.435	.670		.831
Not beneficial in finding a boyfriend or girlfriend	-.433	.481	.368		.648	1.190	.486	.014	*	3.286
Inconvenient because of the remote location	.131	.317	.679		1.140	.763	.420	.069	.	2.145
Chinese dairy future	.140	.217	.519		1.150	.835	.281	.003	**	2.306
Dairy farm management position										14.20
attractiveness	-.643	.320	.045	*	.526	2.654	.566	.000	***	7
Parents views	-.414	.247	.094	.	.661	.736	.328	.025	*	2.088
Teacher suggestion	.251	.260	.333		1.286	-.098	.344	.775		.906
Peer comment	-.070	.296	.813		.932	-.571	.394	.148		.565
School career support	.392	.222	.077	.	1.480	-.125	.321	.697		.882
Access to more concrete job information	.487	.356	.172		1.627	-.016	.495	.975		.985
Market demand	.156	.318	.624		1.168	-.241	.436	.580		.786

5.4.3.1 Factors influencing both intentions to choose and not choose.

Five explanatory variables were found to be significantly correlated with both outcomes of intention to 'choose' and 'not choose'. These were 'gender', the value of 'altruism', 'do not lag behind peers' in future prospects, the attractiveness of the job and parents' influence.

The likelihood of choosing a larger dairy farm management job was 0.5 times greater for males than for females. This may attribute to females' indecision when making job choices.

The value of altruism was found to be negatively related to both the intention to choose and not choose. Students who considered altruism of little importance were

0.6 times more likely to choose a larger dairy farm management job. This may indicate that students did not associate the value of altruism with a larger dairy farm management job. Alternatively, this could be attributed with unfamiliarity with this value, which is supported by the 11.7% of missing values in this variable.

Long-term concern about future prospects was expressed as the fear of reduced employment prospects if more concrete jobs were taken. The more students were concerned about their long-term prospects compared to their peers, the more likely they would not choose (rather than choose) a larger dairy farm management job. This concern was significant (0.002) for intention not to choose, with an exponential rate of 3.329. This result highlighted both students' long-term concerns and uncertainty or negative views about the consequences of choosing larger dairy farm management jobs.

Students who perceived a larger dairy farm management position to be attractive were likely to choose the job, with a significance level of 0.045. However, the probability of not choosing as a result of unattractive perceptions was much more significant, at a level of 0.000. The exponential rate of 14.207 implies that a one-unit increase in unattractive perception increased the odds of not choosing by a multiplicative factor of 14.207.

The greater the influence from parents on study- or job-related decisions, the more likely students would not choose (rather than choose) a larger dairy farm management job. Parents' influence was significant, with a value of 0.025, in the intention to not

choose. The exponential beta was 2.088, implying that the likelihood of not choosing this job increased around two times with an increase in parents' influence. This may be understood better in the Chinese context. During the focus group discussion, two students majoring in management stated that they were preparing to go abroad to continue study. One male student stated that his parents would arrange this for him, and had chosen finance to be his future major. One female student was still selecting her major, while the study abroad decision was made by her parents. One male student commented that parents may only intervene when children do not have a clear goal for themselves. In his case, his parents respected his decisions, and he had decided to continue study. Another male student with a rural background said that his parents did farming work, and did not have formal education. He relied on himself to make every decision, such as the choice of university, and would try to find employment in his hometown because his parents expected him to be close.

5.4.3.2 Factors influencing the intention to choose.

In addition to the significant explanatory variables mentioned above, other variables significantly predicted the intention to choose. These factors were voluntary 'enrolment cause', 'previous consideration of working on a large farm', an affirmative attitude towards 'deciding future career development and direction on the basis of the first job', the positive importance of a 'stable job', a lack of importance for 'dignity', positively perceived 'agricultural payment', the belief that larger farm management jobs are 'equivalent to raising animals or plants', and a positive influence from 'school career support'.

Students who entered university voluntarily were more likely to choose a larger dairy farm management job by an odd ratio of 0.48. Students who had already considered or chosen to work on a larger farm—including, but not limited to, dairy—were more likely to choose larger dairy farm management jobs. Students who thought ‘deciding career development and direction on the basis of the first job was suitable’ were more likely to choose larger dairy farm management jobs. These students’ affirmative intentions may be because they knew their interests and goals well. It may also be because these students had clear expectations of their first job. Further, exposure to larger farms may help build or clarify interest.

The value of a stable job was positively significant at a .017 level, with an odd ratio of 1.943. The value of dignity was negatively significant at a .088 level, with an odd ratio of 0.614. This may indicate that students who greatly value a stable job and are less concerned with dignity are more likely to choose larger dairy farm management jobs. A negative coefficient (-0.326) and significance level (0.063) was found for the relationship between perceptions of agricultural payment and intention to choose larger dairy farm management jobs. As a result of the coding, this is interpreted as meaning that students who believe that agricultural wages will reach their expectations are more likely to choose this job. Students who believed that larger farm management jobs were ‘equivalent to raising animals or plants’ were more likely to choose jobs on a larger dairy farm, at a significance level of 0.021.

School career support was found to be significant in predicting intention to choose, by 1.48 times. This support could take the form of career development courses or

organising cooperative programmes between employers and school. A more practical form of support could be a campus talent fair. During the interviews and discussions, the role of school in the latter two aspects was considered more important because career development courses were believed to be more theoretical.

5.4.3.3 Factors influencing the intention to not choose.

The significant variables in intention to not choose included 'farm-related experiences'; a lack of importance for 'dealing with humans rather than animals'; the importance of 'leading others' and 'development region'; a lack of importance of 'high payment' and 'change fate through job'; a negative perception of 'China's dairy future'; and ideas about the negative consequences of taking a larger dairy farm management job, including it being 'not beneficial in finding a boyfriend or girlfriend' and 'the inconvenience caused by a remote location'.

Students without farm-related experience were likely not to choose this job. This factor was significant (0.080), with an exponential beta of 2.191. Students who expected or preferred to work with humans rather than animals would also not choose a larger dairy farm management job, at a level of 0.058. In relation to 'intention not to choose', the values of 'leading others' and 'developed region' were both positively correlated and significant, with a p-value of 0.05 and 0.008, respectively. This implies that the students who gave great importance to 'leading others' and 'developed regions' were more likely not to choose this job. In other words, students did not think larger farm management jobs would meet those two expectations.

The value of high payment was negatively correlated with negative intention, with a p-value of 0.086 and an exponential beta of 0.476. This indicates that a one-unit increase in high payment increases the likelihood to not choose these jobs, by a multiplicative factor of 0.47. Students who placed great importance on receiving a high wage were likely to not choose this job. Concern about changing one's fate through one's job was negatively correlated with the intention to not choose, at 0.023. This may be interpreted as meaning that, if desire for this value was not strong, students would not include larger dairy farm management as a job option. A negative and significant (0.003) relationship was found between the perception of 'China's dairy future' and negative intention. An exponential beta of 2.306 implied that the likelihood of not choosing a larger dairy farm management jobs would increase by 2.306 times with a one-unit increase in perceptions of China's dairy future.

Another two consequences of taking a dairy farm management job were also found to be significant. Those who thought this job was not beneficial in helping find a boyfriend or girlfriend were likely to not choose this job, at a significance level of 0.014, with an exponential beta of 3.286. This indicated concern about forming a family after graduation. Further, if the location of the job was perceived to cause inconvenience, the likelihood to not choose was 2.145 times greater than for those who did not believe this inconvenience was an issue.

5.5 Summary of Results

This study's survey aimed to investigate Chinese agricultural students' job expectations; their perceptions of larger farm management jobs, especially dairy; and the factors

influencing their intentions to choose employment in a larger dairy farm management job. The results were mainly consistent with the literature in the descriptive results of expectations and perceptions. In addition, results especially from the regression model highlighted some contextual and cultural aspects in China, which influenced students' job choice intentions.

Regarding expectations, the agricultural students' expectations of a life and work balance was consistent with the results that McKeen and Bu (1998) found among Chinese business students. The almost even distribution of positive, negative and unsure attitudes regarding particular work fields and different sectors confirmed the pluralism of students' job choice intentions. Personal development topped 18 concrete expectations, whereas high payment did not. This provided a different perspective to the view of students expecting high wages, which contrasts Rosen's (2004) results, in which money was the main aspiration.

In the descriptive results of the perceptions of larger farm management jobs, especially dairy, the animal aspect of the job was indicated with the highest frequency. The statement that larger farm management jobs involve 'hard manual work' was chosen by one quarter of all respondents. In contrast to Illeloh et al.'s (2012) findings—that agriculture was not perceived as a job for university students—42% of respondents in this study thought larger farm management jobs were suitable career options for university graduates (although this percentage was not high). Concerning the consequences of taking larger farm management jobs, the inconvenience created by a remote location and difficulty finding a partner were chosen by 42 and 18% of

respondents, respectively. Based on the chi-square test with 18 concrete job attributes in expectations, 'dealing with humans rather than animals', a 'stable job', 'dignity' and 'living according to one's own will' were found to be correlated with larger dairy farm management jobs.

Different combinations of individual attributes, job attributes and contextual factors were found to be statistically significant in the intention to choose and not choose. Gender was found to be significant with the outcome of the dependent variable to choose and not choose, with males found to be more likely to choose. In addition, the value of 'altruism', 'do not lag behind peers' in future prospects, the attractiveness of the job and parents' opinions all influenced intention outcomes.

Variables that significantly predicted the intention to choose were voluntary 'enrolment cause', 'existing consideration of working on a large farm', an affirmative attitude towards 'deciding future career development and direction on the basis of the first job', the importance of a 'stable job', the lack of importance of 'dignity', positively perceived 'agricultural payment', the perception that larger farm jobs are 'equivalent to raising animals or plants', and a positive influence from 'school career support'. The significant variables for the intention to not choose included farm-related experiences; the importance of 'leading others', 'developed region' and 'dealing with humans rather than animals'; the lack of importance of 'high payment' and 'change fate through job'; a negative perception of 'China's dairy future'; and negatively perceived consequences of taking a larger dairy farm management job, including it

causing difficulty in finding a partner, as well as the inconvenience caused by the remote location.

