THE IMPACT OF SOCIAL CAPITAL AND SELF-EFFICACY ON FARMERS' WELL-BEING IN GUIZHOU PROVINCE, CHINA

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DOCTOR OF PHILOSOPHY
UNIVERSITI UTARA MALAYSIA
2025

THE IMPACT OF SOCIAL CAPITAL AND SELF-EFFICACY ON FARMERS' WELL-BEING IN GUIZHOU PROVINCE, CHINA

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A thesis submitted to the Ghazalie Shafie Graduate School of Government in fulfilment of the requirement for the Doctor of Philosophy/Doctor of Management Universiti Utara Malaysia

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(Title of the Thesis) **WELL-BEING IN GUIZHOU PROVINCE, CHINA**

Program Pengajian : **DOCTOR OF PHILOSOPHY (PUBLIC MANAGEMENT)**
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ABSTRACT

The well-being of farmers in Guizhou has consistently ranked among the lowest in China, however it has not received sufficient attention in academic research. In particular, the factors and mechanisms influencing their well-being require greater exploration. This study develops a research framework based on three dimensions of social capital bonding, bridging, and linking as well as self-efficacy, to investigate their impact on farmers' well-being in Guizhou Province, China. Using a second-order model and cross-sectional design, 580 respondents were collected through questionnaires. Data was analysed using SPSS 26 and SmartPLS, with structural equation modeling employed as the statistical method. The results show that bonding social capital (through family support, friends' support, and community support) significantly improves farmers' well-being. Furthermore, linking social capital, facilitated by interactions with formal institutions or organisations, increases trust and engagement, which positively affects farmers' well-being. However, bridging social capital did not demonstrate a significant positive effect on well-being. Additionally, self-efficacy serves as a crucial mediating variable between social capital and well-being, directly improving well-being while also amplifying the positive effects of social capital. These findings fill a gap in the existing literature regarding the interaction between farmers' well-being, social capital, and self-efficacy, providing valuable insights for policymakers and agricultural development organisations. It is crucial to develop strategies that align with the characteristics of different types of social capital and address the specific needs of farmers. For example, improving management transparency and creating a secure information environment are key priorities. While strengthening bonding and linking social capital, it is also essential to explore effective ways to leverage bridging social capital to comprehensively improving farmers' well-being. This study not only extends and strengthens existing knowledge but also provides astronger theoretical and empirical foundation for future research.

Keywords: Farmers' well-being, Farmers' self-efficacy, Social capital, Second-order, Guizhou, China

ABSTRAK

Kesejahteraan petani di Guizhou, secara kosisten berada di tahap yang rendah di China dan kurang mendapat perhatian dalam kajian secara akademik. Khususnya, faktor dan mekanisme yang mempengaruhi kesejahteraan hidup mereka memerlukan penerokaan lanjut. Kajian ini membangunkan kerangka penyelidikan berdasarkan tiga dimensi modal sosial (*bonding, bridging, dan linking),* serta efikasi diri untuk mengkaji impak dimensi terhadap kesejahteraan petani di Wilayah Guizhou, China. Kajian ini mmenggunakan model pesanan kedua dan reka bentuk keratan rentas, Dimana seramai 580 responden yang menjawab soal selidik. Data soal selidik dianalisis menggunakan perisian SPSS Edition 26 dan SmartPLS dimana *structural equation modeling* digunakan sebagai kaedah statistik. Hasil kajian menunjukkan bahawa modal sosial bonding (sokongan keluarga, rakan, dan komuniti) mempunyai hubungan secara signifikan bagi meningkatkan kesejahteraan petani. Selain itu, modal sosial *linking*, dibantu melalui interaksi dengan institusi atau organisasi formal, meningkatkan kepercayaan dan penglibatan yang memberi kesan positif kepada kesejahteraan petani. Walau bagaimanapun, modal sosial *bridging* tidak menunjukkan kesan positif yang signifikan terhadap kesejahteraan. Di samping itu, efikasi diri berfungsi sebagai pemboleh ubah pengantara yang penting antara modal sosial dan kesejahteraan, secara langsung meningkatkan kesejahteraan serta menguatkan kesan positif modal sosial. Penemuan ini mengisi jurang dalam literatur sedia ada mengenai interaksi antara kesejahteraan petani, modal sosial, dan efikasi diri, yang menjadi input penting kepada pembuat dasar dan agensi pembangunan pertanian. Adalah penting untuk membangunkan strategi yang sejajar dengan ciri-ciri pelbagai jenis modal sosial dalam menangani keperluan khusus petani. Sebagai contoh, meningkatkan ketelusan pengurusan dan mewujudkan persekitaran maklumat yang selamat menjadi keutamaan. Walaupun mengukuhkan *bonding* dan *linking* modal sosial, juga penting bagi meneroka cara yang berkesan memanfaatkan modal sosial serta efikasi diri untuk meningkatkan kesejahteraan petani secara keseluruhannya. Kajian ini bukan sahaja memperluas dan memperkukuhkan pengetahuan sedia ada dalam disiplin ilmu, malah turut menyediakan asas teori dan empirikal yang kukuh untuk penyelidikan masa hadapan.

Kata Kunci: Kesejahteraan petani, Efikasi diri petani, Modal sosial, Pesanan kedua, Guizhou, China

ACKNOWLEDGEMENT

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LIST OF ABBREVIATIONS

AIR	Access Information and Resource
BOSC	Bonding Social Capital
BRSC	Bridging Social Capital
CGTN	China Global Television Network
COS	Community Support
ENG	Engagement
FAS	Family Support
FRS	Friends Support
FSE	Farmers' Self-efficacy
FWB	Farmers' Well-being
LKSC	Linking Social Capital
SOD	Social Diversity
SOP	Social Participation
TRU	Trust
UNDP	United Nations Development Programme

CHAPTER 1

INTRODUCTION

1.1 Introduction

This chapter mainly aims to briefly introduce the background of the research topic, explain the reasons for choosing the research topic, and the social or academic significance of the research. Secondly, it clearly lists the core questions and research objectives that this study aims to answer. Research questions should be specific and clear, while research objectives indicate the results the research hopes to achieve. Moreover, it defines the research subject, etc., while explaining the possible limitations faced by the research. Lastly, it discusses the importance of the research, including contributions to the academic field, impact on practice, and possible social benefits.

1.2 Background of the Study

1.2.1 Chinese Agriculture and Farmers

Since ancient times, China has been an agriculture-based nation with a rich and enduring agricultural history. China holds a leading position in agricultural production, consumption, and even trade. Several key statistics demonstrate the significance of Chinese agriculture and the achievements it has made. First, China has successfully resolved the survival needs of its 1.4 billion people (CGTN, 2019). With just 7% of the world's arable land, China manages to feed approximately 20% of the global

population. Among agricultural products, grains remain the dominant crop. According to the National Bureau of Statistics (2023), in 2023, China's grain-sown area reached 178.45 million acres, with a total output of 695.41 million tons.

Moreover, in recent years, advancements in agricultural technology have led to the diversification and improvement of agricultural products, bringing more animal protein and a wider variety of foods to people's tables (National Development and Reform Commission, 2023). For example, the production of crops like rice, potatoes, and vegetables has reached globally leading standards (CGTN, 2019). China has also become deeply integrated into the global agricultural market (Gale et al., 2016). In 2023, China's agricultural exports totaled $98.93 billion, while imports reached $234.11 billion. China now ranks first in agricultural imports, particularly for soybeans and cotton, and fifth in exports, with products like aquatic items, vegetables, and fruits highly favored globally (Xinhuanet, 2024). These figures highlight China's significant role in the global agricultural market.

As one of the most populous and advanced developing countries in the world, China has achieved remarkable and sustained economic growth over the past forty years of reform and opening up, a fact widely acknowledged by international organizations such as the World Bank (World Bank Group, 2019). However, behind this progress lies the significant challenge of improving the well-being of over 500 million farmers. The urban-rural divide has resulted in severe shortcomings in healthcare, education, public services, and social security in rural areas, which has become a critical factor affecting social harmony and stability (Y. Huang et al., 2023; Jia et al., 2023; Ma et al., 2020).

In response to these challenges, the Chinese government has implemented a series of measures aimed at improving agricultural efficiency and increasing farmers' incomes (Wang et al., 2019; Yao & Jiang, 2021), as well as executing targeted poverty alleviation and rural revitalization strategies to enhance rural infrastructure and improve education and healthcare standards (Tang et al., 2022; R. Yang et al., 2022). Nonetheless, rural farmers remain the 'weak link' in China's journey toward achieving 'common prosperity' (Ministry of Agriculture and Rural Affairs of the People's Republic of China, 2022).

Furthermore, farmers' well-being lags behind that of other industries. First, economic returns are unstable. Compared to other sectors, agriculture often yields lower economic returns. Large fluctuations in agricultural product prices, fierce market competition, and uncontrollable factors such as natural disasters make it difficult for farmers' incomes to remain stable (Xie & Wang, 2017; S. Yang et al., 2022). Second, there is a lack of adequate social security and benefits. Farmers often struggle to access the same level of social security and benefits enjoyed by those in other industries. Although the rural social security system has seen continuous improvements in recent years, there remains a significant gap in resources and services—particularly in healthcare, education, and pensions—compared to urban areas. As a result, farmers face insufficient protection and support when dealing with risks such as illness and old age (Deng et al., 2022; Hammersley et al., 2021). Lastly, career development opportunities are limited. The scope for career advancement among farmers is relatively narrow. Due to uneven distribution of educational resources and the constraints of their personal circumstances, farmers often find it difficult to access high-quality vocational training and skill development opportunities. This limits their options and flexibility in career choices (Collett et al., 2009; Stringer et al., 2020).

In conclusion, China's agriculture holds a significant position on the global stage, successfully addressing the food needs of its 1.4 billion population and playing a key role in the international agricultural market. However, despite the remarkable achievements of Chinese agriculture in recent years, rural areas continue to lag behind in terms of infrastructure and social security systems. There remains a significant disparity in income and social status between farmers and urban residents, while agricultural labor faces harsh working conditions and unstable economic returns. The Chinese government has implemented various measures, including targeted poverty alleviation and rural revitalization strategies, to improve the development level of rural areas. Nonetheless, rural farmers remain one of the major challenges in China's pursuit of common prosperity.

1.2.2 Introduction to Guizhou Province

Guizhou Province is located in southwestern China, known for its mountainous terrain and relatively underdeveloped economic conditions. First, the dominance of mountainous and hilly landscapes has resulted in unfavorable agricultural conditions, characterized by fragmented arable land (Chen et al., 2023; Guizhou Local Chronicles Compilation Committee, 2017). Second, there is a notable imbalance between the population and the availability of land, with farmers having limited arable land per capita (Liu & Zhou, 2021; L. Yang et al., 2022). From the perspective of natural environmental factors, Guizhou Province is endowed with a unique geographical landscape. It is the only province in China without plains support, with 92.5% of its land area covered by mountains and hills, of which 61.9% is karst terrain (Lin et al., 2022; Wen et al., 2024). The surface is characterized by fragmented topography, thin soil layers, small and scattered arable land of poor quality, and a sharp conflict between

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population and land availability. This fragile natural environment has affected farmers' agricultural production and livelihood, thereby limiting their well-being (Shahzad et al., 2019; Ying et al., 2023).

From the perspective of government policy factors, two types of policies have contributed to the lagging well-being of farmers in Guizhou. On one hand, China's national urban-rural division policies have implemented different management and development strategies for urban and rural areas. Over time, this has led to significant disparities between the two. For instance, farmers face limited employment opportunities, inadequate rural infrastructure, lower levels of social security, and insufficient educational resources. This has resulted in real injustice and exclusion for farmers (Fan, 2023; Lu, 2012; Zhao & Yu, 2021). On the other hand, since the reform and opening-up period, aside from poverty alleviation efforts, the lack of national macro-strategic support for the economic development of inland provinces has left Guizhou with the lowest level of openness and socioeconomic development in the country (Asian Development Bank, 2012). The per capita GDP of Guizhou Province and its ranking within China are shown in Table 1.1.

Table 1.1

Per Capita GDP and Ranking of Guizhou (2005, 2010, 2015, 2020-2022)

Year	Per Capita Gross Domestic Product (RMB, yuan)	Ranking (countdown)
2005	4,215	1
2010	10,309	1
2015	29,847	3
2020	46,232	4
2021	50,800	4
2022	52,348	4

Source: Guizhou Statistical Yearbook (Guizhou Provincial Bureau of Statistics & National Bureau of Statistics Survey Office in Guizhou, 2005, 2010, 2015, 2020-2022)

Additionally, the poverty situation in Guizhou Province is particularly severe within China. In 1985, Guizhou was home to more than one-tenth of China's population living in absolute poverty, with a poverty rate nearly three times higher than the national average at that time (Guizhou Provincial People's Government, 2021). By 2015, 66 out of Guizhou's 88 counties were officially designated as impoverished by the state. In terms of the number of people living in poverty, Guizhou ranked first in the country, with 4.93 million people in poverty, accounting for 8.77% of the national total (Guizhou Provincial Bureau of Statistics, 2016).

The level of social development and well-being in Guizhou Province has long ranked at the bottom in China (Asian Development Bank, 2012). Recent research shows that in 2020, the well-being of Guizhou residents hit a record low (Jiang et al., 2023). Another study revealed that from 2010 to 2020, the evaluation of farmers in Guizhou ranked 30th out of 31 provinces, municipalities, and autonomous regions in China (Tan et al., 2022).