One issue is worth highlighting here. Personal development and advancement have been emphasised in the literature on current Chinese employees by Rosen (2004) and by the current study's interviewee and focus group discussion participants. Thus, the insignificance of these two variables in the regression model does not mean they are not important. Instead, the results showed that concerns about these two factors were intertwined with long-term concerns and collectivist values. Proof of this is evident in the significance given to the variable of 'long-term concern about prosperity in the future compared with peers'.

This chapter has outlined the empirical results obtained from the data analysis. The results showed that the students' expectations and perceptions were influential in determining their intentions to choose larger dairy farm management jobs; however, these were not the sole contributing variables—personal factors and contextual factors were also significant. The meaning of these results is discussed in the following chapter.

Chapter 6: Conclusion and Recommendations

This final chapter of the study begins by discussing a conclusion of the research and results. Based on these results, recommendations and future research are then presented at the end of this chapter.

6.1 Conclusion

Currently the Chinese dairy sector is in urgent need of young and qualified managers on the larger dairy farms. Knowing young people's job expectations and related factors that influence their choice intention towards the larger farm management jobs are prerequisite to targeted recruiting and retaining strategies.

Therefore, this study investigated Chinese agricultural students' job expectations; these students' perceptions of larger dairy farm management jobs, especially dairy; and the influencing factors in these students' intentions to choose or not to choose larger dairy farm management jobs.

The three objectives have been achieved through a questionnaire-based survey among students in two domestic agricultural universities. The whole study is based on the conceptual framework of Social Cognitive Career Theory. Results are attained by descriptive analysis and regression model analysis.

This study fills the gap of current Chinese agricultural students' job expectations; and is one of the initial studies that investigates concrete job choice intention and related

influencing factors in China. The rank of the job expectations could be a reference for a better understanding of the current agricultural students. The top valued job expectations could also be a key area for programmes aiming to attract agricultural students as potential employees. The identification of a set of influential factors raises awareness of where further attention and efforts are more likely to be effective.

This study separated the 'job expectations' and the 'larger dairy farm management jobs' perceptions' for the convenience of question design and analysis. In fact, some job expectations reflect the job perceptions of dairy farm management jobs, and some perceptions belong to the job outcome expectations. In other words, these two parts' contents are overlapping. Results from this study are synthesised below.

The job expectations of students reflect the rise of individualism among them. Mostly students expect 'personal development', 'autonomy', 'living according to one's own will', 'personal interest', followed by 'high payment'. None of these values are found to be related to the larger dairy farm management jobs positive choice intentions. The high payment is found to be linked to the intention of not choosing the larger dairy farm management jobs. This confirmed the motivation theory that monetary incentive is a hygiene factor. In this study, high payment is not necessarily the attraction for jobs, not limited to the dairy industry. However, unsatisfying payment would likely lead to dissatisfaction or turnover.

However, some traditional values, such as 'stable job' and 'deciding the career development direction on the basis of the first job' are found to be associated with the

likeliness to choose the larger dairy farm management jobs. “Do not lag behind peers”: the fear of prosperity gap with peers in future does not only reflect the influence from collectivism but also reflects the long-term concern in Chinese culture. The significance of this value to the negative choice intention in this study indicated either the uncertainty or negative perceptions about what larger dairy farm management jobs may bring. Similarly, students may have no confidence about the chance of realising certain expectations in larger dairy farm management jobs, because expectations such as ‘lead others’, ‘developed regions’ and ‘change fate through job’ are also found to be linked to the negative choice intentions.

The findings also highlight some perceptions or job contents of larger dairy farm management jobs that influence students’ choice intentions. This study found that the perceived attractiveness of the larger dairy farm management jobs influences students’ intentions both to choose and not to choose the larger dairy farm management jobs. The statement of the larger dairy farm management jobs are ‘equivalent to raising animals or plants’ won the highest frequency among relative statements of the larger dairy farm management jobs perception. More importantly, this statement significantly predicts the positive intention of choosing the larger dairy farm management jobs.

Some negative perceptions of the larger dairy farm management jobs compose the main factors that affect students’ intention not to choose the larger dairy farm management jobs. Students who think the larger dairy farm management jobs are ‘not beneficial in finding a boyfriend or girlfriend’ are more likely not to choose these jobs.

Even more directly, students' negative perception of the Chinese dairy industry's future is able to predict the negative jobs choices intention statistically.

From the perspective of personal and contextual factors, it may be concluded that a few personal factors are more likely to lead to the intention to choose the larger dairy farm management jobs, and the contextual factors influences both outcomes of the larger dairy farm management jobs choice intentions. Apart from demographic factors, such as gender, enrolment cause and 'existing consideration of working on a larger farm, not limited to dairy' are found to be significant to the intention to choose the larger dairy farm management jobs. Among contextual factors providing 'more information on job' or 'market demand' are not found to be significant to students' choice intentions. This may be attributed to the inexperience of students in job searching or simply to the reality that they are more exposed to school and family than to society. The contextual barrier for students to choose the larger dairy farm management jobs is parents, but the contextual factor of 'school career support' is significant to students' positive intentions to choose the larger dairy farm management jobs.

Clearly, the results highlight the school as a breakthrough in increasing the attractiveness of the larger dairy farm management jobs. Specifically, the effects of 'internship' have been acknowledged by students, because the 'intership' is ranked at the top of the measures to increase the larger dairy farm management jobs attractiveness by students. The emphasis on school is aligned with the SCCT theory

that context, especially the proximal context, can have great effect in changing students' expectations.

6.2 Recommendations

Based on the findings of this study, the school could play a more important role in promoting the larger dairy farm management jobs to agricultural students. Firstly, schools could create more opportunities for students to be closer to the farm and to the real business from early years. The school could arrange visiting, field work, practicals and other development interventions step by step to increase students' knowledge about the dairy farm, clarify the job contents and their own interests, and acknowledge the needs and potential of the larger dairy farm management jobs. Secondly, schools could strengthen the efforts in bridging between the enterprises and students. The internship programme should be continued, and communication between the industry or concrete enterprise and students should form a systematic mechanism. In other words, let the students know the industry or enterprises' needs and let the students expectations be heard by enterprises and industry. The communication may be more effective with the facilitator of school than without the school. Because currently the job market is unregulated, students have no confidence in scattered information, and industry's needs sometimes do not reach the intended audience, students. The communication can eliminate uncertainty and build more accurate perceptions of the industry needs and job prospects. The communication can also help enterprises know their future employees' needs rather than taking them for granted.

For enterprises in the Chinese dairy sector, students' job expectations bring both challenges and opportunities for employers. On one hand, students' interest is feasible at this trial career stage. They may care more about experience accumulations. Retaining them or maintaining their loyalty to the company or the dairy sector is a challenge. On the other hand, students are eager to develop themselves. They value personal development, autonomy and other values more than high payment. They also expressed their long term concern in the larger dairy farm management jobs choice. How to meet students' needs and deliver the long-term concern to assure students' future prospects could be an area for further attention.

For policy makers in current production sector in the dairy industry, training should still be a key area in talent fostering. The government may spread the training programmes with international players. Moreover, there is a need for more in-depth or detailed studies in the subject of training. This study also suggests the longer-term training or study programme is needed, rather than short-term training. In other words, the current dairy school could be expanded if possible. This is because longer-term study may not only help build a solid knowledge base, but also help build cognitive knowledge and thus loyalty, which motivates and facilitates students to make decisions about particular jobs in agricultural fields, not limited to dairy. This is demonstrated by the study's finding that students who had previously thought about the larger farm job choice are more likely to choose the larger dairy farm management jobs. Together with the joint communication as suggested above, the longer-term training seems to be time-and effort-consuming but quite likely to be rewarding.

6.3 Future Research

This study focuses on agricultural students, and most of them do not necessarily have the dairy farm knowledge or experiences. Future research could approach students in dairy farm school or approach young people in some training programme tailored for dairy farm managers or approach the young managers on dairy farms.

As this study is about motivation which highlights cultural values, future research can choose students with different demographic features or in different cultures for a cross-cultural study.

As has been mentioned in the introduction, young people in China are often targeted as the core potential consumers, taking dairy for example. This study calls for more research which regards these young people as potential employees for modern agriculture, not limited to dairy. In other words, the subject of research on human capital in modern agriculture should go beyond the traditional rural labour force and include more young people with high qualifications.

References

- Adedokun, O. A. & Balschweid, M. A. (2008). Investigating community factors as predictors of rural 11th-grade agricultural science students' choice of careers in agriculture. *Journal of Agricultural Education*, 49(4), 1–10.
- Ajayi, A. O., Okorie, V. O. & Yusuf, O. J. (2008). Impact of internship training on faculty of agriculture undergraduates of the Obafemi Awolowo University, Ile-Ife, Nigeria. *Journal of Agricultural & Food Information*, 9(2), 144.
- Alibaygh, A., Afsharzade, N., Moradi, A. P. & Pirmoradi, A. (2014). Predictors of agricultural science students' choice of careers in agriculture: A case from Kermanshah Province, Iran. *Scholarly Journal of Agricultural Science*, 4(7), 403–409.
- Alloway, N. & Dalley-Trim, L. (2009). 'High and dry' in rural Australia: Obstacles to student aspirations and expectations. *Rural Society*, 19(1), 49–59.
- Alzaidi, A., Muneer, S. E. & Gaballa, A. S. M. (2011). An analytical study of work motivation among the agricultural extension workers in the Kingdom of Saudi Arabia. *Arab Gulf Journal of Scientific Research*, 29(3–4), 202–214.
- Amabile, T. M. (1993). Motivation synergy: Toward new conceptualizations of intrinsic and extrinsic motivation in the workplace. *Human Resource Management Review*, 3(3), 185–201.
- Ambrose, M. L. & Kulik, C. T. (1999). Old friends, new faces: Motivation research in the 1990s. *Journal of Management*, 25(3), 231–292.
- Andreas, J. (2004). Leveling the little pagoda: The impact of college examinations, and their elimination, on rural education in China. *Comparative Education Review*, 48(1), 1–47.
- Bain, N. & Mabey, B. (1999). *The people advantage: Improving results through better selection and performance*. London, England: Macmillan Press Ltd.
- Bandura, A. & Cervone, D. (1986). Differential engagement of self-reactive influences in cognitive motivation. *Organizational Behavior and Human Decision Processes*, 38(1), 92–113.
- Betz, N. E. & Vuyten, K. K. (1997). Efficacy and outcome expectations influence career exploration and decidedness. *Career Development Quarterly*, 46(2), 179–189.
- Björkstén, J. & Hägglund, A. (2010). *How to manage a successful business in China*. Singapore: World Scientific.