According to the China National Human Development Report (Special Edition), Guizhou has consistently been one of the regions with the lowest levels of human development in China (United Nations Development Programme (UNDP), 2019). The Human Development Index (HDI), developed by the UNDP, is a comprehensive indicator used to measure the socio-economic development level of a country. The HDI reflects not only a country's economic strength but also considers social factors such as health and education. The HDI value ranges between 0 and 1, with a higher value indicating a higher level of human development (Anand & Sen, 1994). In the China National Human Development Report (Special Edition), the top three rankings were held by the municipalities of Beijing, Shanghai, and Tianjin, while the bottom

three were Guizhou, Yunnan, and Tibet (United Nations Development Programme (UNDP), 2019). The HDI rankings of China's municipalities, provinces, and autonomous regions are shown in Figure 1.1.
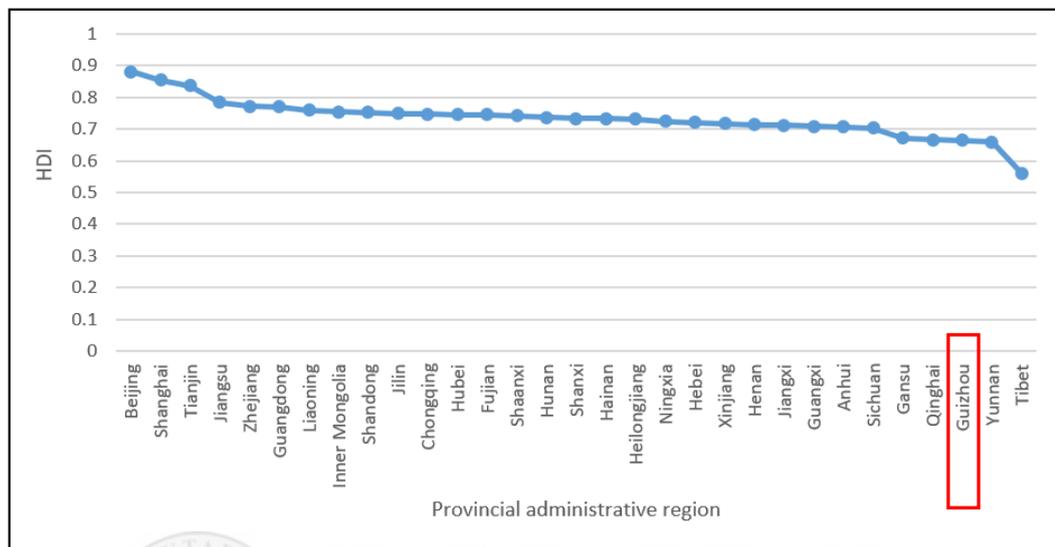
Figure 1.1 Human Development Indexes of Various Provinces in China in 2017

Source: National Human Development Report Special Edition (United Nations Development Programme (UNDP), 2019)

In summary, farmers' well-being in Guizhou Province is among the lowest in the country and requires improvement. Various factors, including government policies, climate change, the natural environment, health, education, and other significant issues, influence their well-being. While each of these factors can be studied, due to constraints in time, resources, and expertise, researchers should focus on specific aspects that are most critical and relevant to community and national well-being. This thesis highlights social capital as a key factor affecting farmers' well-being in China, particularly in the rapidly evolving context of Guizhou Province, as detailed in the problem statement of this study.

1.3 Problem Statement

According to data from China's Seventh National Population Census, in 2020, the rural population of Guizhou Province was 18.0662 million, with a per capita disposable income of 11,642 yuan (around $1630), significantly lower than the national average of 18,931 yuan (around $2650) (Guizhou Provincial Bureau of Statistics & National Bureau of Statistics Survey Office in Guizhou, 2021). This places Guizhou among the provinces with the lowest income levels in China. Government records indicate that Guizhou has long been the province with the largest rural poverty population and the most extensive areas of poverty in China. The region is characterized by its remote location, resource scarcity, ecological degradation, poor transportation, lack of information access, underdeveloped education, and slow economic development, all of which have directly impacted farmers' quality of life and well-being (Guizhou Local Chronicles Compilation Committee, 2017). In 2015, Guizhou still had the largest number of impoverished people in China, totaling 6.23 million, accounting for 8.9% of the nation's poor population (Guizhou Provincial People's Government, 2021). The well-being of farmers in Guizhou remains a severe issue.

Furthermore, due to early Reform and Opening-up policies that prioritized the development of coastal regions, Guizhou, which was already underdeveloped, became one of the least open provinces, posing greater challenges to farmers' well-being (Asian Development Bank, 2012; Sun et al., 2016). Among the five southwestern provinces (Guizhou, Tibet, Chongqing, Sichuan, and Yunnan), the supply of rural public goods in Guizhou is the most concerning (Ji, 2013; Jiang, 2019; Zheng, 2011). The overall social well-being in Guizhou, including that of farmers, ranks at the lowest level in the country (Jiang et al., 2023). According to a study by Tan et al. (2022), which evaluated the level of common prosperity among farmers across China's

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provinces from 2010 to 2020, Guizhou ranked 30th, the second to last. Liu and X. Cheng (2022) investigated the well-being of farmers in Guizhou as a representative sample of western regions and found that the proportion of farmers with negative attitudes was the highest, reaching 23.5%. Moreover, the overall well-being of the elderly (aged 60 and above) in rural Guizhou is lower than in other provinces (Long et al., 2021). Thus, the fact that Guizhou farmers rank among the lowest in well-being in China is a reality that warrants attention and further research.

As indicated in the literature (Becchetti et al., 2023; Liang et al., 2022; J. Zhang et al., 2022; T. Zhang et al., 2022), many factors influence farmers' well-being, such as income, social capital, policies, climate, health, education, and other "noteworthy" elements. This study adopts the perspective of social capital to explore the mechanisms affecting the well-being of farmers in Guizhou Province. First, in 2022, the Guizhou provincial government explicitly emphasized the importance of investing in social capital (Guizhou Provincial Department of Agriculture and Rural Affairs, 2022). Second, some studies have already identified social capital as a significant factor influencing farmers' well-being (Garrett et al., 2017; Moghfeli et al., 2023). Moreover, the "acquaintance society" characteristic of rural Guizhou aligns with the nature of social capital (Wu et al., 2022; Zhai & Huang, 2023). Therefore, in this study, social capital is regarded as a key factor in examining farmers' well-being.

Among the three core dimensions of social capital, bonding social capital has a strong foundation in rural areas (Chien, 2022; Sørensen, 2016). Various rituals, activities, and daily interactions contribute to the familiarity and mutual obligations among farmers, fostering the development of close relationships (Luo, 2022) In Guizhou, farmers rely heavily on close relationships with relatives, intimate partners, and friends, with a

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considerable flow of local agricultural knowledge (Xia, 2011). Secondly, bridging social capital, which is widely believed to help farmers gather external information and position themselves within a broader community network (Zheng et al., 2022). In rural China, farmers with higher levels of bridging social capital can more effectively access agricultural information and market opportunities, which not only helps improve their production efficiency but also enhances their perception of life quality (Deng et al., 2021; Yip et al., 2007). Furthermore, linking social capital, also known as vertical social capital. This type of social capital is typically manifested in connections with formal institutions and authoritative individuals, such as government departments. For a relatively backward area like Guizhou, linking social capital can provide farmers with access to broader resources, information, services, and support, thereby helping to improve their well-being (Deng et al., 2021; Yip et al., 2007).

There is a notable lack of empirical research on the social capital of Guizhou's farmers. Niu (2021) pointed out that underdeveloped rural areas suffer from structural deficiencies in social capital, including insufficient stock, underdevelopment, and imbalances in types of social capital. These deficiencies are reflected in the imbalance between interpersonal trust and organizational trust, conflicts between homogeneous and heterogeneous social networks, and the lack of integration between institutional and relational social capital. Cheng (2020) argued that cultural, linguistic, and religious factors limit the external connections of impoverished populations in western China, resulting in closed social networks. Similarly, Lu (2019) noted that farmers' social circles are small, and language barriers, such as the inability to speak Mandarin, further hinder their ability to enhance social interaction.

The existing research presents several gaps. First, there is a lack of empirical studies with concrete data supporting the structural deficiencies in Guizhou farmers' social capital and quantifying its impact on well-being. Second, there is limited investigating of the hierarchical effects of social capital (such as bonding, bridging, and linking), particularly in terms of how individual farmers contribute to the accumulation of social capital. Third, the literature has not thoroughly analyzed how demographic variables such as gender, age, and education influence the perceived differences in social capital and well-being. This study aims to investigate the impact of different forms of social capital on farmers' well-being in rural Guizhou, as well as the demographic variations in the perception of social capital and well-being, addressing the gaps in existing research.

Moreover, although the relationship between social capital and well-being has been widely examined, the role of self-efficacy as a mediating variable within this relationship has not been fully explored. Existing literature predominantly focuses on variables such as social support, sense of belonging, and psychological safety. However, self-efficacy—as a psychological trait that enhances individual confidence and a sense of control—has not yet been thoroughly validated in this context (Bandura, 1997; Helliwell & Putnam, 2005). Self-efficacy, which reflects an individual's confidence in handling challenges, is considered beneficial for enhancing well-being (Huang & Zhang, 2020; Jerusalem & Schwarzer, 2014).

Research has shown that emotional support and resources provided by social capital significantly promote well-being by enhancing individuals' self-efficacy. Specifically, social support and self-efficacy further increase life satisfaction by fostering optimism (Karademas, 2006), while functional social support can significantly enhance

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psychological well-being through the mediating effects of self-efficacy and self-esteem (Rippon et al., 2022). This mechanism of influence varies across different cultures and groups.

Furthermore, previous studies have confirmed the positive influence of social capital and farmers' self-efficacy on income, stress relief, job satisfaction, and well-being, such as Wuepper and Sauer (2016), who explored the role of social capital and self-efficacy in contract farming, and Walker (2015), who examined the complex relationship between social network density and self-efficacy, this remains an underexplored area. Furthermore, Kumar Pradhan et al. (2021) and Brown et al. (2022) validated the mediating role of self-efficacy in mental health, well-being, and landscape restoration. However, how different forms of social capital (bonding, bridging, and linking) influence self-efficacy and well-being among farmers in relatively underdeveloped regions like Guizhou has yet to be thoroughly investigated. Most of the existing literature focuses on enterprises or more developed areas, leaving a gap in understanding what impact social capital has on self-efficacy and well-being in Guizhou's rural environment.

This study will focus on Guizhou's farmers and conduct empirical research to analyze the accumulation of the three dimensions of social capital—bonding (close internal ties), bridging (diverse external connections), and linking (connections with powerful institutions and individuals)—and examine how these different forms of social capital affect farmers' well-being, with farmers' self-efficacy serving as a mediating variable. The findings will contribute to enhancing farmers' awareness of social capital, self-efficacy and well-being, promoting rural community development, and providing

valuable insights for rural policymakers, especially regarding how to improve farmers' self-efficacy and well-being through the enhancement of social capital.

1.4 Research Questions

Based on the above discussion, this study will conduct empirical research on the factors affecting the well-being of farmers in Guizhou Province, China, with the following main research questions:

(1) What impact does bonding, bridging, and linking social capital have on farmers' well-being in Guizhou Province, China?

(2) What impact does bonding, bridging, and linking social capital have on farmers' self-efficacy in Guizhou Province, China?

(3) Does self-efficacy mediate the relationship between bonding, bridging, and linking social capital and farmers' well-being in Guizhou Province, China?

(4) Are there significant differences between social capital, self-efficacy, and well-being, and the demographic variables of farmers in Guizhou Province, China?

1.5 Research Objectives

Based on the research questions, the main objectives of this study are listed as follows:

(1) To examine the impact of bonding, bridging, and linking social capital on farmers' well-being in Guizhou Province, China.

(2) To investigate the impact of bonding, bridging, and linking social capital on farmers' self-efficacy in Guizhou Province, China.

(3) To determine whether self-efficacy mediates the relationship between bonding, bridging, and linking social capital and farmers' well-being in Guizhou Province, China.

(4) To analyse the significant differences in social capital, self-efficacy, and well-being among the demographic variables of farmers in Guizhou Province, China.、

1.6 Scope of the Study

The subjects of this study are farmers residing in rural areas of Guizhou Province. Compared to some developed provinces, Guizhou still has a relatively high rural population ratio. According to data from China's Seventh National Population Census, the farmer population in Guizhou is 18,066,202, accounting for 46.85% of the province's total population (Guizhou Provincial Bureau of Statistics & National Bureau of Statistics Survey Office in Guizhou, 2021). Guizhou's economic development is relatively lagging, with a slower urbanization process, and many farmers still rely on agriculture for their livelihoods. Due to natural conditions, the distribution of farmers is not uniform. In some plains and river valley areas, such as parts of central and southern Guizhou, due to the flat terrain and abundant water sources, agricultural conditions are better, and farmers are relatively concentrated. In contrast, in some cold mountain areas and deep rocky mountain areas, such as parts of northwestern and northeastern Guizhou, due to steep terrain and inconvenient transportation, the distribution of farmers is relatively scattered and sparse. Moreover, because of the steep terrain, farmland is mostly located in mountain basins, river valleys, and hilly slopes, which limits the scale and continuity of farmland. Therefore, the production mode of farmers in Guizhou Province is mostly characterized by small

household operations and terraced farming (Guizhou Local Chronicles Compilation Committee, 2017).

The main agricultural products in Guizhou include traditional staple crops such as rice, corn, and wheat to meet basic food needs (Li et al., 2023). Furthermore, leveraging the mountainous terrain, economic crops as tea, chili peppers, and medicinal herbs have been developed, especially tea and chili peppers, which have become Guizhou's two major specialty agricultural products (Ministry of Agriculture and Rural Affairs of the People's Republic of China, 2021). Additionally, agricultural products in Guizhou have strong regional characteristics. The agricultural products from different areas present unique features and flavors due to variations in climate and soil conditions. For example, glutinous rice in the southeastern part of Guizhou, citrus in the southwestern region, and potatoes in the northern area all have distinctive regional characteristics, becoming local specialty agricultural products (Guizhou Local Chronicles Compilation Committee, 2017).

Rural cooperatives in Guizhou Province play an important part in the development of rural areas. They play a significant role in providing agricultural consultation, market information, and product sales (Chen & Barcus, 2024). By organizing farmers to participate in technical training and providing agricultural consultation, cooperatives help farmers solve practical production problems. At the same time, cooperatives actively collect market information, offer sales guidance, and help farmers better adapt to market demands. As a former national-level poverty-stricken province, rural cooperatives in Guizhou have played a significant role in poverty alleviation and development. Through the cooperative model, resources are centralized, production optimized, efficiency improved, effectively enhancing the organizational level and

economic income of farmers. However, currently, there are 68,584 rural cooperatives in Guizhou, with 37,439 operating normally, accounting for 54.6%. Compared to more advanced provinces, the development of rural cooperatives in Guizhou still appears somewhat lagging (Qiu, 2020).

The government has adopted various policy measures to support farmers in Guizhou Province, including poverty alleviation and development, agricultural technology extension, agricultural subsidies, and rural infrastructure construction (Liu et al., 2023; Xie et al., 2022). These measures aim to improve farmers' production capabilities, enhance living conditions, and promote rural economic development. The government also encourages farmers to broaden sales channels and increase the added value of agricultural products by participating in agricultural cooperatives and utilizing new technologies and platforms such as the internet.

1.7 Significance of the Study

The significance of this study is discussed from several perspectives, including farmers, rural communities, policymakers, and academic research:

(1) Farmer Perspective

This study analyzes the impact of social capital on farmers' well-being, shedding light on the current status of social capital among farmers and its relationship with well-being. This not only helps to understand the social capital situation of farmers in Guizhou Province but also provides a theoretical foundation for enhancing farmers' well-being. By introducing self-efficacy as a mediating variable, the study confirms the mediating role of self-efficacy between social capital and farmers' well-being,

further enriching the application of self-efficacy theory in rural areas. The findings can provide farmers with clear guidance on how to improve their personal well-being by enhancing social capital and self-efficacy.

(2) Rural Community Perspective

For rural communities, this study helps managers identify the strengths and weaknesses of social capital within communities, providing data support and strategic recommendations for community development. The results will encourage communities to focus more on building social capital, such as promoting mutual support, trust, and information sharing, thereby improving the overall well-being of farmers. Additionally, this study offers practical guidance for designing training programs and activities aimed at strengthening community cohesion and enhancing farmers' sense of self-efficacy.

(3) Policy Maker Perspective

For policymakers, this study has significant practical implications. First, the findings can provide scientific evidence to guide the formulation and implementation of social capital-related policies at the local level. By enhancing farmers' social capital, the government can effectively improve farmers' well-being and promote sustainable rural development. Moreover, this study can optimize government-designed safety campaigns, skills training, and project implementation plans, ensuring the effectiveness and relevance of these policies.

(4) Academic Research Perspective

From a theoretical standpoint, this study expands the application of social capital theory, particularly in the rural context. It not only enriches the research on the relationship between social capital and farmers' well-being but also provides new empirical support for both social capital and self-efficacy theories by introducing self-efficacy as a mediating variable. Especially in the specific context of rural China, this study offers a reference model and practical basis for future research exploring the relationship between social capital and well-being.

In conclusion, this study provides actionable recommendations for farmers, rural communities, and policymakers, while also offering theoretical support and empirical evidence for further research on the relationship between rural social capital and well-being, with important theoretical and practical significance.

1.8 Definition of Key Terms

1.8.1 Social Capital

Social capital refers to the assets embedded within interpersonal relationships among individuals and groups, which can be utilized to generate beneficial outcomes for oneself or society (Lum, 2022). Social capital represents the informal norms that promote cooperation among individuals. In the economic sphere, it can reduce transaction costs; in the political domain, it facilitates the type of joint living necessary to constrain government and for modern democracy. It is also a byproduct of religion, traditions, shared historical experiences, and other types of cultural norms (Fukuyama, 2001). Social capital is a multidimensional concept involving norms, trust, reciprocity, and cooperation within social networks, which collectively foster collaboration and the achievement of common interests among individuals and collectives (Putnam,

2000). These definitions underscore the importance of social capital as an interdisciplinary concept within social sciences, relevant not only to the efficiency of economic activities but also to social cohesion and the quality of democratic governance. The construction and maintenance of social capital are considered key factors in promoting individual and community development.

1.8.2 Bonding

Bonding refers to strong social relationships at the micro-level, characterized by high interaction intensity, emotional support, trust, and shared values among members (Beekman et al., 2009). It emphasizes the connections and networks that bind similar social groups together, often based on deep trust, close contacts, typically informal cooperation, and long-term mutual support. Such connections are crucial for achieving various goals and are considered to have health-promoting effects. However, the impact of bonding social capital on health and well-being can be complex and highly contingent on the specific context in which these relationships occur (Ehsan et al., 2019).

1.8.3 Bridging

Bridging refers to social relationships between different individuals or groups at the micro-level, emphasizing connections across diverse social boundaries that provide a bridge for information flow and resource sharing (Beekman et al., 2009). According to the general definitions of social capital theory, bridging social capital typically refers to the social networks and relationships that connect different social groups, facilitating the flow of information and resources among broader and more diverse social collectives. It highlights connections and cooperation across different social

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groups, helping to link diverse communities, thereby bringing broader resource access and support to individuals and collectives (Ehsan et al., 2019). This classification of social capital emphasizes the connections between individuals and groups of different backgrounds, which may be based on interests, values, identities, or other social attributes, capable of promoting the overall cohesion and functionality of society (Putnam, 2000).

1.8.4 Linking

Linking social capital refers to interpersonal networks and relationships between different social strata or power hierarchies, especially those networks that can improve the well-being of individuals or groups through resources, information, services, and support provided by formal institutions and authoritative individuals. This type of social capital typically manifests in connections with formal institutions and powerful individuals such as government departments, non-governmental organizations, financial institutions, etc. (Beekman et al., 2009). Linking social capital emphasizes vertical social connections, i.e., the connections between individuals or groups of higher social status or with more resources and those of lower status or with fewer resources. These connections facilitate the flow of resources up and down, promote communication and understanding between different social levels, and reduce social barriers and conflicts (Adler & Kwon, 2002).

1.8.5 Farmers' Well-being

Farmers' well-being refers to the level of satisfaction with life and the positive emotions or overall sense of happiness experienced by farmers (Diener et al., 1985). Farmers' well-being is highly subjective and influenced by both internal and external

factors (Ma et al., 2021). Brew et al. (2016) defined farmers' well-being as the state of health and life satisfaction of farmers on physical, psychological, and social levels. Farmers' well-being not only concerns their physical health but also includes their psychological state, quality of life, and their relationships with family, community, and environment. This concept emphasizes that farmers' well-being is a multidimensional concept, covering health, psychological, social, and economic aspects.

1.8.6 Farmers' Self-efficacy

Self-efficacy is the belief in one's ability to accomplish specific tasks, reflecting people's perceptions of their capabilities (Bandura, 1982). Liang and Chen (2021) suggest that farmers' self-efficacy refers to farmers' belief and confidence in their ability to achieve goals while engaging in agricultural activities and managing farms. This concept includes farmers' trust and assessment of their abilities when facing various challenges and changes in agricultural production. The concept highlights the significant role of farmers' self-efficacy in agricultural behavior, decision-making, and resource management, where enhancing farmers' self-efficacy can directly improve their capabilities and likelihood of success in specific domains.

1.9 The Organization of the Study

This study consists of five chapters. The first chapter provides an overview of the research, covering the background, problem statement, research questions, objectives, scope, significance, potential innovations, and the overall framework of the thesis.

Chapter two presents a literature review of the five main variables in this study: social capital as the independent variable (bonding, bridging, and linking) and farmers' well-

being as the dependent variable. It also discusses the mediating role of self-efficacy in the connection between social capital and farmers' well-being. Additionally, this chapter outlines the conceptual framework and theoretical basis derived from the literature review.

The third chapter covers the research methodology adopted in this study. Specifically, it discusses the research population, sample, sampling techniques, pre-test, questionnaire design, content analysis, item data analysis methods, and data collection.

Chapter four provides a descriptive analysis of the research subjects, focusing on empirical results, key findings, and the testing of research hypotheses within the study.

The final chapter discusses the implications of the research findings in terms of their theoretical and practical significance, limitations, future research directions, and conclusions.

1.10 Conclusion

This chapter introduces the study's research background, objectives, and research questions to give readers a comprehensive understanding of the investigation. The research background section explains why the study chose farmers from Guizhou Province as the focus, emphasizing the importance of researching farmers' well-being and the potential role of social capital and self-efficacy in enhancing it. The study's objective is to explore how social capital and self-efficacy impact the well-being of farmers in Guizhou Province, while also addressing gaps in existing research.

In the research questions section, the study outlines four key questions aimed at understanding the interactions between the different dimensions of social capital

(bonding, bridging, and linking) and self-efficacy with farmers' well-being. Additionally, the chapter defines the key terms and concepts used in the study to ensure consistency in understanding. Lastly, the chapter outlines the scope and significance of the study, highlighting its potential value in informing policy, improving farmers' quality of life, and contributing to theoretical knowledge. Through this detailed introduction, the chapter sets a solid foundation for the in-depth theoretical and empirical analysis presented in the following chapters.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter aims to critically review the literature related to the constructs of the study. It begins with a literature review on farmers' well-being, followed by an in-depth analysis of empirical studies on social capital and farmers' self-efficacy. It also infers the connection between social capital, farmers' self-efficacy, and farmers' well-being, and finally proposes the research hypotheses, including the direct effects of social capital on farmers' well-being and the mediating effects of farmers' self-efficacy between social capital and rfarmers' well-being.

2.1.1 Farmers' Well-being Relevant Research

There are multiple pathways to improve farmers' well-being, and Chinese scholars have conducted extensive research on enhancing and promoting farmers' well-being in various domains, including income, rural education, health improvement, policy support, and technology. For instance, Clark et al. (2019) and Nie et al. (2021) emphasized the importance of income in farmers' well-being. Moreover, Liu and Cheng (2022) and Ma et al. (2021) considered education as a crucial pathway for enhancing farmers' well-being, focusing on the current status of rural education, the opportunities for farmers to receive education, and how education could help farmers secure better job opportunities, increase income, and improve living conditions.

Furthermore, Qi et al. (2022) and Ji et al. (2023) explored health and studied the accessibility of rural healthcare services, the health status of farmers, and how improving rural healthcare services could enhance farmers' health and well-being. Additionally, Chinese scholars have analyzed the impact of national agricultural policies on farmers' well-being, involving rural land policies, agricultural subsidies, and rural financial services, and how these policies could help improve farmers' living standards and well-being (Qiu et al., 2021; Su et al., 2023). Lastly, technology has also become a factor studied by researchers concerning farmers' well-being. This includes the application of information technology in agricultural production, precision agriculture technologies, and how these technologies could help farmers increase yield, reduce costs, and improve the quality of life (Dan et al., 2021; Liu et al., 2023; Zheng et al., 2022).

Farmers' well-being is a multifaceted issue, encompassing economic, social, and environmental dimensions. It goes beyond income to include quality of life, working conditions, mental health, and social status. Many scholars have explored this topic. For instance, Hansen and Østerås (2019) in "Preventive Veterinary Medicine" examined the link between farmers' occupational well-being, stress, animal welfare, and farm expansion. Their study found that better occupational well-being and lower stress levels are associated with improved animal welfare. Additionally, Bachke (2019) in "Food Policy" investigated the impact of farmer organization membership on smallholders' well-being in Mozambique, finding that membership positively affects market surplus, agricultural production, and income, highlighting the importance of such organizations in improving farmers' well-being.

Research on farmers' well-being in China is limited, but studies on rural development, farmers' income, and agricultural policies offer indirect insights into the current status and potential improvements. For instance, topics such as returning migrant workers, rural land policy reform, and the development of new agricultural businesses are closely related to farmers' well-being. Peng et al. (2021) found that returning migrant workers to start businesses helps alleviate rural population outflow, boosts economic development, increases farmers' income, and improves their well-being. Additionally, Gan (2024) in Exploration and Reflection on Rural Land System Reform highlighted that reforms like improving rural land circulation and promoting land management rights can enhance farmers' land income and well-being. These studies underscore how national policies can enhance farmers' well-being through implementation.

Farmers' well-being is a multidimensional concept, including economic well-being, social well-being, and psychological well-being (Ayinde et al., 2017). Improving farmers' well-being requires not only increasing farmers' economic income but also improving their quality of life, enhancing their social status, and psychological health. This requires the joint efforts of the government, society, and farmers themselves, through reasonable agricultural policies, social support systems, and farmer education and training measures, to comprehensively enhance farmers' well-being. Therefore, this study will conduct an empirical investigation on farmers' well-being in Guizhou Province and its influencing factors.

In terms of farmers' social capital, the 'Guizhou Province Rural Revitalization Regulations' were promulgated in 2022, explicitly emphasizing the importance of social capital investment, advocating the establishment of multi-channel resource networks and relationships with citizens (Guizhou Provincial Department of

Agriculture and Rural Affairs, 2022). However, research on the impact of social capital, closely linked to the rural 'acquaintance society, ' on farmers' well-being is scarce (De Roest et al., 2018; L. Huang et al., 2023; Ma et al., 2020; Xu et al., 2023). Especially the reflection of the three core dimensions of social capital, namely bonding, bridging, and linking, on farmers' well-being (Australian Bureau of Statistics, 2002; Derose et al., 2009; Rodriguez-Alcalá et al., 2019).

The theory of self-efficacy proposed by Albert Bandura emphasizes the individual's belief in their ability to complete specific tasks as an important psychological mechanism driving individual behavior (Bandura, 2013). Research on self-efficacy has expanded to include multiple fields such as education, health, psychology, and recently, agriculture. For farmers, self-efficacy might encompass their confidence in using new agricultural technologies, adapting to environmental changes, effectively managing farm resources, and achieving agricultural production goals. For instance, research could explore how farmers' self-efficacy beliefs influence their willingness to adopt climate-smart agricultural practices or participate in cooperative farming efforts (Wuepper & Sauer, 2016).