- Boswell, W. R., Roehling, M. V., LePine, M. A. & Moynihan, L. M. (2003). Individual job-choice decisions and the impact of job attributes and recruitment practices: A longitudinal field study. *Human Resource Management*, 42(1), 23–37.
- Cable, D. M. & Judge, T. A. (1996). Person-organization fit, job choice decisions, and organizational entry. *Organizational Behavior and Human Decision Processes*, 67(3), 294–311.
- Cantoni, D. & Yuchtman, N. (2013). The political economy of educational content and development: Lessons from history. *Journal of Development Economics*, 104(2013), 233–244.
- Chantara, S., Kaewkuekool, S. & Koul, R. (2011). Self-determination theory and career aspirations: A review of literature. *International Proceeding of Economics Developmen and Research*, 5(2011), 2212–2216.
- Chapman, D. S., Uggerslev, K. L., Carroll, S. A., Piasentin, K. A. & Jones, D. A. (2005). Applicant attraction to organizations and job choice: A meta-analytic review of the correlates of recruiting outcomes. *Journal of Applied Psychology*, 90(5), 928–944.
- Chen, A. & Groenewold, N. (2010). Reducing regional disparities in China: An evaluation of alternative policies. *Journal of Comparative Economics*, 38(2), 189–198.
- Chen, H. (2012). Survey report on employment situation on scale dairy farm in 2011. *Zhongguo Ruye (China Dairy)*, 128, 6–11.
- Chi, W. and X. Qian (2013). Regional disparity of labor's share in China: Evidence and explanation. *China Economic Review*. 27 (0), 277-293.
- Chiu, Luk & Tang. (2002). Retaining and motivating employees: Compensation preferences in Hongkong and China. *Personnel Review*, 31(4), 402-431.
- Chung, Y. (2002). Career decision-making self-efficacy and career commitment: Gender and ethnic differences among college students. *Journal of Career Development*, 28(4), 277–284.
- Cook, S. (1999). Surplus labour and productivity in Chinese agriculture: Evidence from household survey data. *Journal of Development Studies*, 35(3), 16-44.
- Cooke, F. L. (2009). A decade of transformation of HRM in China: A review of literature and suggestions for future studies. *Asian Pacific Journal of Human Resources*, 47(1), 6–40.

- Ding, D. Z., Akhtar, S. & Ge, G. L. (2006). Organizational differences in managerial compensation and benefits in Chinese firms. *International Journal of Human Resource Management*, 17(4), 693–715.
- Duffy, R. D. & Dik, B. J. (2009). Beyond the self: External influences in the career development process. *Career Development Quarterly*, 58(1), 29–43.
- DuPre, C. & Williams, K. (2011). Undergraduates' perceptions of employer expectations. *Journal of Career and Technical Education*, 26(1), 8-19.
- Edmondson, A. C. & McManus, S. E. (2007). Methodological fit in management field research. *Academy of Management Review*, 32(4), 1155–1179.
- Faure, G. O. & Fang, T. (2008). Changing Chinese values: Keeping up with paradoxes. *International Business Review*, 17(2), 194–207.
- Feldman, D. C. (2003). The antecedents and consequences of early career indecision among young adults. *Human Resource Management Review*, 13(3), 499–531.
- Fiske, S. T. (2014). *Social beings: Core motives in social psychology* (3rd ed.).
- Fraze, L. B., Wingenbach, G., Rutherford, T. & Wolfskill, L. A. (2011). Effects of a recruitment workshop on selected urban high school students' self-efficacy and attitudes toward agriculture as a subject, college major, and career. *Journal of Agricultural Education*, 52(4), 123–135.
- Fu, Y. & Kamenou, N. (2011). The impact of Chinese cultural values on human resource policies and practices within transnational corporations in China. *International Journal of Human Resource Management*, 22(16), 3270–3289.
- Gale, F. (2006). Food expenditures by China's high-income households. *Journal of Food Distribution Research*, 37(1), 7–13.
- Gamble, J. (2000). Localizing management in foreign-invested enterprises in China: Practical, cultural, and strategic perspectives. *The International Journal of Human Resource Management*, 11(5), 883–903.
- Gao, X. & Zhang, J. (2009). Analysis on the problems and counter measures of the employment of graduates in higher agricultural universities. *Hebei Nongye Kexue (Journal of Hebei Agricultural Sciences)*, 13(5), 164–165.
- Gao, Y., Zheng, J. & Bu, M. (2014). Rural-urban income gap and agricultural growth in China: An empirical study on the provincial panel data, 1978–2010. *China Agricultural Economic Review*, 6(1), 92–107.

- Hamill, W. G. (2012). *The factors that contribute to young people's attraction to, and retention in agricultural careers* (Unpublished bachelor thesis). RMIT University, Melbourne, VIC.
- Han, Z. (2014). 'China agricultural succession crisis': Analysis framework, realistic judgement and solution. *Journal of Nanjing Agricultural University (Social Sciences Edition)*, 14(1), 1–8.
- He, Y. & Hong, J. (2012). Localization of human resources in MNCs: A perspective of content analysis. In *Scientific Research—Proceedings of the 2012 Interbatuibak Conference on Engineering and Business Management*, 711–717.
- Hinkin, T. (1998). A brief tutorial on the development of measure for use in survey questionnaires. *Organizational Research Methods*, 1 (1), 104–121.
- Hodson, C. (2001). *Psychology and work*. New York, NY: Routledge.
- Hogue, M., DuBois, C. L. Z. & Fox-Cardamone, L. (2010). Gender differences in pay expectations: The roles of job intention and self-view. *Psychology of Women Quarterly*, 34(2), 215–227.
- Huang, J. & Rozelle, S. (2009). *Agricultural development and nutrition: The policies behind China's success*. Retrieved from <http://www.wfp.org/content/agricultural-development-and-nutrition-policies-behind-china%E2%80%99s-success-j-huang-and-s-rozelle-occasio>
- Huang, J., Rozelle, S., Martin, W. & Liu, Y. (2007). *Distortions to agricultural incentives in China*. Agricultural Distortions Research Project Working Paper, 29 December 2007.
- Huber, W., Kang, H. & Wellendorf, J. (2011). The impact of China's higher education system on job prospects for graduates. *Journal of US-China Public Administration*, 8(9), 978–989.
- Ibitoye, S. J. (2011). Attitude of youths towards career in agriculture in kogi state, Nigeria. *International Journal of Applied Engineering Research*, 6(14), 1683–1693.
- Ibrahim, H, Muhammad, D. M, Yahaya, H. & Luka, E. G. (2008). Role perception and job satisfaction among extension workers in Nasarawa Agricultural Development Programme (NADP) of Nasarawa State, Nigeria. *Production Agriculture and Techonology*, 4(1), 62–70.
- Ikels, C. (2006). Economic reform and intergenerational relationships in China. *Oxford Development Studies*, 34(4), 387–400.

- Ilenloh, M. I., Onemolease, E. A. & Erie, A. P. (2012). Occupational aspirations of university students of agriculture in Edo State, Nigeria. *Journal of Agricultural & Food Information*, 13(2), 130–143.
- (2013). *Inauguration of the seminar of senior talents on modern dairy farms*. Retrieved from <http://www.dac.org.cn/html/gndt-13101616434294513583.jhtm>
- Jackson, T. & Bak, M. (1998). Foreign companies and Chinese workers: Employee motivation in the People's Republic of China. *Journal of Organizational Change Management*, 11(4), 282-300.
- Jiang, F., Liu, P. & Wang, X. (2010). Reform thinking of personnel training model of agronomy specialty under new situation. *Anhui Nongye Kexue (Journal of Anhui Agricultural Sciences)*, 38(36), 21053–21054.
- Jin, L., Watkins, D. & Yuen, M. (2009). Personality, career decision self-efficacy and commitment to the career choices process among Chinese graduate students. *Journal of Vocational Behavior*, 74(1), 47–52.
- Johnstone, K. C. (1995). *Motivational drives and Machiavellianism: Their interaction and influence on career choice* (Unpublished master thesis). Massey University, New Zealand.
- Judge, T. A. & Bretz, R. D. Jr. (1991). *The effects of work values on job choice decisions*. Center for Advanced Human Resource Studies Working Paper Series.
- Jusoh, M., Simun, M. & Chong, S. C. (2011). Expectation gaps, job satisfaction, and organizational commitment of fresh graduates: Roles of graduates, higher learning institutions and employers. *Education + Training*, 53(6), 515–530.
- Kong, H., Wang, S. & Fu, X. (2015). Meeting career expectation: Can it enhance job satisfaction of Generation Y? *International Journal of Contemporary Hospitality Management*, 27(1), 147–168.
- Lee, S. & Malin, B. A. (2013). Education's role in China's structural transformation. *Journal of Development Economics*, 101, 148–166.
- Lent, R. W., Hackett, G. & Brown, S. D. (1999). A social cognitive view of school-to-work transition. *Career Development Quarterly*, 47(4), 297–311.
- Lent, R. W., Brown, S. D. & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior*, 45(1), 79-122.
- Lent, R. W. Brown, S. D. & Hackett, G. (2000). Contextual supports and barriers to career choice: A social cognitive analysis. *Journal of Applied Psychology*, 47(1), 36-49.