Current literature on the relationship between social capital, self-efficacy, and farmers' well-being is limited, particularly regarding how these factors interact and their impact on farmers' well-being in rural China. Studies like Wuepper and Sauer (2016) examine the role of social capital and self-efficacy in agricultural contract enforcement, but there is little research on how these factors collectively influence farmers' well-being in the rural context. Additionally, most studies focus on economic well-being, with less attention to social and psychological well-being. For example, Pant et al. (2022) explored how social capital and self-efficacy enhance the performance of farmer

producer organizations but did not address their overall impact on farmers' well-being. Moreover, quantifying the interaction between social capital and self-efficacy and analyzing how this interaction affects farmers' well-being remains a challenge. While studies like Davidson and Sanyal (2017) highlight the importance of social capital in agricultural adaptability, research on how improving self-efficacy can enhance farmers' well-being is still lacking.

Overall, this study is a correlational research that examines the relationship between rural social capital and farmers' well-being, which is descriptively reflected through interpersonal networks. By introducing farmers' self-efficacy as a mediating variable, the study further investigates the impact of rural social capital on farmers' well-being.

2.2 Underpinning Theories

This study aims to elucidate the intricate relationship between social capital, self-efficacy, and the well-being of farmers in Guizhou Province, China. To comprehensively describe these variables and their expected interactions, the research employs two principal theories: Social Capital Theory (SCT) as the foundational framework, which is supplemented and further expanded by Conservation of Resources Theory (COR). This dual-theory approach not only provides a robust conceptual foundation but also allows for a deeper understanding of how these constructs interact to influence the well-being of farmers within the specific socio-economic context of rural China.

2.2.1 Social Capital Theory

According to Social Capital Theory, the higher the social capital, the more benefits people gain and the wider the scope. Therefore, the foundational theoretical basis of this study is social capital theory—particularly the bonding, bridging, and linking social capital proposed by Putnam (1993) and Szreter and Woolcock (2004) in this field. Social capital theory investigates how individuals, groups, and organizations benefit from their created environment once they form social networks in which people interact and develop (Luoma-Aho, 2018).

Social capital is a multi-dimensional concept, widely recognized in theory. Putnam (1993) is considered a pioneer in this field, defining social capital as the characteristics of social organizations that foster collaboration and cooperation to achieve common goals, expressed through networks, norms, and social trust. He categorized social capital into two types: bonding and bridging. Bonding social capital refers to social networks connecting homogeneous groups with similar values, such as participation in community organizations or trust among neighbors (Putnam, 2000). Bridging social capital, on the other hand, links individuals and groups from diverse backgrounds and values, facilitating trust among strangers (Putnam, 2000). Szreter and Woolcock (2004) later expanded this by introducing linking capital. The role of social capital in public affairs and its connection to citizens' well-being supported by government has gained increasing significance (Sabet & Khaksar, 2020). These three components—bonding, bridging, and linking—are widely discussed and applied in current social capital research (Elgar et al., 2011).

Social Capital Theory has proven the multiple relationships between social capital as a structure and many variables. It assesses the benefits people derive from their stock

of contact capital (Gannon & Roberts, 2020). This study adopts Putnam's and Szreter and Woolcock's Social Capital Theory conceptual perspective, sufficient to guide the connection and bridging relationship between social capital and well-being, social capital, and self-efficacy; in China, bonding, bridging, and linking social capital determine farmers' well-being and self-efficacy. In other words, this concept serves as the supporting theory for this study to explain the correlation between multiple variables.

Exploring the well-being of Guizhou farmers and using Social Capital Theory as support is because Social Capital Theory provides a powerful analytical framework for understanding and analyzing farmers' well-being. For instance, Jyoti et al. (2023) explored the positive association between social capital and psychological well-being among the elderly, showcasing the significant role of social capital in promoting individual well-being. Additionally, Ahumada et al. (2024) discussed how different dimensions of social capital are associated with self-rated health and psychological well-being, emphasizing the importance of social capital in promoting individual health and well-being. Furthermore, Xu et al. (2023) indicated that social capital is a good predictor of trends in subjective well-being, both within and across nations, hence, enhancing social capital is crucial for improving individual well-being. These studies show that social capital, including dimensions such as interpersonal trust, social networks, and reciprocity norms, significantly impacts enhancing farmers' well-being. Through the lens of social capital, this research can gain a deeper understanding of how farmers' interactions within the community affect their well-being, especially in rural areas like Guizhou. Social Capital Theory provides a powerful tool for analyzing farmers' well-being, helping to identify and formulate strategies for enhancing farmers' well-being.

According to social capital theory, social capital not only directly influences individual behavior and decision-making but also indirectly impacts personal well-being and performance by shaping psychological states and cognitive abilities (Berraies et al., 2020). This study, adopting a social capital theory perspective, positions self-efficacy as a mediating variable, highlighting the mechanisms through which social structures influence individual psychological attitudes and behavioral competencies.

2.2.2 Conservation of Resource Theory

Hobfoll introduced the Conservation of Resources Theory in 1989. Over the past two decades, it has become one of the most widely used and cited theories in organizational behavior research (Halbesleben et al., 2014). Due to its profound exploration of various events and their relationships, it has been adopted by researchers in multiple countries and different fields of study. The Conservation of Resources Stress Theory proposed by Hobfoll (2001) defines individuals' efforts to obtain, retain, protect, and cultivate what they cherish as resources. According to Hobfoll (1989), these personal resources directly impact an individual's well-being. Stress arises when these resources are threatened or destroyed. Morse and Dell (2021) agreed with this perspective, suggesting that resources owned by different individuals should be pooled together to balance and maintain their health.

Conservation of Resources (COR) Theory explains the relationship between resource acquisition and outcomes. For this study, the key variables are social capital (social), self-efficacy (individual), and well-being (resource gain). Since COR involves the acquisition and preservation of resources to achieve future goals (Bardoel et al., 2021; Liu et al., 2020), it effectively explains the interaction among these variables. COR is

a well-established concept in understanding human stress, well-being, and success (Halbesleben et al., 2014), offering a framework for coping with stress and challenges (Holmgreen et al., 2017). Social capital (bonding, bridging, and linking) serves as a vital resource for farmers, helping them build self-efficacy and achieve their well-being goals. Thus, based on COR theory, this study explores how resource acquisition enhances farmers' self-efficacy.

Furthermore, according to Conservation of Resources Theory, farmers develop and protect resources they can use to overcome obstacles and difficulties. These resources are intertwined and interact. They rise or fall together like a chain reaction, in what is referred to as a resource caravan (Stoverink et al., 2020). Assuming that within a set of resources, owning a particular resource might be effective in increasing or decreasing the effectiveness of other resources in the resource set. This suggests that resources are self-reinforcing. Bonding, bridging, and linking social capital are ways to acquire another type of resource (i.e., self-efficacy) to enhance farmers' subjective well-being (Peng et al., 2020). In short, farmers acquire, maintain, and develop their resources or potential resources (social capital) to enhance another type of resource (self-efficacy) to achieve well-being.

Exploring the well-being of Guizhou farmers through the lens of social capital, supported by Conservation of Resources (COR) Theory, offers a framework for understanding how individuals cope with stress and challenges by maintaining and increasing resources to improve their well-being. As Hobfoll et al. (2016) propose in their work on COR theory, individuals face traumatic stress when events threaten essential resources for survival or self-integrity. The theory analyzes resource loss within an ecological framework, showing that the patterns of risk and resilience are

closely tied to family, community, and culture. Applying COR theory to study the well-being of Guizhou farmers helps illustrate how they use social capital as a crucial resource to cope with life's stressors, ultimately enhancing their well-being. From a resource perspective, the theory emphasizes the critical role of social capital in improving farmers' well-being, providing a foundation for developing strategies to strengthen social capital and enhance well-being, particularly in resource-constrained settings.

Furthermore, Hobfoll's (1989) Conservation of Resources (COR) theory emphasizes how individuals strive to protect, build, and accumulate resources when facing stress and challenges to enhance their well-being and health. In COR theory, resources encompass, but are not limited to, personal abilities, social support, self-esteem, and self-efficacy. Newman et al. (2018), referencing COR theory's core principles, underscore the role of resources in human motivation and illustrate how protecting and acquiring new resources can enhance individual well-being and health. Additionally, Newman et al. (2018) confirmed that entrepreneurs positively impact their subjective well-being by developing self-efficacy and resilience through business networks. Thus, by emphasizing the significance of resources and the pivotal role of self-efficacy in resource accumulation and protection, COR theory supports the hypothesis that social capital can indirectly promote individual well-being by strengthening self-efficacy.

2.2.3 Applicability of the Theory

The Social Capital Theory and Conservation of Resources (COR) theory serve as the theoretical foundation of this study, primarily to explain how social capital impacts the self-efficacy and well-being of rural populations. COR theory posits that when

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individuals face stress or challenges, their primary motivation is to protect, build, and accumulate resources to maintain both psychological and material well-being. In rural communities, social capital becomes a crucial resource for farmers through the maintenance and cultivation of social relationships. These resources not only offer material support but, more importantly, provide emotional and social backing, enabling farmers to cope with challenges in both production and daily life. The application of COR theory enhances our understanding of how social capital in rural communities, through resource protection and accumulation, contributes to improved self-efficacy and well-being.

Social Capital Theory examines how personal social relationships and networks can serve as vital resources that influence individual behavior and decision-making. For rural populations, social capital offers significant benefits: bonding social capital provides emotional support, bridging social capital grants access to external resources, and linking social capital facilitates support and resources from formal institutions. Applying Social Capital Theory enables a deeper understanding of how social capital enhances farmers' self-efficacy, ultimately contributing to their well-being.

Compared to other theories, COR Theory and Social Capital Theory better elucidate the mechanisms of social capital and self-efficacy within rural communities. COR Theory emphasizes the importance of protecting and accumulating resources and discusses the role of self-efficacy in safeguarding personal well-being. Meanwhile, Social Capital Theory provides the theoretical foundation to understand how social networks and relationships shape individual behaviors. Integrating these two theories allows this study to comprehensively explore the interactions among social capital,

self-efficacy, and well-being, thereby offering a robust theoretical basis to support these model relationships.

The primary distinctions between COR Theory and Social Capital Theory lie in their theoretical focus. COR Theory emphasizes individuals' need to acquire, utilize, and retain resources, positing that resource loss leads to psychological depletion and reduced well-being, whereas resource acquisition and accumulation enhance one's ability to face life challenges. When applied in this study, COR Theory aids in understanding how farmers leverage social capital as a resource to safeguard their well-being. In contrast, Social Capital Theory centers on how elements like social networks, trust, and reciprocity facilitate cooperation and resource-sharing among individuals. For rural populations, the different dimensions of social capital—such as bonding, bridging, and linking social capital—can significantly influence their self-efficacy and life satisfaction by providing diverse types of resources and support.

Secondly, the sources and methods of resource acquisition differ between the two theories. In COR Theory, resources are broadly defined and can include both material resources (such as financial aid) and psychological resources (such as self-efficacy and a sense of trust). When individuals face external pressures and challenges, they aim to protect and accumulate these resources to strengthen their mental health and well-being. Resource acquisition in COR Theory often relies on intrinsic motivation and active resource management by the individual. In contrast, Social Capital Theory posits that resource access and utilization occur through social relationships. As an external resource, social capital is mainly obtained through expanding networks, community engagement, and social interactions. For farmers, social capital provides

critical resources for agricultural skills, market participation, and community support—resources essential for enhancing their life satisfaction and well-being.

Furthermore, the mechanisms through which self-efficacy operates in each theory differ significantly. COR Theory views self-efficacy as an intrinsic resource that helps individuals cope with stress and prevents resource depletion. It influences farmers' strategies in facing agricultural challenges, while also enhancing their optimism and resilience. The theory emphasizes the psychological regulatory role of self-efficacy, suggesting that strengthening it helps protect resources and improve well-being. In contrast, Social Capital Theory posits that self-efficacy is enhanced by building trust and support within social networks. Bonding social capital offers emotional support, bridging social capital provides access to information and resources, and linking social capital connects farmers to economic and policy support. These external networks indirectly boost self-efficacy, increasing farmers' confidence in agriculture and market participation.

This study adopts both COR Theory and Social Capital Theory because of their complementary perspectives in explaining the relationship between social capital, farmers' self-efficacy, and well-being:

(1) Integrating Internal and External Resources

COR Theory focuses on how individuals protect and accumulate resources when facing stress, while Social Capital Theory emphasizes how individuals access resources through social networks. By combining these theories, this study enables a more comprehensive analysis of how farmers' self-efficacy and well-being are

enhanced through the dual influence of internal psychological resources (such as self-efficacy) and external social support (such as social capital).

(2) Explaining the Multi-level Impact of Self-efficacy

Social Capital Theory helps explain how farmers enhance their self-efficacy through support and trust within social networks, while COR Theory provides insights into how self-efficacy, as an individual psychological resource, can protect well-being when resources are scarce or challenges arise. This dual-theoretical perspective helps reveal the role of self-efficacy as a mediating variable in the relationship between social capital and farmers' well-being.

(3) Guiding Policy and Practice

COR Theory emphasizes the necessity of resource conservation, offering guidance on how rural farmers can more effectively manage resources amid poverty and economic fluctuations. Social Capital Theory supports how rural communities can leverage social networks and strengthen collaboration between villages. This integrated framework not only clarifies the current state of self-efficacy and well-being among rural groups but also provides policymakers with dual intervention strategies based on resource management and social network support to promote sustainable development in rural communities.

In summary, while COR Theory and Social Capital Theory each emphasize different aspects regarding the sources, acquisition methods, and mechanisms by which resources influence individual behavior, they offer complementary perspectives in explaining the impact of social capital on farmers' self-efficacy and well-being. By integrating these two theories, this study provides a comprehensive interpretation of

the relationships among social capital, self-efficacy, and well-being from the dual perspectives of internal psychological resource protection and external social support. This combined approach offers robust theoretical support and empirical evidence for effectively enhancing rural farmers' self-efficacy and quality of life.

2.3 Social Capital

The independent variable in this study is social capital. The concept of social capital is first introduced, followed by a discussion of related research on social capital and its various dimensions. The study then elaborates on and organizes the three types of social capital: bonding, bridging, and linking. Finally, it focuses on and describes the relevant research on social capital related to the farmer.

2.3.1 Social Capital Definition

Social capital was first introduced by the French sociologist Pierre Bourdieu in 1986 as the resources people possess through their networks, which can ultimately be converted into economic capital to strengthen models of economic inequality and material disadvantage (Eloire, 2018). According to Bourdieu (1986), the amount of an individual's social capital depends on the size of the network connections that he can effectively mobilize and utilize, as well as the amount of capital owned by others connected to him. Although social capital has been studied from various perspectives within academia, it is widely believed that the term originated from sociology, reflecting the field's longstanding belief that joining and participating in organizations can bring benefits to individuals and society (Portes, 2000).

Furthermore, sociologists James Coleman and political scientist Robert Putnam emphasized the public good aspect of social capital. According to Coleman's

functional definition, social capital consists of two elements: a component of the social structure and the ability of individuals within that structure to facilitate actions. Afandi et al. (2017) considers Coleman's social capital can be seen as the imprint of personal trust that allows society and its members to function independently of each other, with a degree of trustworthiness existing in interdependent members. Coleman's work laid the groundwork for Putnam's 1993 definition of social capital. He defined social capital as characteristics of social organizations, such as networks, norms, and social trust, that facilitate coordination and cooperation for mutual benefit (Putnam, 1993).

The similarity in these definitions is that they all view social capital as related to interpersonal relationships and the resources these relationships bring (Derose et al., 2009). In other words, social relations are a resource that can be mobilized in times of crisis for one's own sake to obtain benefits (Saroj & Pal, 2020). Table 2.1 provides the definitions and conceptual authors of social capital theory.

Table 2.1
Social Capital Definitions

Author (Year)	Definition
Pierre Bourdieu (1986)	"*the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition*" (Bourdieu, 1986, p.248).
James Coleman (1988)	"*social capital is defined by its function. It is not a single entity but a variety of different entities, with two elements in common: they all consist of some aspect of social structures, and they facilitate certain actions of actors-whether persons or corporate actors-within the structure.* " (Coleman, 1988, p.S98).
Robert Putnam (1993) Robert Putnam (2000)	"*Social capital here refers to features of social organization, such as trust, norms, and networks, that can improve the efficiency of society by facilitating coordinated actions*" (Putnam, 1993, p. 167). "*social capital refers to connections among individuals – social networks and the norms of reciprocity and trustworthiness that arise from them*" (Putnam, 2000, p.19).

Source: Compiled by Author

2.3.2 Social Capital Related Works

The significance of social capital is often explored in discussions on various topics, including health and well-being, economic development and growth, education, career success and development, and community resilience. Existing literature emphasizes social capital as a crucial social resource capable of playing a positive role across multiple domains.

From the perspective of health and well-being research, social capital is often significantly associated with health-related themes. For instance, d'Hombres et al. (2010) found that trust levels are positively correlated with health, while social isolation negatively affects it. However, membership in certain organizations showed ambiguous results regarding health. Similarly, Rezakhani Moghaddam et al. (2014) found significant relationships between mental health and various aspects of social capital, such as family, friends, trust, and safety, except for business communication.

Moreover, Beausaert et al. (2023) conducted a longitudinal study on principals and highlighted the role of social support from colleagues and supervisors, as well as collaboration, in maintaining mental health and overall well-being. Dakua et al. (2023) studied "left-behind" elderly parents in India, showing that strong social capital, including social networks and trust, significantly improves their health.

From the economic perspective, the link between social capital and economic growth has been widely researched. Knack and Keefer (1997) found that trust and civic norms positively correlate with economic growth, with national trust and the rule of law being key components. Thompson and Economics (2018) proposed that social capital affects innovation, which in turn drives economic growth. Mizushima (2021) introduced a

model linking child labor and social capital accumulation, showing that failure to accumulate social capital can create a detrimental economic cycle.

Moreover, the research confirmed that developmental aid aimed at protecting children and strengthening social capital can improve the economy. However, substantial developmental aid provided for projects to strengthen social capital worsened the economic conditions in middle-income countries. Finally, Rahayu et al. (2024) focused on the development of village enterprises by the Indonesian government based on social capital. The study shows that norms, trust, social networks, and infrastructure have a positive impact on the development of government village enterprises. Thus, strengthening social capital aids in the sustainable management of village enterprises. Yet, social capital remains predominantly bonding, with linking and bridging types not sufficiently supporting the effectiveness and prosperity of village enterprises.

From an educational perspective, the relationship between education and social capital highlights both the role of education in building social capital and the importance of social capital in educational outcomes. Amini et al. (2015) found that social capital in child education can be enhanced through interactions within families and communities, emphasizing the role of education in promoting social capital. Furthermore, education impacts individuals' social structures and the educational system, fostering the development of social capital. Apfeld et al. (2022) found that university education strengthens social capital, further demonstrating the positive link between education and social capital. This suggests that higher education not only aids career development but also contributes to the creation of social capital, which is essential for societal well-being and development.

Moreover, Byun et al. (2012), through a nationwide survey of rural high school students, explored the relationship between social capital and the educational aspirations of rural youth. The results indicated that various process characteristics of family and school social capital are important for predicting the educational aspirations of rural youth beyond their sociodemographic background. The study examined the mediating role of the development of social capital on the influence of school leadership. Lastly, Birasnav et al. (2023) analyzed data from 158 principals using structural equation modeling. The findings revealed that learning-oriented school leaders support the development of social capital in schools, and this development of social capital is very useful for enhancing organizational innovation capabilities.

From the perspective of career development and success, the relationship between social capital and career advancement and achievement has become a significant topic of study in organizational behavior and occupational psychology. For example, research by Seibert et al. (2001) found that social capital can act as a predictor of career success, including promotion speed and job satisfaction. Individuals can access critical resources such as knowledge, advice, and recognition within organizations through their social networks, all of which are key components of career success.

Furthermore, a study by Ganiron Jr (2013) focusing on civil engineers investigated the relationship between social capital and career success. The results indicated a positive impact of the social capital invested in the career success of civil engineers. Specifically, networking and professional connections contribute to career advancement. Another predictive factor, mentorship, emerged as the best predictor of career success. Additionally, Richardson et al. (2017) conducted interviews with 73 Australian arts managers and concluded that social capital is vital for both objective

and subjective career success and professional sustainability. Lastly, Järlström et al. (2020), utilizing structural equation modeling on a sample of 624 knowledge workers from the Netherlands, discovered that social capital did not influence the career success of this group.

From the perspective of community resilience, the link between social capital and resilience has become a key focus in disaster management and community development. Nakagawa et al. (2004) highlighted the importance of trust and shared values in fostering community resilience. Trust facilitates open communication and resource sharing, while shared values provide a foundation for collective action in addressing disasters. Aldrich and Meyer (2015) emphasized the role of social capital in enhancing community resilience, noting that strong connections within communities, such as knowing local leaders and collaborating with NGOs, are crucial. Additionally, social capital supports vulnerable groups during crises, helping communities prepare for future challenges.

Additionally, Rayamajhee and Bohara (2021) used structural equation modeling and mediation analysis to examine data from Sindhupalchowk after the 2015 Nepal earthquake. They found that bonding social capital mediates mutual trust and facilitates collective action. Both bonding and bridging/linking social capital also directly impact post-disaster collective efforts. Their study highlights how, even in isolated areas, communities can improve their conditions by mobilizing networks. Additionally, Cheevapattananuwong et al. (2020) explored the role of social capital in community organizations, revealing that a high level of social capital is essential for enabling collective action to protect members' interests. The above contents are tabulated in Table 2.2.

Table 2.2

Compilation of Social Capital Literature

Author	Topic	Dimension	Research Results
d'Hombres et al. (2010)	Health and Well-being	Trust, Membership, Social Isolation	Individual trust levels show a significant positive relationship with health, while social isolation has a significant negative impact on health. On the other hand, the influence of the sub-dimension "organizational membership" is ambiguous, typically showing no significant relationship with health.
Moghaddam et al. (2014)		Social Interaction, Trust and Security, Neighborhood, Friends and Family, Tolerance of Differences, Value of Life, Business Communications	Other sub-dimensions of social capital, aside from business communication, significantly positively impact health.
Beausaert et al. (2023)		Trust in Management, Support from Colleagues External, Supervisor Support, Collaboration	Every sub-dimension is significantly positively correlated with health.
Dakua et al. (2023)		Trust, Social Participation, Friend, Meeting with Friends, Talking with Friends	A wealth of social capital in social networks, trust, and social participation can improve the health conditions of the elderly.
Knack and Keefer (1997)	Economic Development and Growth	Trust, Civic Norms, Memberships	Levels of trust and civic norms are significantly correlated with the economic growth rate of countries. National-level trust and the strength of the rule of law are considered essential components of social capital and have a significant impact on economic growth.
Thompson and economics (2018)			The growth of collective social capital further influences economic growth through the innovation sector.

Table 2.2 (Continued)

Mizushima (2021)	Economic Development and Growth		A failure in accumulating social capital can lead to a vicious economic cycle. In contrast, substantial development aid provided for projects aimed at strengthening social capital can worsen the economic conditions of middle-income countries.
Rahayu et al. (2024)		norms, trust, social networks	Enhancing social capital contributes to sustainable development in village-operated enterprises. However, the effective success and prosperity of village-operated enterprises predominantly rely on bonding social capital.
Amini et al. (2015)	Education		By establishing interactions within families and communities, individuals can enhance the social capital in children's education.
Apfeld et al. (2022)		Within family social capital, Social capital outside of the family	The rate of university admission has increased social capital.
Byun et al. (2012)		Family social capital, School social capital	Family and school social capital significantly positively impact rural youths' educational aspirations.
Birasnav et al. (2023)	Career Success and Development		Controlling leadership showed no significant relationship with internal school social capital in the studies. In contrast, learning-oriented leadership positively influences the development of social capital.
Seibert et al. (2001)		Weak Ties, Structural Holes	Social capital can serve as a predictor of career success.
Ganiron (2013)		mentor, network and professional linkages	On one hand, networking and professional connections contribute to career success. On the other hand, having a mentor is the best predictor of career success.

Table 2.2 (Continued)

Richardson et al. (2017)	Career Success and Development		Social capital is crucial for both objective and subjective career success as well as career sustainability.
Järlström et al. (2020)			Social capital does not have a significant impact on career success.
Nakagawa et al. (2004)	Community Resilience	Networks, Trust, Social norms, Community leader, Collective Action	Communities with social capital exhibit the highest satisfaction with post-disaster planning and achieve the quickest recovery.
Aldrich and Meyer (2015)			Social capital prepares neighborhoods and communities to face future crises.
Rayamajhee and Bohara (2021)		Bonding Social Capital, Bridging Social Capital	Both bonding and bridging/linking social capital directly impact post-disaster collective action.
Cheevapattananuwong et al. (2020)			A high level of social capital is crucial for community members to protect their interests.

Source: Compiled by Author

For farmers, social capital can create opportunities and increase avenues for accessing knowledge and other resources (Thomas et al., 2020). Additionally, social capital features a characteristic that grows gradually with the farmers' investment and utilization (Woolcock, 1998). The enhancement of social capital, in turn, helps improve agricultural production efficiency among farmers, lowers the barriers to resource access, and further improves their quality of life.

In the context of China's "large country, small farmer" situation (Ren et al., 2019), where most farmers have limited means of accessing material resources, relationships of trust, recognition, normative behaviors, and participation in networks among

farmers constitute their social capital (Liang et al., 2015; Peng et al., 2020). Zhang et al. (2024) used data from the China General Social Survey (CGSS2017) to explore the impact of social capital on farmers' subjective well-being. The results indicated that two dimensions of social capital, namely social trust and social networks, have a statistically significant positive impact on farmers' subjective well-being. This effect is especially stronger among farmers in the central and western regions, as well as those with lower incomes. Similarly, Liu et al. (2022) employed an ordered Probit model to empirically analyze the impact of farmers' social capital on subjective well-being, using data from 622 questionnaires in Jiangxi Province, China. The findings revealed a significant positive relationship between social capital and subjective well-being, with a more pronounced effect among the elderly and low-income groups.

In the rural areas of Guizhou province, social capital plays a key role in farmers' lives and production. For instance, L. Chen et al. (2020) highlighted that provinces, including Guizhou, exhibited strong social cohesion and collective action during the COVID-19 pandemic, demonstrating the power of social capital. This enables rapid information dissemination and effective community responses to public health crises. Similarly, Zhao et al. (2024) noted that social capital, by improving information sharing and knowledge dissemination, facilitated the adoption of new agricultural technologies, boosting production efficiency and farmers' income. Furthermore, Du et al. (2017) observed that social capital strengthens community cohesion and mutual support, helping farmers cope with natural disasters and reducing their vulnerability. In areas like Guizhou, where disasters are frequent, this role is particularly significant. Lastly, Zou et al. (2020) emphasized that social capital improves public services and infrastructure in rural areas, such as through enhanced access to medical and educational services, thereby improving farmers' overall quality of life.

For farmers in Guizhou province, the importance of social capital lies in its ability to enhance farmer well-being, thereby positively impacting the sustainable development of rural areas. Social capital, including interpersonal relationships, social networks, shared values, and trust within the community, are key factors that enable rural communities to effectively solve common problems, enhance collective action capabilities, and promote economic growth. Therefore, for farmers in Guizhou province, strengthening the construction of social capital is of great significance for promoting agricultural development, enhancing farmer well-being, and advancing rural sustainable development. Government and all sectors of society should value the role of social capital in rural development and take measures to strengthen the cultivation and utilization of social capital in rural areas.