- Lent, R. W., Steven, D. B., Talleyrand, R., McPartland, E. B., Davis, T., Chopra, S. B., ... Chai, C.-M. (2002). Career choice barriers, supports and coping strategies: College students' experiences. *Journal of Vocational Behavior*, 60, 61–72.
- Li, S., Zhang, W., Liu, Y., Zhou, X. & Cao, Z. (2010). Retrospection and forecast of China dairy industry in 2009. *Zhongguo Xumu Zazhi (Chinese Journal of Animal Science)*, 46(2), 35–40.
- Lin, Z., Trenberth, L. & Kelly, J. (2010). The development and implications of China's employee benefit systems. *Asia Pacific Journal of Human Resources*, 48(3), 287–301.
- Linjie, L. & Xing, W. (2010). The strategy of talent localization in multinational corporations. *International Journal of Business and Management* 5 (12), 216–219.
- Long, H., Liu, Y. Li, X. & Chen, Y. (2010). Building new countryside in China: A geographical perspective. *Land Use Policy* 27 (2010), 457–470.
- Loughlin, C. & Barling, J. (2001). Young workers' work values, attitudes, and behaviours. *Journal of Occupational and Organizational Psychology* 74 (2001), 543–558.
- Lu, T. & Adler, H. (2009). Career goals and expectations of hospitality and tourism students in China. *Journal of Teaching in Travel & Tourism*, 9(1–2), 63–80.
- Lv, L. (2010). Qiantan nongyelei gaozhisheng de jiuyeguan jiaoyu (Analysis of agricultural vocational graduates' job choice conception education). *Hebei Lvyue Zhiye xueyuan xuebao (Journal of Chengde Vocational College)*, 15(4), 55–57.
- Ma, Y.(2009). Existing problems and improvement measures of rural serviceable talents training in new rural construction. *Anhui Nongye Kexue (Journal of Anhui Agricultural Sciences)*,37(33), 16688–16690.
- Maehr, M. L. & Meyer, H. A. (1997). Understanding motivation and schooling: Where we've been, where we are, and where we need to go, *Educational Psychology Review*, 9(4), 371–409.
- Mai, Y. & Peng, X. (2012). Estimating China's rural labor surplus. *Chinese Economy*, 45(6), 38–59.
- McKeen, C. A. & Bu, N. (1998). Career and life expectations of Chinese business students: The effects of gender. *Women in Management Review*, 13(5), 171–183.

- Meglino, B. M., Ravlin, E. C. & Adkins, C. L. (1989). A work values approach to corporate culture: A field test of the value congruence process and its relationship to individual outcomes. *Journal of Applied Psychology*, 74(3), 424–432.
- Mukembo, S. C., Edwards, M. C., Ramsey, J. W. & Henneberry, S. (2014). Attracting youth to agriculture: The career interests of young farmers club members in Uganda. *Journal of Agricultural Education*, 55(5), 155–172.
- Nankervis, A. R., Compton, R. L. & Baird, M. (2008). *Human resource management: Strategies & processes* (6th ed.). Melbourne, VIC : Thomson Learning Australia.
- (2014). *Nestlé and Northeast Agricultural University cooperate in dairy farming management training*. Retrieved from http://www.chinadaily.com.cn/business/2014-07/09/content_17690058.htm
- Nielsen, I. & Smyth, R. (2008). Job satisfaction and response to incentives among China's urban workforce. *Journal of Socio-Economics*, 37(5), 1921–1936.
- Noe, R. A., Noe, A. W. & Bachhuber, J. A. (1990). An investigation of the correlates of career motivation. *Journal of Vocational Behavior*, 37(3), 340–356.
- Oloruntoba, A. & Ajayi, M. T. (2003). Motivational factors and employees' job satisfaction in large-scale private farms in Ogun State, Nigeria. *Journal of International Agricultural and Extension Education*, 10(1), 67–71.
- Overbay, A. E. (2006). *Career values and perceptions of agricultural careers of gifted and talented students in the Virginia Governor's school for agriculture*. (Unpublished doctoral thesis). Virginia Polytechnic Institute and State University, Virginia.
- Penda, S. T. (2012). Human capital development for agricultural business in Nigeria. *International Food and Agribusiness Management Review*, 15(A).
- Po, Y. (2011). Earnings expectation and graduate employment: Evidence from recent Chinese college graduates. *Frontiers of Education in China*, 6(4), 549–570.
- Poon, H. F. & Rowley, C. (2007). Contemporary research on management and human resources in China: A comparative content analysis of two leading journals. *Asia Pacific Business Review*, 13(1), 133–153.
- Preece, D., Iles, P. & Chuai, X. (2011). Talent management and management fashion in Chinese enterprises: Exploring case studies in Beijing. *International Journal of Human Resource Management*, 22(16), 3413–3428.

- Rae, A. (2008). China's agriculture, smallholders and trade: Driven by the livestock revolution? *Australian Journal of Agricultural and Resource Economics*, 52(3), 283–302.
- Rajabi, S., Papzan, A. & Zahedi, G. (2012). Application of social cognitive career theory to investigate the effective factors of the career decision-making intention in Iranian agriculture students by using ANN. *SAGE Open*, 2(4), 1-13 .
- Ravlin, E. C. & Meglino, B. M. (1989). The transitivity of work values: Hierarchical preference ordering of socially desirable stimuli. *Organizational Behavior and Human Decision Processes*, 44(3), 494–508.
- Rivera, W. M. (1995). Human resource development in the agriculture sector: Three levels of needs. *International Journal of Lifelong Education*, 14 (7), 65-73.
- Rosen, S. (2004). The victory of materialism: Aspirations to join China's urban moneyed classes and the commercialization of education. *The China Journal* (51), 27–51.
- Sadler, P. M., Sonnert, G., Hazari, Z. & Tai, R. (2012). Stability and volatility of STEM career interest in high school: A gender study. *Science Education*, 96(3), 411–427.
- Schwoob, M.-H. (2014). Towards sustainable agriculture? Local level reliance on economic networks and the consequences for China's agricultural modernisation pathway. *Asia Pacific Journal of Public Administration*, 36(3), 220–232.
- Sharma, S. & Rou, Z. (2014). China's dairy dilemma: The evolution and future trends of China's dairy industry.
- Shelman, M. & Connolly, A. J. (2012). The human capital issue: Ensuring the future of food and agribusiness. *International Food and Agribusiness Management Review*, 15(A).
- Shiue, C. H. (2013). Human capital and fertility in Chinese clans before modern growth. *NBER Working Paper Series* (19661), ALL.
- Super, D. E. & Bohn, M. J. (1970). *Occupational psychology*. Belmont, CA: Wadsworth Publishing Co.
- Tang, M. (2001). Investigation of the structure of vocational interests of Chinese college students. *Journal of Career Assessment*, 9(4), 365–379.
- Tang, M., Fouad, N. A. & Smith, P. L. (1999). Asian Americans' career choices: A path model to examine factors influencing their career choices. *Journal of Vocational Behavior*, 54(1), 142–157.

- Tsakok, I. (2011). *Success in agricultural transformation: What it means and what makes it happen*. New York, NY: Cambridge University Press.
- Tsojon, J. D., Ehiemere, G. A. & Bonjoru, F. H. (2013). Students' perception of their self-efficacy as a mechanism to sustained positive attitude in practical agriculture. *Academic Journal of Interdisciplinary Studies*, 2(10), 137–145.
- Turban, D. B. & Eyring, A. R. (1993). Job attributes: Preferences compared with reasons given for accepting and rejecting job offers. *Journal of Occupational & Organizational Psychology*, 66(1), 71–81.
- Turban, D. B., Forret, M. L. & Hendrickson, C. L. (1998). Applicant attraction to firms: Influences of organization reputation, job and organizational attributes, and recruiter behaviors. *Journal of Vocational Behavior*, 52, 24–44.
- Turner, L. R. & Hawkins, C. M. (2014). Revised expected outcomes: Essential for attracting Tasmanian students to careers in agricultural science. *Australian Journal of Career Development*, 23(2), 88–95.
- Veeck, G. (2013). China's food security: Past success and future challenges. *Eurasian Geography and Economics*, 54(1), 42–56.
- Velde, C. (2009). Employers' perceptions of graduate competencies and future trends in higher vocational education in China. *Journal of Vocational Education & Training*, 61(1), 35–51.
- Vroom, V. H. (1982). *Work and motivation*. Malabar, FL: R. E. Krieger Pub. Co.
- Wahba, M. A. & House, R. J. (1974). Expectancy theory in work and motivation: Some logical and methodological issues. *Human Relations*, 27(2), 121–147.
- Wang, H. H. (2013). Agricultural risks and risk management in the current context of Chinese economy. *Agricultural Finance Review*, 73(2), 245–254.
- Wang, J., Zhou, Z. & Shen, Q. (2008). Who is going to supply the milk to China's south? *China & World Economy*, 16(4), 94–109.
- Wang, Q., Parsons, R. & Zhang, G. (2010). China's dairy markets: Trends, disparities, and implications for trade. *China Agricultural Economic Review*, 2(3), 356–371.
- Wang, X., Weaver, N. & You, J. (2013). The social security function of agriculture in China. *Journal of International Development*, 25(1), 1–10.
- Wang, Y. & Yao, Y. (2003). Source of China's economic growth 1952–1999: Incorporation human capital accumulation. *China Economic Review*, 14, 32–52.
- Webster, N. & Ganpat, W. (2014). St Vincent youth and careers in agriculture. *Journal of Agricultural Education & Extension*, 20(1), 49–64.