In this study, farmers' well-being in Guizhou Province is defined as their overall experience in areas such as quality of life, safety, health, social participation, education, and optimism for the future. Enhancing this well-being involves improving living conditions, increasing security, boosting health, providing better educational opportunities, promoting social engagement, and fostering positive expectations for future development.

2.3.3 Dimensions of Social Capital

In early studies, social capital was primarily viewed as a unidimensional concept. In other words, these studies used a single overall indicator, variable, or latent structure to measure social capital. However, as research progressed, social capital showed diversity. Due to different aspects of the study, results varied and had different effects. For example, networks that facilitate the flow of information should promote innovative activities, but ordered norms may limit the generation of new ideas and

undermine the spirit of innovation (Kaasa, 2009). The terms 'structural' and 'cognitive' are often used in social capital research. 'Structural' refers to all aspects of social organization that can be observed externally, such as the density of social networks or patterns of civic engagement. Meanwhile, 'cognitive' is usually used for the shared beliefs and trust between individuals (Adedeji et al., 2021).

Other classifications of social capital include horizontal and vertical networks, strong ties, and weak ties (Granovetter, 1973). These classifications distinguish the strength or closeness of social relations, as well as close networks such as family and friends (strong) or distant networks (weak), providing individuals with various resources, ideas, and information (Woolcock & Narayan, 2000). The former discusses relationships between individuals of equal status and power within the community, while the latter discusses relationships between individuals of different status and power (Bhandari & Yasunobu, 2009).

Despite the disciplinary variations in the application of social capital structures, one of the most commonly adopted classification frameworks is derived from the works of Putnam (2000)and Woolcock and Narayan (2000) to explain three different aspects of the concept and to explain how the bonding, bridging, and linking of social capital operates in various networks, actors, and models. The advantage of the dimensions of bonding, bridging, and linking social capital is that they can differentiate relationships between institutions and decision-makers. These institutions and decision-makers deal with issues such as power, access, and participation, as well as providing information or support in decision-making environments at different levels and scales.

Scholars have differentiated types of social relationships to better understand social capital. For example, Putnam (2000) described bonding social capital as inward-

looking, preserving homogeneous groups and fostering solidarity and specific reciprocity. This type of social capital is characterized by cooperation and trust among network members who share similar social identities. In contrast, bridging social capital involves outward-looking networks that connect individuals from diverse backgrounds. These networks facilitate the flow of information, provide access to external resources, and promote mutual respect, as members acknowledge their differences in social and demographic characteristics.

However, Szreter and Woolcock (2004) argued that besides the two different types of social capital mentioned above, there is a third type of social capital that can cross explicit, formal, or institutionalized gradients of power or authority in society and establish connections, known as linking social capital. Thus, because they also 'link' people to others, connections typically placed in the linking category are termed linking social capital. Studies show that relationships with representatives of formal institutions (such as entrepreneurs, law enforcement officers, bankers, and doctors, i.e., various authorities) will significantly influence people's well-being. Therefore, differentiating the bridging and linking of social capital is very important.

Szreter and Woolcock (2004) explained bonding social capital as trust and cooperation among similar network members, characterized by deep trust, close ties, and long-term reciprocity. Bridging social capital, on the other hand, refers to more dispersed connections, with looser interpersonal relations, weaker ties, and formal cooperation. Lastly, linking social capital involves interactions across diverse social groups, defined by networks of respect and trust that span formal or institutionalized power structures, enabling interactions between groups with differing sociodemographic characteristics.

According to Cofré-Bravo et al. (2019) and Kawamoto and Kim (2019), linking social capital refers to weak ties (Granovetter et al., 1985), enabling individuals to access resources from formal institutions outside the community (such as government agencies, advertising companies, NGOs, banks), such as concepts and knowledge, and to expand networks (Cofré-Bravo et al., 2019; Kawamoto & Kim, 2019). Table 2.3 shows the three subtypes of social capital (bonding, bridging and linking) in terms of location, resource source, Micro/Meso/Macro, type of connection and network nature and the differences in Individual/Group/Organization within each type.

Table 2.3
Three Different Dimensions of Social Capital

Dimension	Geographical Place	Source of Resources	Micro/Meso/Macro	Type of Linkage and Nature of Network	Individual/Group/Organization
Bonding	Bounded geographic area; community/neighbourhood	Inside of network	Micro: community/neighbourhood scope	Horizontal linkages to people with similar backgrounds	Family, Relatives, Neighbours, Close friends
Bridging	Outside the community/neighbourhood	Outside of network	Meso: sub-regional and regional scope	Horizontal linkages to people with different backgrounds	Community, Residents, Local organisations and businesses, Work colleagues
Linking	The regional, state, national, international boundaries	Outside of network	Macro: state, national or international scope	Vertical linkages to institutions and decision makers	Community, Government, Institutions, Organisations, including decision makers and sources of power and resources

Sources: Rydin and Holman (2004)

Therefore, this study uses three types of social capital to examine the impact of social capital on farmers' well-being (bonding, bridging, and linking). However, there is still much uncertainty in the dimensions, measurement methods, and conceptual definitions

of social capital research. It is becoming increasingly apparent that a single indicator cannot fully represent the multifaceted nature of social capital (Harpham et al., 2002; Whitley, 2008). Despite these drawbacks, when considered together, the concept of social capital shows potential to impact well-being (Buck-McFadyen et al., 2019).

2.3.4 Bonding Social Capital

According to Putnam (2000), social capital with inward-looking characteristics tends to strengthen homogenous groups while simultaneously increasing exclusivity, which is precisely what bonding social capital refers to. This is related to concepts like closeness and team cohesion. Essentially, such connections are characterized by group interactions and tighter social networks, which also lead to the exclusion of outsiders (Granovetter, 1973). Bonding social capital emphasizes interactions with community members (Ahn & Davis, 2020), highlighting "horizontal" connections among members with similar backgrounds. A sense of belonging is crucial for the integration of social capital.

Scholars have taken different stands on how bonding social capital works. For example, Antonietti and Boschma (2021)，Cortinovis et al. (2017) and Crescenzi et al. (2015) referred to bonding social capital networks as 'Olsonian group, ' also known as 'distributional coalitions, ' meaning that when group members enrich their members, they also bring disproportionate costs to society. Another viewpoint is that bonding social capital complements bridging social capital, thereby producing favorable social and economic outcomes (Ceci et al., 2020; Woolcock, 2010; Xue et al., 2020). To some extent, establishing social capital bridges and achieving broader benefits.

Strong ties can improve the connection between the desire and ability to provide needed resources within the network, which is highlighted in the bonding social capital of social capital (Coleman, 1988; Ghorbani et al., 2022), and strong ties are also crucial in bonding social capital. Such strong ties can make it easier and more desirable to establish relationships with other members in the network, thereby providing individuals with useful information, resources, and guidance (Ceci et al., 2020; Jeong et al., 2021; Putnam, 2000).

Bonding social capital offers several distinct advantages. First, it significantly supports individual well-being and health. Poortinga (2006) found that personal social support improves self-rated health. Additionally, studies show that community trust is positively linked to self-rated health, indicating that bonding social capital helps enhance collective health. Second, bonding social capital fosters effective resource sharing. Kaminska (2010) found that in some Polish regions, it played a key role in economic development, particularly during crises, by encouraging resource sharing and cooperation, which helped local businesses grow. Furthermore, bonding social capital strengthens community cohesion and support. Aldrich (2017) highlighted its importance in community resilience, aiding recovery and reconstruction in crises such as natural disasters. Finally, by strengthening community ties, bonding social capital enhances social participation and democratic governance. Brisson and Usher (2005) demonstrated that in low-income areas, community stability and resident participation are positively correlated with bonding social capital, emphasizing its role in boosting community engagement and democracy.

The literature on bonding social capital spans various fields, emphasizing the importance of close-knit connections and trust networks within communities.

Widmalm (2005) challenged traditional negative perceptions of bonding social capital, showing its potential benefits for governance and public service improvement in certain contexts. Brisson and Usher (2005) used hierarchical linear modeling to explore how neighborhood characteristics and resident participation impact bonding social capital in low-income communities, highlighting the links between involvement, homeownership, and community stability. Leonard (2004) discussed, using an empirical example from Belfast, how social capital can both strengthen and weaken community networks, demonstrating its role in including or excluding members.

In recent years, interest in bonding social capital has grown significantly. For example, Herrero (2018) studied 400 companies and found that bonding social capital in family firms provides a unique competitive advantage. Williams (2019) conducted a systematic review from 1997 to 2018, confirming that online social networking sites can effectively nurture personal bonding social capital. Moore et al. (2018) explored the impact of bonding social capital on project performance, revealing that while project complexity negatively affects performance, bonding social capital has both direct and moderating effects. Lastly, Simons et al. (2020) found significant positive correlations between bonding social capital and various aspects of elderly well-being, including social, emotional, and psychological health, with loneliness acting as a mediator.

The latest research on bonding social capital underscores the academic community's and public's escalating interest in this form of social capital. Alfano (2022) employed a compelling quasi-experimental approach using data from the European Social Recent studies on bonding social capital highlight its increasing relevance in both academic and public spheres. Alfano (2022) used a quasi-experimental approach with data from

the European Social Survey and Johns Hopkins University to examine COVID-19 compliance, finding that countries with higher bonding social capital had fewer cases. Ghorbani et al. (2022) explored trust networks among rural women in Iran, revealing strong trust within the group and moderate trust outside, indicating high social capital cohesion. Simons et al. (2023) conducted a study on elderly individuals, showing that bonding social capital is negatively correlated with age and loneliness, but positively linked to psychological, social, and emotional well-being. Their findings suggest that fostering bonding social capital in older age should focus on providing opportunities for its acquisition rather than expanding social relationships.

For Chinese farmers, research by W. Wang et al. (2021) indicates that farmers with higher levels of bonding social capital (such as geographic, blood, kinship, etc.) experience a stronger sense of personal well-being. Additionally, Xu et al. (2023) and Luo et al. (2018) shared similar views, attributing this to the fact that farmers live in relatively closed and stable rural homes for long periods, with their primary social interactions occurring among family members and other farmers within the same village. Bonding social capital, such as blood relations and kinship, significantly positively affects farmers' subjective well-being.

Despite the aforementioned advantages, social capital may still have drawbacks due to its dual nature (Andriani & Christoforou, 2016; Muringani et al., 2021). Close ties among members of homogenous groups may limit innovation because they encourage complacency and make members exclusionary to outsiders. This understanding is based on the natural homophily assumption, implying that relationships among people within close social circles are more likely to be stronger than those with individuals outside these circles (McPherson et al., 2001). Therefore, the risk of cultural

overembeddedness needs consideration, which might be associated with the amalgamation of social capital (Amato & Patuelli, 2023; Ceci et al., 2020; Granovetter et al., 1985; Menzies et al., 2020).

Furthermore, according to Muringaniet et al. (2021) and Andriani and Christoforou (2016), empirical research on the impact of bonding social capital still needs clarification. Studies on economic development (Muringani et al., 2021), innovation (Muringani et al., 2021), and regional diversity (Cortinovis et al., 2017) often show a negative correlation. These results raise the question of whether strengthening social capital could harm economic and social progress. Moreover, Muringani et al. (2021) identified an indirect negative impact, where an increase in bonding social capital affects the level of bridging social capital, leading to a decline in bridging social capital levels.

Although bonding social capital is most common, more types of social capital connections might be necessary to achieve expected benefits and development. Although establishing and maintaining bridging and linking is more challenging, it can help advance disadvantaged groups. Therefore, any study attempting to reflect the complex relationships among individuals and how these connections can be useful must include other types of social capital.

In the geographical context of this paper, which focuses on rural areas of Guizhou Province, the bonding social capital of farmers in Guizhou can be defined as the close, inward-looking social networks and relationships formed based on family ties, kinship, and geographical proximity. This type of social capital is characterized by deep trust, shared values and culture, and a strong sense of belonging among members within the social capital network.

2.3.5 Bridging Social Capital

According to Antonietti and Boschma (2021), Appau et al. (2019), Luoma-Aho (2018), Ceci et al. (2020) and Moghfeli et al. (2023), bridging social capital is characterized by its outward-looking nature and is described as an open and unrestricted network that connects various groups. These networks are often referred to as Putnam groups, based on Putnam's (1993) assertion that participation in civic or volunteer organizations (such as educational and cultural groups) generates favorable social and economic outcomes. Bridging social capital can promote economic growth through various direct and indirect activities (Bjørnskov, 2006). Connections between different organizations expand the scope of information sources, encouraging creativity (Ceci et al., 2020), entrepreneurship (Hidalgo et al., 2024), and innovation (Annamalah et al., 2023).

Ceci et al. (2020) argue that bridging social capital emphasizes the strategic importance of weak ties (Granovetter, 1973) and structural holes (Burt, 2018). According to Granovetter (1973), businesses can acquire unique information through occasional or temporary contacts, and tight networks do not necessarily provide the best conditions for innovation, limiting business development. Granovetter (1973) used "bridges" to describe how weak ties establish bridges between participants in a social environment. The fragile nature of bridging relationships makes communication easier, encouraging the flow of positive information and resources Granovetter (1973). According to Burt's (2018) structural holes hypothesis, characterized by a lack of direct connections between the network contacts of focal participants, businesses can timely access and control external resources by contacting other participants without direct relationships (Burt, 2018).

Furthermore, scholars believe that due to the expansive nature of bridging social capital, it may help people and communities access more types of resources, such as capital, technology, services, and data. In other words, if considering impoverished populations, bonding social capital can help this group 'survive' in life, similar to solving basic survival issues, while bridging social capital can enable them to 'stand out' as they gain more resources and achieve higher levels of living and development (Putnam, 2000; Szreter & Woolcock, 2004). Additionally, many believe that establishing social capital by creating an inclusive and outward-looking environment and balancing the exclusivity and inwardness of networks is possible (Putnam, 2000).

It is widely believed that bridging social capital will be beneficial for various outcomes for individuals and society as a whole (Lo & Fan, 2020). However, establishing, maintaining, and developing bridging social capital is costly (Arnott et al., 2021). One reason is that bridging social capital involves connections between people from different social groups or backgrounds, requiring a higher level of trust and understanding, as well as respect for and adaptation to different cultures, values, and behavioral patterns (Woolcock, 1998). Another reason is that establishing bridging social capital usually demands more time and effort, as well as more complex communication and coordination mechanisms, because it involves a broader and more diverse set of stakeholders (Derose & Varda, 2009). Moreover, maintaining and developing bridging social capital requires continuous resource investment, such as training, information exchange, and event organization, to ensure that connections between different groups can not only be established but also continue to function effectively.

The literature on bridging social capital highlights its role in connecting diverse groups and facilitating resource sharing, with applications spanning from international business to community development. For example, Leonard (2004) examined how political conflict in Belfast fostered bonding social capital within a Catholic community, while the peace process enabled the strengthening of bridging social capital. Similarly, Beugelsduk and Smolders (2003) found that bridging social capital tends to produce more positive external effects compared to bonding social capital, based on European Values Study data. Fung et al. (2003) explored how bridging social capital supports transnational investment, using Japan's direct investment in China as a case study, demonstrating its role in promoting economic cooperation and cultural exchange. Additionally, O'Brien et al. (2005) analyzed how indigenous bonding and bridging social capital can address economic development and global inequality, identifying strategies for leveraging indigenous social capital to enhance bridging features.
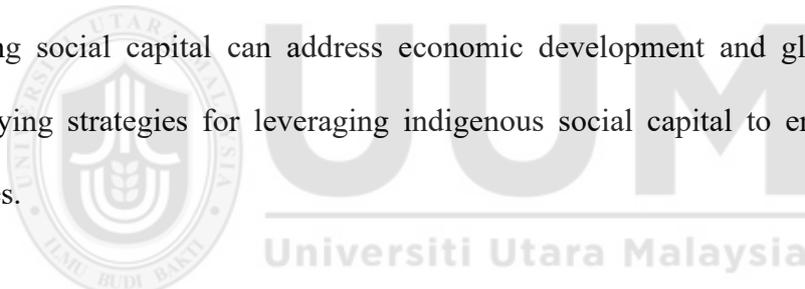
Subsequently, numerous studies on bridging social capital have emerged. For example, Liu et al. (2016) conducted a meta-analysis to assess the relationship between the use of social networking sites and two types of social capital (bridging and bonding social capital). The results showed a moderate to strong positive correlation between social networking site use and bridging social capital. The study highlighted the potential of social networking sites to strengthen existing relationships, which is particularly important for the development of bridging social capital. Additionally, Baylis et al. (2018) explored the impact of bonding and bridging social capital on the management of common resources. They found that bridging social capital, under certain conditions (such as household poverty levels and resource quality), had a mixed effect on improving resource management.

Furthermore, Kamphuis et al. (2019) used cross-sectional data analysis to investigate the relationship between bridging social capital, health behaviors, and issues like overweight and obesity. Their study revealed that the relationship between bridging social capital and health behaviors and weight status varied across different educational groups, suggesting that bridging social capital could play a significant role in public health and reducing social inequalities. Finally, Kim and Cho (2016) examined the potential impact of geographic bridging social capital on the health of people living in poor urban neighborhoods. Their research found that while both bridging and bonding social capital were positively correlated with self-reported health status, only bridging social capital was significantly associated with increased opportunities for better health. This underscores the importance of bridging social capital in promoting health and social inclusion.

Recent research on bridging social capital has illuminated its application and impact across various fields. For instance, Surucu-Balci and Balci (2023) explored how Facebook posts could assist cruise companies in establishing both bridging and bonding social capital. The study utilized the CHAID method to identify which types of posts contribute to the formation of bridging social capital. Furthermore, Moghfeli et al. (2023) utilized social network analysis to examine the roles of social capital and leadership in enhancing the adaptability of pistachio farmers in rural Iranian communities. The findings indicated an absence of significant bridging links among all cooperative connections, revealing a preference for bonding links and suggesting a scarcity of bridging social capital in the three villages under study.

Moreover, Rusmawati et al. (2023) demonstrated that both bonding and bridging social capital positively affect food security, with bridging social capital having a more

significant impact on food security. Lastly, Tuominen et al. (2023) investigated the factors influencing the development of social capital among immigrants in new countries. Based on survey data from Finland (n=5,247) and employing multinomial logistic regression analysis for groups with high and low levels of education, the study explored how immigrants with varying educational levels construct social capital through different background factors. It was found that individuals in the higher education group were more likely to possess abundant bridging social capital, whereas the number of individuals with scarce social capital was more than twice the number of those with abundant social capital among the lower education group.

In the context of rural China, the development of bridging social capital also faces certain challenges. Xia (2014), based on field surveys in 140 Chinese villages, found that although bridging social capital is forming in Chinese villages, its current stock is very limited. Wang (2022) also argued that the relationship between bridging social capital and factors such as social participation or trust is not significant. According to his research, the rural revitalization strategy has played an important role in promoting common prosperity, but there are still challenges in enhancing the social capital of rural communities. Despite the rural revitalization strategy's aim to promote resilient development through economic-social policies, its direct relevance to aspects such as social participation and social trust remains unclear. Gong et al. (2018) assessed their role in farmers' decision-making on climate change adaptation strategies through technology adoption. There was no significant positive correlation between bridging social capital and their adaptation decisions. Bridging social capital occupies a limited position in farmers' informal social relations and is not a significant channel for generating social connections. As Muringani et al. (2021) pointed out that research on

the relationship between bridging and linking social capital is still lacking and requires more evidence.

In this study, within the specific rural context of Guizhou Province, bridging social capital is defined as the networks and relationships that connect farmers with individuals and groups outside their immediate community, facilitating access to diverse resources, information, and opportunities. Bridging social capital extends beyond family and close community ties to encompass a broader range of social groups, organizations, and institutions that differ in their social, economic, and cultural backgrounds. For farmers in Guizhou, this type of social capital is crucial as it provides access to a wider social network offering new insights, practices, and agricultural innovations, as well as access to markets and other opportunities.

2.3.6 Linking Social Capital

Linking social capital is the third category, describing the relationships between individuals from different social classes and those in power (Firth et al., 2011). This category aims to distinguish itself from bonding and bridging social capital (Christensen et al., 2019) by examining trust or distrust between those in formal organizations and government. It delineates the relationships among insiders, non-governmental organizations, and other external groups (Khalil et al., 2021). Linking social capital connects people and groups with those of utterly different scales of capital or power, allowing impoverished and underdeveloped communities to see the value of linking social capital in transporting resources (Bertotti et al., 2012; İzmen & Üçdoğruk Gürel, 2020; Szreter & Woolcock, 2004). It can reduce exclusion issues and help vulnerable groups improve their lives.

Linking social capital is an independent form of social capital, mainly referring to the respect and trust established between individuals and organizations or those with power or authority (Szreter & Woolcock, 2004). Studies have shown that the well-being of vulnerable groups is severely impacted by the lack of linking social capital, such as contacts with law enforcement, social workers, or healthcare providers (Woolcock & Narayan, 2000). However, due to its heterogeneity, particularly for poor populations outside social power systems, developing linking social capital tends to be more challenging than bonding and bridging (Arnott et al., 2021).

Linking social capital emphasizes the vertical dimension of heterogeneity, i.e., the extent to which people establish contacts with relatively powerful institutions and individuals by providing resources, work, or services (Szreter & Woolcock, 2004). Although linking and bridging social capital both have outward characteristics, the distinction between linking social capital and bridging social capital lies in the inequality of power among partners being a prominent feature of linking. Linking social capital fosters vertical contacts between actors of different influences. Linking social capital is the weakest relationship, but it often yields the most beneficial results because it provides access to institutions and power structures (Arnott et al., 2021; Claridge, 2018). As trust grows over time among participants in power interactions, the connections of linking social capital increase (Schneider, 2006).

Although linking social capital is crucial, it has not been as extensively studied as the other two types of social capital, i.e., bonding and bridging social capital (Nunez, 2016). Most research on social networks and economic well-being focuses on bonding and bridging social capital, while the importance of linking social capital is downplayed. However, establishing social capital connections between individuals

and networks representing institutions is vital for allowing poor populations to access more resources and escape poverty (İzmen & Üçdoğruk Gürel, 2020). Furthermore, most empirical studies on how social capital affects economic outcomes have been conducted in industrialized countries. Empirical research on the potential impact of linking social capital on economic growth is still in its infancy (İZMEN, 2018). A few studies indicate that social and political systems are crucial to the well-being of people in emerging countries (Bartolini & Sarracino, 2015; Titeca & Vervisch, 2008).

The literature on linking social capital covers diverse fields such as public health, community development, and entrepreneurship. For example, Sundquist et al. (2007) found that lower levels of linking social capital in Swedish neighborhoods were linked to poorer self-rated health, even after controlling for personal factors. This highlights the connection between linking social capital and health outcomes. Kilpatrick et al. (2003) expanded on social capital's role in community development and lifelong learning, emphasizing the importance of linking social capital in understanding community dynamics and educational efforts. Cope et al. (2007) examined linking social capital in entrepreneurship, noting that networking relationships significantly enhance business development and economic growth. Finally, Titeca and Vervisch (2008) pointed out that while linking social capital can foster growth, it may also have negative effects on organizations and governance without support from bonding and bridging social capital.

Subsequent research on linking social capital has extended to areas such as agricultural development, health promotion, social work, and financial stability. For example, Taruvinga et al. (2017) studied 205 farmers involved in sweet potato, medicinal plant, and African leafy vegetable projects, highlighting how linking social capital provides

opportunities for farmers to access tools, inputs, and training. They also suggested strategies to strengthen linking social capital, such as sharing project visions and engaging beneficiaries in decision-making. Additionally, Barker and Thomson (2015) analyzed 80 parents' perceptions of helpful relationships with service providers, viewing these relationships as trust-building with formal institutions, thus constituting linking social capital.

Furthermore, Jin et al. (2017) explored the connection between social capital and banking stability, finding that banks in areas with higher social capital were less likely to experience failures or financial distress during the 2007-2010 financial crisis. Social capital was also positively correlated with transparency and conservatism, and negatively correlated with excessive risk-taking. Finally, Guribye (2018) examined the role of linking social capital in co-creating social well-being in Nordic countries, particularly through collaboration between municipalities and civil society, with a qualitative case study from Norway.

The latest research and applications on linking social capital continue to demonstrate sustained interest in this form of social capital. For instance, Termeer et al. (2022), through a linear regression model analysis of 385 households, explored the relationship between linking social capital and food security. The findings indicated that indicators of linking social capital, such as cultural diversity and trust in community leaders, had a positive impact on food security. Moreover, Nazuri et al. (2023) unveiled the effects of linking social capital on participants in urban agriculture initiatives, especially in Malaysia. The study showed that linking social capital plays a crucial role in enhancing the positive outcomes of economic empowerment programs. Establishing robust social

connections and collaborations within the community is essential for effectively promoting economic empowerment.

In rural areas of China, linking social capital presents a complex scenario of opportunities and challenges in promoting rural development and individual well-being. The study by Zhang and Jiang (2019) affirmed the positive impact of linking social capital on mental health across rural and urban China and globally, particularly measured through political participation and efficacy. Another study focusing on rural revitalization in Chengdu indicated that social capital, when combined with government intervention and other forms of capital, could drive rural revitalization (Wu & Liu, 2020). On the other hand, linking social capital faces challenges in rural China. For instance, in the ecological migration policy implemented by Qiao and Lei (2015) in the Ningxia Hui Autonomous Region, the overall age structure of the migration village was increasing, but many policies were not effectively implemented, and the situation in the migration village needed improvement.

Few studies have used linking social capital to analyze developing countries, whereas research on affluent countries suggests that linking and bridging social capital contributes to economic growth. This research has drawn attention to its shortcomings. Nonetheless, linking social capital is the least reviewed subfield of social capital research. This gap in the literature must be emphasized because the relationships between public members and those in power are crucial for economic growth, especially in a fragmented society. İzmen and Üçdoğruk Gürel (2020) argued that linking social capital is the most promising type of social capital to investigate how the political environment affects development challenges.

In this study, linking social capital among farmers in Guizhou is defined as the relationships and networks established between farmers and individuals or organizations with distinctive social, economic, and political status, characterized by power dynamics. Linking social capital emphasizes vertical social relations, typically spanning various societal levels, including interactions with government agencies, non-governmental organizations, businesses, and other authoritative bodies.

2.3.7 Social Capital in Farmer's Research

Currently, some studies focus on social capital as a research variable to explore its impact on farmers. For instance, Xu et al. (2018) examined the role of social capital among 156 farmers in 54 vegetable cooperatives in Hebei and Zhejiang provinces of China. The study found that bonding social capital positively affects the economic benefits of cooperative members, while bridging social capital, although producing positive outcomes for the cooperative's financial and social performance, has a negative impact on the income of ordinary members. This research highlights the different roles of bonding and bridging social capital within agricultural cooperatives. The positive effect of bonding social capital on members' economic benefits contrasts with the potential negative impact of bridging social capital on ordinary members' incomes, reflecting the double-edged nature of social capital where internal cohesion may, to some extent, limit external opportunities.

Furthermore, Sambas and Lawang (2023) discussed the development of social capital among farmer groups engaged in urban agriculture, particularly emphasizing how bonding social capital forms among farmers and how connections with consumers are established. This study reveals the formation of bonding social capital in an urban agricultural setting and highlights its importance in establishing links between farmer

groups and consumers. This research showcases the potential of social capital in promoting direct market contacts in modern urban agriculture.