- Wiley, A. S. (2011). Milk for 'growth': Global and local meanings of milk consumption in China, India, and the United States. *Food and Foodways*, 19(1–2), 11–33.
- World Bank & Development Research Center of the State Council, P. R. C. (2013). *China 2030: Building a modern, harmonious, and creative society*.
- Wu, X. (1993). A study on the current job-selection preferences of postgraduate students. *Qingnian Yanjiu (Youth Studies)*, 11, 9–15.
- Xiang, C. (2006). The thought of accelerating the construction of agricultural talents. *Zhongguo Nongxue Tongbao (China Agricultural Science Bulletin)*, 22(2), 435–438.
- Xu, P., Zheng, S. & Zhou, S. (2011). Family and western-style fast food: Influences on Chinese college students' dairy consumption. *Journal of Food Products Marketing*, 17(1), 1–24.
- Ye, L. & Ye, L. (2009). Factors influencing employee commitment and commitment elevation strategy analysis. *Modern Enterprise Culture*, 6, 41–44.
- Young, D. & Deng, H. (1999). The effects of education in early-stage agriculture: Some evidence from China. *Applied Economics*, 31(11), 1315–1323.
- Yu, K. Y. T. (2014). Person–organization fit effects on organizational attraction: A test of an expectations-based model. *Organizational Behavior and Human Decision Processes*, 124(1), 75–94.
- Yu, X. (2012). Productivity, efficiency and structural problems in Chinese dairy farms. *China Agricultural Economic Review*, 4(2), 168–175.
- Yu, X. & Zhao, G. (2009). Chinese agricultural development in 30 years: A literature review. *Frontiers of Economics in China*, 4(4), 633–648.
- Zarafshani, K. & Knobloch, N. A. (2008). General perceived self-efficacy of Iranian college of agriculture students. *Journal of International Agricultural and Extension Education*, 15(1), 69–84.
- Zhang, W., Cooper, W. W., Deng, H., Parker, B. R. & Ruefli, T. W. (2010). Entrepreneurial talent and economic development in China. *Socio-Economic Planning Sciences*, 44, 178–192.
- Zhang, Y. (2010). *Recent tertiary graduates' career attitudes, career adaptability and career self-management behaviours: Focus on continuity in a fragmented employment context* (Master thesis). Retrieved from <http://hdl.handle.net/10179/2322>.

- Zhang, Z., Tang, C. & Yao, Y. (2007). The analysis of influential factors of needs in rural vocational and technical education. *Zhongguo Nongcun Jingji (Chinese Rural Economy)*, 3, 21–31.
- Zhao, X., Li, L. & Chai, J. (2011). Analysis on the employment flows of graduates from Agricultural colleges and universities and unbalanced development reality of local economy. *Anhui Nongye Kexue (Journal of Anhui Agricultural Sciences)*, 39(14), 8792–8793.
- Zheng, J, Liu, X. & Bigsten, A. (1998). Ownership structure and determinants of technical efficiency: An application of data envelopment analysis to Chinese enterprises (1986–1990). *Journal of Comparative Economics*, 26(3), 465–484.
- Zhou, G. & Zha, Q. (2010). The transformation of China's key science and technology universities in the move to mass higher education. *Frontiers of Education in China*, 5(4), 531–557.

Appendices

Appendix A: Questionnaire



Factors influencing Chinese agricultural students' intentions to choose large dairy farm management jobs

影响中国农业大学生选择大型奶牛场工作意愿的因素
调查问卷

BACKGROUND INFORMATION

1. Major:
2. Level of study: ☐ undergraduate ☐ postgraduate
3. Gender: ☐ male ☐ female
4. Ethnic group:
5. Age:
6. Grade: ☐ 1 ☐ 2 ☐ 3 ☐ 4
7. Are the university and your home located in the same region?: ☐ yes ☐ no
8. Before university enrolment, you were from a: ☐ village ☐ city
9. Your enrolment at university and current major are a result of:
☐ voluntary choice ☐ adjustment or enrolment arrangement
10. You are _____ in your major:
☐ very interested ☐ interested ☐ not interested
11. In relation to job hunting, your major will put you _____.
☐ at advantage ☐ at disadvantage ☐ will have little effect ☐ not sure
12. Have you got a plan for after graduation?
☐ yes (I will study, work, go abroad, etc.)
☐ I have not thought about it
a. What is the top thing you care about when job hunting?
☐ It is: _____
☐ I have not thought about it/hard to say

GENERAL EXPECTATIONS

13. You expect to work in the field of: ☐ agriculture ☐ non-agriculture
14. If you have a chance of working in agriculture, you mostly expect to work in the segment of _____, while _____ is the segment you wish to work in least.
a. production b. processing c. sales d. academia
15. Do you expect to take the public servant selection exam?
☐ yes ☐ no ☐ not sure
16. Do you expect to join foreign companies?
☐ yes ☐ no ☐ not sure

17. Do you think working should be your main concern during a certain period after graduation?
☐ yes ☐ no ☐ not sure
18. Do you expect to achieve balance between work and life?
☐ yes ☐ no ☐ not sure
19. Deciding your career development and direction on the basis of the first job is:
☐ suitable ☐ not suitable ☐ not sure
20. Do you have concrete expectations of the amount of your monthly payments for your first job?
☐ yes, _____ ☐ no, the amount for the first job is unimportant
21. Do you think the job agriculture offers can reach your expected payment level?
☐ yes ☐ no ☐ not sure

INFLUENCING FACTORS IN JOB DECISION MAKING

22. Please mark the degree each factor influences you in your decision making of continuing studying or deciding to get a job.

Factor	Little influence	Moderate influence	Great influence
Personal ideas			
Parents' ideas			
Teachers' suggestion			
Peers' comments			
Career			
Personal ability			
Society's comments on the job			
Sectors' prospects			
The job itself			
Remuneration			
Location			
Others			

23. Do you have any experiences of visiting, training or working on a farm?
☐ yes, the farm grows/raises _____
☐ no
24. The larger farm management jobs have the following characteristics (multiple choice):
☐ involve raising animals or plants
☐ involve laborious work
☐ involve dealing with animals
☐ are appropriate for students with vocational school qualifications
☐ offer job and career options worth considering for university students
☐ are not beneficial for finding a partner
☐ are inconvenient for living because of the remote location
25. Have you already decided or chosen to work on a large farm?
☐ yes, _____
☐ no

GENERAL PERCEPTIONS OF LARGER DAIRY FARM MANAGEMENT JOBS

26. There are 18 values or concrete expectations in the chart below. Please mark in the right columns: (1) how important each value is to you and (2) whether is it possible to find this value in larger dairy farm management jobs.

	Work values (expectations)	The value to me is:			Can it be found in larger dairy farm management jobs?		
		Of little importanc e	Importan t	Very importan t	Yes	No	Unsure
1	Personal development						
2	Advancement chances						
3	Training offered by company						
4	Autonomy						
5	Living according to one's own will						
6	Leading others						
7	Altruism—helping others						
8	Social dignity						
9	Building social network						
10	Close to home						
11	In a developed region						
12	High pay						
13	Stable job						
14	Company reputation						
15	Personal interest						
16	Dealing with human beings (rather than animals)						
17	Change fate through job						
18	Do not lag behind peers						

27. What level of attention do you give to the current Chinese dairy industry?
☐ close attention ☐ moderate attention ☐ little attention
28. What do you think about the future of the Chinese dairy industry?
☐ very bright ☐ moderate ☐ no idea
29. Is the position of dairy farm management attractive to you?
☐ yes ☐ no
30. If a company offered two-year training (covering both practical and theoretical aspects) for its larger dairy farm management positions, would you:
☐ apply for it
☐ consider it
☐ not apply
31. What factor would stop you choosing to work in a foreign company?

32. What measures could be taken to facilitate and attract university students to choose larger dairy farm management jobs? (multiple choice)
- ☐ company with internship or development programmes with university
 - ☐ management trainee programme
 - ☐ impressive reimbursement
 - ☐ clear advancement opportunities
 - ☐ a large company with a solid reputation
 - ☐ national enterprise
 - ☐ foreign enterprise
 - ☐ high market demand
 - ☐ recommendations from acquaintances or precursors in the field or company
 - ☐ if more concrete information is provided
33. Please write down the names of any companies or institutions you know that operate large dairy farm businesses in China. If you cannot think of any, you can leave this blank.

Those are all the questions. We wish you success in study or job hunting!

Appendix B: Focus Group Discussion Guide

1. Background information:
 - a. university
 - b. major
 - c. year of study
 - d. gender
 - e. farm experience or not
 - f. cause or reason of enrolment (voluntary or not)
2. What is your expected value in your future job?
3. How do you think of agricultural jobs?
4. How do you think of larger farm management jobs, especially dairy?
5. If there was a dairy farm management job position available for students to choose, would you apply for it? Why?
6. What factors influence you when you make a career choice decision?
7. Any other comments and suggestions:

Appendix C: Survey Letter and Participation Consent Form - Individual

C1: Survey Letter



MASSEY UNIVERSITY

COLLEGE OF SCIENCES

TE WĀHANGA PŪTAIAO

The factors influencing Chinese agricultural students' intentions to choose larger dairy farm management jobs

影响中国农业大学生选择大型奶牛场管理工作意愿的因素

SURVEY LETTER

调查函

Dear Sir/madam/students:

尊敬的先生/女士/同学：

This is a sincere invitation for you to participate in a survey.

诚挚邀请您参与此调查。

My name is Yanan Li, and I am currently a postgraduate student of Management in Agribusiness at Massey University of New Zealand. This survey is part of my master research titled: 'The Factors Influencing Chinese Agricultural Students' Intentions to Choose Larger Dairy Farm Management Jobs'. You are part of a sample of Chinese graduates randomly selected for this survey as being representative of Chinese graduates, so your input is valuable.

我叫李雅楠，目前在新西兰梅西大学读农业经济管理研究生。此调查隶属本人硕士研究论文。论文题目是我叫李雅楠，目前在新西兰梅西大学读农业经济管理研究生。此调查隶属本人硕士研究论文。论文题目为：“影响中国农业大学生选择大型奶牛场管理工作意愿的因素”。作为此项调查随机挑选的样本，您将代表中国农业大学生。

Under Massey University policy research protocol, you have no obligation to accept this invitation, but you are most welcome to participate in this study. This questionnaire should take about 15 minutes of your time. If you decide to take part in this study, please sign the consent form, and you will have the rights to:

- ask any questions about the study at any time during participation
- decline to answer any particular question
- withdraw from the study at any time during the process
- be able to access the research findings when it is finished.

根据梅西大学研究协议，您无义务接受此调查，但本人诚挚邀请您参与此项调查。此问卷大致需要 15 分钟时间。如果您决定参与此调查，请在参与同意书上签名。您将有如下权利：

在参与过程中任何时刻提出关于此项研究的任何问题

拒绝回答任意一个具体问题

在过程中任意时刻退出

此研究结束后获悉研究结果

Regarding privacy and confidentiality, your name and other personal information will not be mentioned in this research. All record interviews will be kept safely by Massey University and will be erased five years after the research finishes. The thesis will be accessed through Massey University library.

关于隐私和保密方面，您的姓名及其他个人信息将不会在研究中被提及。所有采访记录将被梅西大学妥善保管，并将在此研究结束五年之后被销毁。今后此论文可在梅西大学图书馆查询。

For the contact details of the research:

Research chief supervisor: Professor Nicola M. Shadbolt

Email: n.m.shadbolt@massey.ac.nz

Research co-supervisor: Professor Claire Massey

Email: c.l.massey@massey.ac.nz

Researcher: Yanan Li

Email: Y.Li1@massey.ac.nz

此研究有关联系方式

主导师: Nicola. M Shadbolt

邮箱地址: n.m.shadbolt@massey.ac.nz

副导师: Claire Massey

邮箱地址: c.l.massey@massey.ac.nz

作者: 李雅楠

邮箱地址: Y.Li1@massey.ac.nz

Kind regards

Yanan Li

此致

李雅楠

C2:Participation Consent Form - Individual



MASSEY UNIVERSITY

COLLEGE OF SCIENCES

TE WĀHANGA PŪTAIAO

The factors influencing Chinese agricultural students' intentions to choose larger dairy farm management jobs

影响中国农业大学生选择大型奶牛场工作意愿的因素

PARTICIPATION CONSENT FORM - INDIVIDUAL

个人参与研究同意书

I have read the Survey Letter and have had the details of the stud explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

我已经阅读过调查函，并且已被告知研究细节。我的疑问已得到解答。同时，我知道我可以在参与过程中的任何时刻提出更多问题。

I agree to participate in this study under the conditions set out in he survey letter.

我同意在调查函提及的条件下参与此项研究。

Signature 签名：

Date 日期：

**Te Kunenga
ki Pūrehuroa**
<http://www.massey.ac.nz>

Agriculture & Horticulture Group – Institute of Agriculture and Environment
Private Bag 11222, Palmerston North 4442, New Zealand T +64 350 5996 F +64 350 5680

Appendix D: Group of Respondents Based on Demographic Variables

Table D.1a

Frequency Distribution and Demographic Statistics of the Respondents by Intention to Choose Larger Dairy Farm Management Jobs

Item/category	Choose	Consider	Not choose	Total
	No (% of valid total)	No (% of valid total)	No (% of valid total)	No (% of valid total)
	% within intention	% within intention	% within intention	
University				
NAU	48(12.6)	104(27.4)	50(13.2)	202(53.2)
	42.9	53.3	68.5	
IAU	64(16.8)	91(23.9)	23(6.1)	178(46.8)
	57.1	46.7	31.5	
Major				
Veterinary medicine	45(11.8)	67(17.6)	7(1.8)	119(31.3)
	40.2	34.4	9.6	
Animal science	35(9.2)	51(13.4)	27(7.1)	113(29.7)
	31.3	26.2	37.0	
Management	19(5.0)	43(11.3)	7(1.8)	69(18.2)
	17.0	22.1	9.6	
Agro-forestry management	9(2.4)	25(6.6)	27(7.1)	61(16.1)
	8.0	12.8	37.0	
Grass science	4(1.1)	9(2.4)	5(1.3)	18(4.7)
	3.6	4.6	6.8	
Study year				
Year 1	1(0.3)	3(0.8)	0(0.0)	4(1.1)
	0.9	1.5	0.0	
Year 2	0(0.0)	6(1.6)	2(0.5)	8(2.1)
	0.0	3.1	2.8	
Year 3	71(18.7)	107(28.2)	32(8.4)	210(55.4)
	63.4	54.9	44.4	
Year 4	40(10.6)	79(20.8)	38(10.0)	157(41.4)
	35.7	40.5	52.8	
Gender				
Male	46(12.3)	61(16.4)	36(9.7)	143(38.3)
	41.8	31.9	50	
Female	64(17.2)	130(34.9)	36(9.7)	230(61.7)
	58.2	68.1	50	
Ethnic group				
Majority	72(20.5)	142(40.5)	50(14.2)	264(75.2)
	72.7	76.3	75.8	
Minority	27(7.7)	44(12.5)	16(4.6)	87(24.8)
	27.3	23.7	24.2	
Origin				
Village	66(17.4)	107(28.2)	34(9.0)	207(54.6)
	59.5	54.9	46.6	
City	45(11.9)	88(23.2)	39(10.3)	172(45.4)
	40.5	45.1	53.4	

Enrolment cause				
Voluntary	75(19.7) 67.0	106(27.9) 54.4	35(9.2) 47.9	216(56.8)
Adjustment or rearrangement	37(9.7) 33.0	89(23.4) 45.6	38(10.0) 52.1	164(43.2)
Total	112(29.5)	195(51.3)	73(19.2)	380(100)

Note: NAU = Nanjing Agricultural University; IAU = Inner Mongolia Agricultural

University.

Table D.1b

Intention and Demographic variables

Item/category	Choose	Total
University	11.669 ^a	0.003
Major	47.972 ^a	0.000
Study year	10.619 ^a	.101
Gender	8.016 ^a	0.018
Ethnic group	.466 ^a	.792
Origin	2.960 ^a	.228
Enrolment cause	7.523 ^a	0.023

Note: This table presents the results from cross-tab between different intentions and demographic variables.

Table D.2

Respondents' Interest in Major by Intention to Choose

Item/category	Choose	Consider	Not choose	Total
	No (% of total)	No (% of total)	No (% of total)	No (% of total)
	% within intention	% within intention	% within intention	
Interest in major				
Very interested	44(11.6) 39.3	51(13.5) 26.3	13(3.4) 17.8	108(28.5)
Interested	59(15.6) 52.7	126(33.2) 64.9	45(11.9) 61.6	230(60.7)
Not interested	9(2.4) 8.0	17(4.5) 8.8	15(4.0) 20.5	41(10.8)
Total	112(29.6)	194(51.2)	73(19.3)	379(100)

Note: Pearson chi-square = 17.556^a, asymp. sig. (two-sided) = 0.002.

Table D.3

Respondents' Perceived Majors' Effect on Job Hunting by Intention to Choose

Item/category	Choose	Consider	Not choose	Total
	No (% of total)	No (% of total)	No (% of total)	No (% of total)
	% within intention	% within intention	% within intention	
Perceived major's effect on job hunting				
Advantageous	60(16.3) 54.5	75(20.4) 39.6	23(6.3) 32.9	158(42.9)
Disadvantageous	7(1.9) 6.4	27(7.3) 14.4	20(5.4) 28.6	54(14.7)
Little effect	17(4.6) 15.5	44(12.0) 23.4	12(3.3) 17.1	73(19.8)
Unsure	26(7.1) 23.6	42(11.4) 22.3	15(4.1) 21.4	93(22.6)
Total	110(29.9)	188(51.1)	70(19.0)	368(100)

Note: Pearson chi-square = 22.545^a, asymp. sig. (two-sided) = 0.001.

Table D.4

Respondents' Existing Consideration or Choice on Larger Farm Management Jobs by Intention to Choose

Item/category	Choose	Consider	Not choose	Total
	No. (% of total)	No. (% of total)	No. (% of total)	No. (% of total)
	% within intention	% within intention	% within intention	
Existing consideration or choice in larger farm management				
Yes	29 (7.8) 26.6	21 (5.7) 11.0	2 (0.5) 2.9	52 (14.1)
No	80 (21.6) 73.4	170 (45.7) 89.0	68 (18.4) 97.1	317 (85.9)
Total	109 (29.5)	191 (51.6)	70 (18.9)	370 (100)

Note: Pearson chi-square = 22.962^a, asymp. sig. (two-sided) = 0.000.

Table D.5

Respondents' Farm-related Experience by Intention to Choose

Item/category	Choose	Consider	Not choose	Total
	No. (% of total)	No. (% of total)	No. (% of total)	No. (% of total)
	% within intention	% within intention	% within intention	
Farm-related experiences				
Have	68 (18.1)	111 (29.5)	35 (9.3)	214 (56.9)
	60.7	57.8	48.6	
Have not	44 (11.7)	81 (21.5)	37 (9.8)	162 (43.1)
	39.3	42.2	51.4	
Total	112 (29.8)	192 (51.1)	72 (19.1)	376 (100)

Note: Pearson chi-square = 2.747^a, asymp. sig. (two-sided) = 0.253.

Appendix E: Mean and Rating in Concrete Value Expectations

Table E.1

Rating for each concrete value expectation

Item	Rating	Mean	Std
Personal development	1	2.51	0.627
Autonomy	2	2.39	0.625
Living according to one's own will	3	2.37	0.637
Advancement chance	4	2.36	0.585
High payment	5	2.35	0.597
Personal interest	5	2.35	0.646
Social network	6	2.33	0.641
Stable job	7	2.31	0.669
Training	7	2.31	0.655
Change fate through job	8	2.15	0.697
Altruism	9	2.1	0.673
Close to home	10	2.07	0.737
Social dignity	11	2.06	0.675
Do not lag behind peers	12	2.04	0.683
Developed region	13	2.02	0.73
Company reputation	14	1.96	0.726
Dealing with human beings (rather than animal)	15	1.83	0.759
Lead others	16	1.81	0.754

Table E.2

Rating for Each Value Importance Category in Different Gender

Item	male		female	
	rating	mean	rating	mean
Personal Development	2	2.42	1	2.56
Advancement Chance	4	2.37	6	2.38
Training	8	2.18	5	2.38
Autonomy	3	2.38	3	2.39
Living According to One's Own Will	1	2.44	9	2.34
Lead Others	17	1.92	18	1.75
Altruism	12	2.08	12	2.11
Dignity	11	2.12	14	2.02
Social Network	6	2.29	7	2.36
Close to Home	15	1.98	11	2.12
Developed Region	13	2.04	15	2.00
High Payment	7	2.28	2	2.40
Stable Job	9	2.17	4	2.39
Company Reputation	16	1.96	16	1.97
Personal Interest	5	2.33	8	2.35
Dealing With Human Beings	18	1.77	17	1.86
Change Fate Through Job	10	2.12	10	2.17
Do Not Lag Behind Peers	14	2.01	13	2.06

Table E.3

Rating for Each Value Importance Category in Nanjing Agricultural University and Inner

Mongolia Agricultural University

Item	NAU (n=205)		IAU (n=180)	
	rating	mean	rating	mean
Personal Development	1	2.52	1	2.45
Advancement Chance	3	2.36	9	2.31
Training	9	2.29	8	2.33
Autonomy	2	2.38	3	2.39
Living According to One's Own Will	4	2.35	2	2.40
Lead Others	18	1.75	17	1.89
Altruism	11	2.08	11	2.15
Dignity	13	2.04	14	2.06
Social Network	5	2.35	7	2.34
Close to Home	12	2.05	12	2.13
Developed Region	15	1.98	15	2.03
High Payment	6	2.34	5	2.35
Stable Job	8	2.30	6	2.35
Company Reputation	16	1.95	16	1.96
Personal Interest	7	2.33	4	2.36
Dealing With Human Beings	17	1.82	18	1.85
Change Fate Through Job	10	2.13	10	2.18
Do Not Lag Behind Peers	14	2.03	13	2.11

Appendix F: Frequency and Rating of Perceptions of Larger Farm

Management Jobs, especially Dairy

Table F.1

Frequency of Larger Farm Management Jobs Perception Statements (n = 380)

Statement	Frequency	Per cent
Larger farm management jobs:		
Are equivalent to raising animals or plants	205	54
Have job and career options for university graduates	159	42
Involve mainly dealing with animals	158	41
Are inconvenient because of the remote location	156	41
Involve hard manual work	95	25
Are not appropriate for vocational students' qualifications	74	19
Are not beneficial in finding a boyfriend or girlfriend	69	18

Table F.2

Respondents' Perceptions of the Existence of 18 Values in Larger Farm Management

Jobs (n = 380)

Item	Yes	No	Unsure	All
	No (rank)	No (rank)	No (rank)	No
Training	166 (1)	32 (13)	72 (16)	270
Advancement	128 (2)	45 (14)	98 (14)	271
chance				
Stable job	124 (3)	43 (11)	97 (15)	264
Personal	111 (4)	34 (12)	125 (4)	270
development				
Altruism	111 (4)	55 (7)	108 (11)	274
Lead others	103 (5)	51 (8)	123 (6)	277
Company	100 (6)	49 (9)	121 (7)	270
reputation				
High payment	90 (7)	55 (7)	127 (3)	272
Social network	89 (8)	70 (5)	114 (9)	273
Personal interest	85 (9)	72 (4)	102 (12)	259
Autonomy	84 (10)	85 (3)	100 (13)	269
Deal with humans	83 (11)	72 (4)	113 (10)	268
Not falling behind	80 (12)	45 (10)	147 (1)	259
peers				
Changing fate	74 (13)	64 (6)	132 (2)	270
through job				

Dignity	65 (14)	85 (3)	121 (7)	271
Living according to one's own will	53 (15)	99 (2)	121 (7)	261
Developed region	52 (16)	99 (2)	124 (5)	275
Close to home	47 (17)	106 (1)	116 (8)	269

Appendix G: Exploratory Work on Influencing Factors

Table G.1

Intention and Personal Variables

Selected individual factor variable	Pearson chi-square	Approx. sig.
Personal interest	5.514 ^a	0.239
Personal ability	2.595 ^a	0.628

Table G.2

Intention and Job Attributes Variables (in Expectation)

Item	Pearson chi-square	Approx. sig.
Personal development	7.007 ^a	0.136
Living according to one's will	7.746 ^a	0.101
Autonomy	7.172 ^a	0.127
Social network	7.945 ^a	0.094
Advancement chance	7.192 ^a	0.126
Training	0.958 ^a	0.916
Social dignity	14.218 ^a	0.007**
Stable job	4.972 ^a	0.290
High payment	5.490 ^a	0.241
Developed region	11.853 ^a	0.018*
Close to home	4.980 ^a	0.289
Altruism	1.049 ^a	0.902
Lead others	19.427 ^a	0.001*
Dealing with humans (rather than animals)	10.435 ^a	0.034*
Change fate through job	5.995 ^a	0.199

Note: This table presents the results from cross-tab between different intentions and

respondents' concrete job expectations. *, ** and *** indicate significance at the 10, 5 and 1% levels, respectively.

Table G.2.2

Intention and Job Attributes Variables (in Perceptions of Larger Farm Management Jobs)

Perceptions	Pearson chi-square	Asymp. sig.
Perception of larger farm management jobs		
Equivalent to raising animals or plants	5.744 ^a	0.057
Job and career options for university graduates	8.195 ^a	0.017*
Mainly dealing with animals	1.904 ^a	0.386
Inconvenient because of the remote location	11.228 ^a	0.024*

Involving hard manual work	0.759 ^a	0.684
Vocational school students are sufficiently qualified	4.271 ^a	0.118
Not beneficial in finding a boyfriend or girlfriend	21.565 ^a	0.000***
Perception of the future of Chinese dairy	38.596 ^a	0.000***
Dairy farm management position attractiveness	66.607 ^a	0.000***

Note: This table presents the results from cross-tab between different intentions and

the perception of larger dairy farm management jobs, especially dairy. *, ** and ***

indicate significance at the 10, 5 and 1% levels, respectively.

Table G.2.2a

Perceived Chinese Dairy Future by Intention to Choose

Item/category	Choose	Consider	Not choose	Total
	No. (% of total)	No. (% of total)	No. (% of total)	No. (% of total)
	% within intention	% within intention	% within intention	
Perceived Chinese dairy future				
Very bright	67 (17.9) 60.4	99 (26.4) 51.3	14 (3.7) 19.7	180 (48.0)
Moderate	31 (8.3) 27.9	74 (19.7) 38.3	34 (9.1) 47.9	139 (37.1)
No idea	13 (3.5) 11.7	20 (5.3) 10.4	23 (6.1) 32.4	56 (14.9)
Total	111 (29.6)	193 (51.5)	71 (18.9)	375 (100)

Note: Pearson chi-square = 38.596^a, asymp. sig. (two-sided) = 0.000.

Table G.2.2b

Dairy Farm Management Position Attractiveness by Intention to Choose

Item/category	Choose	Consider	Not choose	Total
	No. (% of total)	No. (% of total)	No. (% of total)	No. (% of total)
	% within intention	% within intention	% within intention	
Dairy farm management position attractiveness				
Attractive	80 (21.4) 72.7	100 (26.7) 52.1	8 (2.1) 11.1	188 (50.3)
Unattractive	30 (8.0) 8.0	92 (24.6) 47.9	64 (17.1) 88.9	186 (49.7)
Total	110 (29.4)	192 (51.3)	72 (19.3)	374 (100)

Note: Pearson chi-square = 66.607^a, asymp. sig. (two-sided) = 0.000.

Table G.3

Intention and Organisational Variables

Organisational variables	Pearson chi-square	Approx. sig.
Company reputation	4.955 ^a	0.292
Expect to take the public servant exam		
Expect to work in a foreign company		

Table G.4

Intention and Proximal Contextual Variables

Proximal contextual variables	Pearson chi-square	Approx. sig.
Parents' ideas	14.833 ^a	0.005
Teachers' suggestion	1.194 ^a	0.879
Peers' comments	0.818 ^a	0.936
Do not lag behind peers	3.393 ^a	0.494
Career support from school	3.574 ^a	0.467

Table G.4.1

Parents' Influence on Job-related Decisions by Intention to Choose

Item/category	Choose	Consider	Not choose	Total
	No. (% of total)	No. (% of total)	No. (% of total)	No. (% of total)
	% within intention	% within intention	% within intention	
Parents' influence on job choice				
Great influence	39 (10.4)	85 (22.6)	43 (11.4)	167 (44.4)
	34.8	44.3	59.7	
Moderate	62 (16.5)	92 (24.5)	20 (5.3)	174 (46.3)
	55.4	47.9	27.8	
Little	11 (2.9)	15 (4.0)	9 (2.4)	35 (9.3)
	9.8	7.8	12.5	
Total	112 (29.8)	192 (51.5)	72 (19.1)	376 (100)

Table G.5

Intention and Societal Contextual Variables

Societal context variable	Pearson chi-square	Approx. sig.
Society's comments on the job	7.401 ^a	0.116
Perceived market demand	1.210 ^a	0.546

Appendix H: Suggestions to Facilitate and Attract University Students to

Choose Larger Dairy Farm Management Jobs

Table H.1

Frequency and Co-efficiencies of Each Suggestion Statement (n = 380)

Measures	Number of respondents	Approx. sig.
Impressive reimbursement	232 (61.1)	0.041*
Internship or development programme	213 (56.1)	.002**
Clear advancement opportunity	181 (47.6)	.301
Management training programme	164 (43.2)	.700
Large company with a solid reputation	161 (42.4)	.503
High market demand	140 (36.8)	0.546
Recommendations from acquaintances or precursors in the field or company	112 (29.5)	0.746
Access to more concrete job information	81 (21.3)	0.843
Nationally owned enterprises	68 (17.9)	0.88*
Foreign enterprises	62 (16.3)	0.103

Table H.2

Cross-tabulation between Different Intention Outcomes and Each Suggestion

Statement

6.2.1			Intention to choose or not			
			Apply	Consider	Not apply	Total
Suggestion: impressive reimbursement	0	Count	48	81	19	148
		% within intention to choose or not	42.9%	41.5%	26.0%	38.9%
		% of total	12.6%	21.3%	5.0%	38.9%
	Yes	Count	64	114	54	232
		% within intention to choose or not	57.1%	58.5%	74.0%	61.1%
		% of total	16.8%	30.0%	14.2%	61.1%
	Total	Count	112	195	73	380
		% within intention to choose or not	100.0%	100.0%	100.0%	100.0%
		% of total	29.5%	51.3%	19.2%	100.0%

6.2.2			Intention to choose or not			
			Apply	Consider	Not apply	Total
Suggestion: internship or development programmes	0	Count	34	93	40	167
		% within intention to choose or not	30.4%	47.7%	54.8%	43.9%
		% of total	8.9%	24.5%	10.5%	43.9%
	Yes	Count	78	102	33	213
		% within intention to choose or not	69.6%	52.3%	45.2%	56.1%
		% of total	20.5%	26.8%	8.7%	56.1%
Total	Count	112	195	73	380	
	% within intention to choose or not	100.0%	100.0%	100.0%	100.0%	
	% of total	29.5%	51.3%	19.2%	100.0%	

6.2.3			Intention to choose or not			
			Apply	Consider	Not apply	Total
Suggestion: national enterprise	0	Count	97	161	54	312
		% within intention to choose or not	86.6%	82.6%	74.0%	82.1%
		% of total	25.5%	42.4%	14.2%	82.1%
	Yes	Count	15	34	19	68
		% within intention to choose or not	13.4%	17.4%	26.0%	17.9%
		% of total	3.9%	8.9%	5.0%	17.9%
	Total	Count	112	195	73	380
		% within intention to choose or not	100.0%	100.0%	100.0%	100.0%
		% of total	29.5%	51.3%	19.2%	100.0%

6.2.4			Intention to choose or not			Total
			Apply	Consider	Not apply	
Suggestion: management trainee programme	0	Count	60	113	43	216
		% within intention to choose or not	53.6%	57.9%	58.9%	56.8%
		% of Total	15.8%	29.7%	11.3%	56.8%
	Yes	Count	52	82	30	164
		% within intention to choose or not	46.4%	42.1%	41.1%	43.2%
		% of Total	13.7%	21.6%	7.9%	43.2%
Total	Count	112	195	73	380	
	% within intention to choose or not	100.0%	100.0%	100.0%	100.0%	
	% of Total	29.5%	51.3%	19.2%	100.0%	

Appendix I: Collinearity Statistics (Dependent Variable: ‘High Payment’)

Table I.1

Collinearity Statistics

Variables in regression model	Original data		Imputed data	
	Tolerance	VIF	Tolerance	VIF
gender	.753	1.328	.779	1.283
high market demand	.734	1.363	.791	1.264
offer more information	.794	1.260	.882	1.133
stable job	.529	1.891	.606	1.651
ethnic group	.656	1.524	.669	1.495
origin	.751	1.331	.778	1.285
plan after graduation	.818	1.223	.857	1.167
major	.638	1.567	.669	1.495
enrolment cause	.778	1.286	.848	1.180
decide career development direction on the first job	.763	1.310	.829	1.206
farm visit, training, working experience	.801	1.249	.785	1.274
considered or chosen to work on larger farm already	.716	1.396	.799	1.251
work field expectation	.722	1.385	.780	1.282
personal development	.495	2.018	.605	1.653
advancement chance	.434	2.303	.517	1.935
training	.596	1.678	.646	1.548
autonomy	.632	1.582	.654	1.529
lead others	.559	1.789	.535	1.868
altruism	.604	1.656	.645	1.551
social dignity	.503	1.986	.515	1.941
social network	.610	1.640	.634	1.577
close to home	.616	1.625	.641	1.560
developed region	.543	1.841	.618	1.618
company reputation	.515	1.942	.528	1.894
personal interest	.669	1.494	.718	1.392
dealing with human beings(rather than animal)	.621	1.610	.635	1.575
change fate through job	.623	1.606	.671	1.490
Do not lag behind peers	.566	1.768	.594	1.684
equivalent to raising animals or plants	.797	1.255	.824	1.214
Involving hard manual work	.842	1.188	.856	1.169
mainly dealing with animals	.868	1.153	.906	1.104
vocational school graduates are qualified enough	.813	1.230	.847	1.181
career options for university graduates	.813	1.230	.837	1.195
not beneficial in finding a boy or girlfriend	.733	1.365	.772	1.296
inconvenient because of remote location	.766	1.305	.779	1.283
attention to current Chinese dairy industry	.545	1.836	.602	1.662
China’s dairy future	.543	1.841	.606	1.649

dairy farm management position attractiveness	.681	1.469	.718	1.392
parents' ideas	.689	1.452	.691	1.448
teachers' suggestion	.539	1.856	.577	1.734
peers' comments	.540	1.853	.557	1.795
career support from school	.664	1.505	.706	1.417

Appendix J: Logistic Regression Model Results

Table J.1

Case Procession Summary

Original data	N	Marginal percentage
Intention to choose	86	29.9%
Consider	144	50.0%
Not choose	58	20.1%
Valid	288	
Missing	92	
Total	380	
Imputed data	N	Marginal percentage
Intention to choose	112	29.5%
Consider	195	51.3%
Not choose	73	19.2%
Valid	380	
Missing	0	
Total	380	

Table J. 2

Model-fitting Information

Data	Model	Model-fitting criteria	Likelihood ratio tests		
		-2 log likelihood	Chi-square	df	Sig
Original data	Intercept only	593.400			.000
	Final	370.002	223.398	84	
Imputed data	Intercept only	774.709			.000
	Final	532.230	242.479	84	

Table J.3

Pseudo R²

Original data	Cox and Snell	0.540
	Nagelkerke	0.618
	Mc Fadden	0.376
Imputed data	Cox and Snell	0.472
	Nagelkerke	0.542
	Mc Fadden	0.313

Table J.4

Multinomial Logistic Results for Larger Farm Management Jobs—Intention of Choose and Not Choose, Compared to Consider (n = 288)

Variable	Choose				Not choose				
	B	Std. error	Sig.		Exp (B)	B	Std. error	Sig.	Exp (B)
Intercept	5.173	2.054	.012	*		-9.239	3.912	.018	*
gender	-.938	.419	.025	*	.391	-.805	.604	.182	.447
origin	-.168	.365	.645		.845	-.101	.588	.863	.904
major Enrolment cause	-.220	.149	.138		.802	.247	.226	.274	1.281
Farm visit, training, working experience considered or chosen to work on larger farm already	-1.020	.407	.012	*	.361	.364	.550	.508	1.439
Have got plan after graduation	-.150	.376	.689		.861	.979	.533	.066	.2.662
Expect to work in agricultural field	-2.276	.600	.000	***	.103	.221	1.384	.873	1.247
Agricultural job payment can reach expectation	.049	.418	.907		1.050	.444	.578	.443	1.558
decide career development direction on the first job	.251	.269	.352		1.285	-.796	.424	.060	.451
Personal development	-.585	.227	.010	*	.557	.629	.365	.085	.1.876
Advancement chance	-.512	.272	.059	.	.599	-.706	.394	.073	.493
Training	.191	.395	.629		1.210	-.918	.560	.101	.399
Autonomy	.252	.414	.543		1.287	.903	.641	.159	2.468
Lead others	-.634	.341	.063	.	.530	-.761	.488	.119	.467
altruism	-.031	.348	.929		.970	1.166	.556	.036	* 3.209
Social dignity	-.069	.311	.824		.933	.299	.447	.503	1.349
Social network	-.855	.358	.017	*	.425	-.422	.486	.385	.656
Close to home	-.427	.357	.232		.652	-.372	.554	.502	.690
Developed region	.709	.339	.036	*	2.032	.426	.526	.418	1.531
High payment	.504	.285	.077	.	1.655	.649	.466	.164	.1.913
Stable job	-.208	.318	.512		.812	1.447	.515	.005	** 4.250
company reputation	-.050	.415	.905		.952	-1.251	.713	.080	* .286
personal interest	.811	.361	.025	*	2.250	-.535	.504	.289	.586
	-.319	.321	.320		.727	-.042	.441	.924	.959
	.224	.327	.493		1.252	-.154	.423	.716	.857

dealing with human beings(rather than animal)	-.159	.286	.578		.853	-.625	.424	.140		.535
change fate through job	.272	.320	.396		1.312	-.568	.467	.224		.567
Do not lag behind peers	.592	.339	.081	.	1.808	1.095	.463	.018	*	2.988
equivalent to raising animals or plants	.505	.374	.177		1.657	-.354	.506	.484		.702
Involving hard manual work	.419	.424	.323		1.521	.233	.622	.708		1.263
mainly dealing with animals	-.009	.358	.980		.991	-.466	.514	.365		.627
vocational school graduates are qualified enough	.116	.504	.818		1.123	-.284	.657	.666		.753
career options for university graduates	.204	.364	.575		1.226	.312	.532	.558		1.366
not beneficial in finding a boy or girlfriend	-.348	.608	.567		.706	1.570	.642	.014	*	4.808
inconvenient because of remote location	-.649	.398	.103		.523	1.016	.581	.081		2.762
China's dairy future	.063	.260	.809		1.065	.433	.365	.235		1.542
dairy farm management position										
attractiveness	-.300	.400	.453		.741	3.597	.796	.000	***	36.495
parents' ideas	-.385	.304	.205		.681	.804	.418	.055	.	2.234
teachers' suggestion	.193	.323	.552		1.212	-.043	.473	.927		.958
peers' comments	.214	.366	.558		1.239	-.748	.513	.145		.474
career support from school	.641	.286	.025	*	1.897	-.327	.396	.409		.721
Access to more concrete job information	.730	.452	.106		2.074	-.298	.675	.659		.742
Market demand	-.040	.416	.923		.961	-.914	.611	.134		.401
Signif. codes: < 0.001 ***, < 0.01 **, < 0.05 *, < 0.1 .										