Moreover, Silvert et al. (2022) clarified how social capital within farmers' communication systems is utilized, particularly how bonding social capital crucially supports social cohesion while potentially leading to resistance against external actors and networks. This study explores the role of social capital in farmers' communication systems, especially how bonding social capital fosters community cohesion but may also hinder external cooperation. This finding suggests that while internal social capital can strengthen group identity, it may also lead to exclusivity and conservatism.

In addition, Kaminska (2010) examined the impact of bonding social capital within the local production systems of the Łodž region in Poland. The research identified that while bonding social capital played a constructive role in initial economic growth, it subsequently inhibited cooperative behaviors and learning capabilities. This study demonstrates that although bonding social capital can initially promote economic expansion, it may later restrict opportunities for cooperation and learning, highlighting the long-term challenges posed by the dynamic evolution of social capital.

Lastly, Cofré-Bravo et al. (2019) conducted a case study on fruit farms in Chile to explore how farmers utilize bonding, bridging, and linking social capital to innovate on their farms. The research showed that farmers employ all types of social capital to configure their support networks, though each configuration varies. This case study investigated how various forms of social capital are used to foster innovation on farms. The findings indicate that while all forms of social capital are utilized, the specific ways they are applied differ by location, showcasing the adaptability of social capital in practical applications.

Lu et al. (2014) developed an income pathway model to investigate the mechanisms through which social capital impacts farmers' incomes, discovering a significant positive overall effect of social capital on farmers' earnings. This research underscores how elements of social capital, such as social networks, mutual trust, and cooperation, can enhance the economic well-being of farmers. This study provides empirical support for understanding the role of social capital in rural economies and underscores the importance of strengthening social capital among farmers.

Additionally, Munasib and Jordan (2011) examined how community engagement influences farmers' decisions to adopt sustainable agricultural practices in Georgia, USA, finding that community participation positively impacts the adoption and implementation of these practices. The study highlights how community engagement facilitates farmers' choices regarding sustainable agricultural practices, underscoring the role of social capital in environmental sustainability and the modernization of agriculture. This research emphasizes the need for enhancing communication and cooperation within communities to promote broader adoption of sustainable agricultural technologies and methods.

Furthermore, S. Zhang et al. (2023) explored the impact of land reclamation on farmers' social capital using data from 1,240 farmer surveys. They found that land reclamation significantly enhances farmers' social networks, trust, and norms, which are critical components of social capital. This study highlights the potential value of land management policies and practices in enhancing farmers' social capital, which could in turn improve their social and economic well-being.

Finally, Arsal et al. (2020) conducted structured interviews with 120 corn farmers in South Sulawesi Province and found that while the dimensions of social capital—trust,

social networks, and norms—had a positive influence on farmers' income, the impact was not statistically significant. Their study explored how different dimensions of social capital affect farmers' income, providing insights into the role of social capital in a specific agricultural context, even though the positive effects on income were not pronounced.

Existing literature extensively explores the role of social capital in farmers' income, quality of life, and agricultural practices, demonstrating its multidimensional impact in agricultural communities. However, there are still certain limitations and gaps in the current research regarding the research subjects, types of social capital, and the dimensions of its effects. These limitations are specifically reflected in the following aspects:

(1) Limitations in Research Subjects and Contexts

Geographical Scope Limitations: Existing studies have predominantly focused on specific countries and regions, such as agricultural cooperatives in China (Xu et al., 2018), local production systems in Poland (Kaminska, 2010), and fruit farms in Chile (Cofré-Bravo et al., 2019). While these studies have shed light on the role of social capital in various agricultural communities, their geographical and cultural contexts are relatively limited. Focusing on farmers in China's Guizhou Province offers a valuable empirical case to further explore the impact of social capital on farmers' well-being and to validate the relationship between social capital and rural prosperity in a unique context.

Depth and Diversity of Participation: Research has shown that participation can facilitate the adoption of sustainable agricultural practices by farmers (Munasib &

Jordan, 2011). However, there is a lack of detailed exploration regarding how different forms of participation contribute to the accumulation of social capital. For instance, the impacts of cooperative involvement, social activities, and other participatory behaviors on farmers' welfare remain underexamined. This is particularly relevant from the perspectives of Social Diversity, Access to Information and Resources, and Social Participation, as these dimensions reflect the benefits derived from interacting with social resources across diverse backgrounds.

(2) The Diversity of Social Capital Types and Their Varied Effects

Differentiated Effects of Bonding and Bridging Social Capital: Numerous studies have explored the distinct roles of bonding and bridging social capital, highlighting the positive impact of bonding social capital on community cohesion and economic welfare (Coleman, 1988; Putnam, 2000). In contrast, bridging social capital has been shown to excel in expanding access to external resources and fostering innovation (Granovetter, 1973). However, some studies suggest that bridging social capital may have adverse effects on the income of ordinary members (Xu et al., 2018), illustrating the double-edged nature of social capital. This research differentiates bonding and bridging social capital into distinct subdimensions, offering a more in-depth exploration of their respective impacts on farmers' well-being.

Potential and Application of Linking Social Capital: Linking social capital is recognized as a critical mechanism for enabling disadvantaged groups to access governmental resources and services (Szreter & Woolcock, 2004). Nevertheless, research on its application in rural agricultural development remains limited. This study seeks to further investigate how government support and policy initiatives can

strengthen linking social capital, enabling farmers to secure greater access to public resources and thereby enhancing their economic and social well-being.

(3) Specification of the Mechanisms of Social Capital's Impact

Limitations of the Income Pathway Model: Although Lu et al. (2014) used an income pathway model to uncover the mechanisms by which social capital influences farmers' income, this model may fall short in explaining the multidimensional relationship between complex social capital and economic welfare. This study aims to go beyond merely discussing the impact on farmers' income, providing a more comprehensive analysis of how different dimensions of social capital collectively influence farmers' well-being.

The Relationship Between Social Capital, Psychological States, and Behavior: Existing research has primarily focused on the impact of social capital on economic indicators, with relatively little attention paid to its influence on farmers' behavior and well-being through psychological mechanisms such as self-efficacy (Walker, 2015). This study integrates social capital and psychological factors to examine how social capital enhances farmers' self-efficacy or sense of well-being, thereby further promoting their economic and social well-being.

Overall, existing research has demonstrated the positive role of social capital in enhancing farmers' income, promoting agricultural innovation, and improving quality of life. However, its limitations lie in the narrow focus on specific study populations, insufficient differentiation of social capital types, and limited exploration of its mechanisms of impact. This study, focused on farmers in Guizhou Province, will provide an additional empirical case to expand the geographical scope of current

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research. Furthermore, it will refine the classification of social capital types and their differential effects, while delving deeper into the underlying mechanisms, to offer a more comprehensive understanding of how social capital influences farmers' well-being.

2.4 Farmers' Well-being

The dependent variable in this study is farmers' well-being. First, the concept of well-being is introduced, followed by a discussion of its measurement. Finally, the study focuses on and highlights the importance of well-being for the farming community. A detailed explanation is provided below.

2.4.1 Well-being Definition

The concept, purpose, and importance of well-being have been widely discussed in the academic field. Well-being is often defined as a combination of an individual's positive sensations (such as well-being) and positive functioning (such as capabilities and meaningfulness of life), reflecting the subjective experience and quality of life of the individual (Sonnentag, 2015). Well-being is considered the ultimate goal of human life, encompassing not only the avoidance of discomfort but also the active pursuit of fulfillment and purpose (Kopsov, 2019). Furthermore, the importance of well-being lies in its ability to comprehensively reflect a person's physical and mental state, serving as a crucial indicator for assessing individual health, social integration, and economic development (Healey-Ogden & Austin, 2011). Veenhoven (2024) argue that well-being is a comprehensive expression of people's quality of life and living standards, encompassing not only income levels, wealth, material and spiritual enjoyment but also the overall living environment, including social and natural settings.

Dodge et al. (2012) believed that people are in a state of well-being when they have resources that match the specific psychological, social, and physical challenges they face.

Additionally, the essence of life can be seen as a dumbbell with well-being at its center. The individual resources in the physical, psychological, and social domains are at one end of the dumbbell. People also face various challenges at the other end of the dumbbell. Both ends of the dumbbell need to achieve a balanced state. On one hand, people require more support, resources, and autonomy to cope with increasing demands, problems, or intensities; on the other hand, they also need moderate challenges in life (Hansen, 2022). As Wassell and Dodge (2015) mentioned a lack of life course challenge is likely to induce stagnation conditions, which also affects the point of balance .

In the field of public policy, well-being has become a key factor in measuring social progress and development, guiding policy formulation and practical operations (Schulte et al., 2015). Early research on well-being primarily focused on individuals' physical health and psychological well-being, emphasizing well-being's opposition to negative health states (such as disease and discomfort) (Knight & McNaught, 2011). Subsequently, scholars began to pay attention to the multidimensional nature of well-being, including emotional well-being, psychological well-being, and social well-being, which together constitute a person's overall well-being (Longo et al., 2016). Recent studies emphasize viewing well-being as a dynamic and diversified concept, exploring how individual and social levels of well-being influence each other, and proposing new measurement methods and theoretical models of well-being based on this understanding (Longo et al., 2016).

In the past few decades, the concept of well-being has received considerable attention from academia and politics. Currently, conceptualizing and quantifying it is a widely recognized public policy goal, with supranational organizations like the European Commission, OECD, and United Nations investing significant resources in this effort (Jain et al., 2018). Despite the growing interest in these areas, there is still a lack of connection between studies on development, regional studies, and rural studies regarding well-being in academia. Literature extensively explores the connection between subjective well-being and other factors, and the concept of well-being is gaining global acceptance in academic and policy contexts (Saxby et al., 2018).

The research topics on farmers' well-being are extensive, covering social, economic, environmental, and psychological aspects. Scholars have been exploring these from several key perspectives.

(1) Income and Farmers' Well-being: Markussen et al. (2018) explored the positive effects of self-employment on the subjective well-being of farmers in rural Vietnam, noting that self-employment enhances perceived autonomy, competence, and relatedness, thereby improving well-being. Similarly, Bethge et al. (2021) examined the economic well-being of agricultural and non-agricultural households in Germany, highlighting the importance of considering wealth, particularly farm assets, in assessing farm households' financial stability. Sendhil et al. (2017) addressed challenges in Indian agriculture, including declining productivity and income, and proposed pathways integrating science, technology, institutions, and policies to double farmers' income by 2022. Lastly, Finger and El Benni (2021) offered new insights into measuring farm household income in Europe, focusing on income variability, risks, and inequality, with particular attention to income disparity in the agricultural sector.

(2) Agricultural Technology, Innovation, and Farmers' Well-being: Chavas and Nauges (2020) reviewed the adoption of agricultural technology, emphasizing the roles of uncertainty and learning. Their paper explored how adoption affects farmers' well-being and its connection to the innovation process. Tambo and Wünscher (2017) found that farmer-led innovations in northern Ghana significantly boosted household income and consumption. Ayenew et al. (2020) showed that adopting improved wheat varieties in Ethiopia positively impacted household well-being. Lastly, Rose and Chilvers (2018) discussed the role of smart technologies in improving agricultural productivity and ecological efficiency, urging attention to their social impacts.

(3) Health, Safety, and Farmers' Well-being: Brew et al. (2016) examined the well-being and health of Australian farmers, finding that they are less likely to access healthcare services, especially in remote areas. Talukder et al. (2021) explored the impact of climate change on smallholder farmers' health in India, Bangladesh, and Malawi, identifying key issues like infectious diseases, mental health, and occupational safety. David et al. (2021) found that organic farmers report better mental and physical health than conventional farmers. Finally, Olowogbon et al. (2019) highlighted the importance of health promotion programs in addressing occupational stress among farmers in developing countries.

(4) Climate, Environment, and Farmers' Well-being: Sujatmiko and Ihsaniyati (2018) explored how climate change, particularly El Niño and La Niña, disrupted rainfall patterns, reducing coffee quality and affecting the income and well-being of Indonesian farmers. Chiputwa et al. (2022) found that weather forecasts tailored to small-scale farmers in Senegal increased crop value by 10-25% when combined with support from a multidisciplinary team, improving livelihoods. Tetteh et al. (2023)

showed that climate-smart villages in Ghana reduced farmers' vulnerability to climate change, promoted sustainable livestock production, and improved well-being. Enhancing livestock centers and expanding these projects could further benefit farmers' social well-being.

(5) Agricultural Policy and Farmers' Well-being: Quiroga et al. (2024) used a multinomial ordered probability model to analyze how changes in subsidy structures impact farmers' R&D goals. They found that while certain subsidies suppressed production and environmental goals, decoupled subsidies supported all R&D objectives. This highlights the role of subsidies in shaping agricultural policies amid environmental stresses like drought. Lakhan et al. (2020) used data from 575 wheat growers to examine the impact of credit constraints on farmers' well-being, finding that credit access could significantly improve their income and expenditure. Lastly, Priyadarshini and Abhilash (2020) highlighted the social and environmental challenges in Indian agriculture, emphasizing the need for effective policy reforms to achieve Sustainable Development goals and enhance farmers' well-being.

In essence, these studies illuminate the multifaceted nature of farmers' well-being, encompassing not only their material conditions but also their health, mental well-being, and the necessity for advancements in agricultural production and information technology. These investigations offer a more nuanced comprehension of the determinants affecting farmers' well-being and the dynamics between them.

2.4.2 Well-being Measurement

Policy makers and social scientists have recently focused on individuals' ability to lead healthy, creative, and meaningful lives, with well-being serving as a key indicator of

societal progress. Well-being can be measured using objective and subjective indicators (Voukelatou et al., 2021). Objective measures focus on specific life elements, such as the OECD's biennial "How's Life?" report, which assesses well-being across 16 dimensions, including housing, income, employment, and health (OECD, 2020). However, not everyone has the means to achieve well-being (Dodge et al., 2012). In contrast, subjective well-being measures emphasize personal traits such as health, happiness, and social relationships, as defined by Wassell and Dodge (2015).

The subjective approach has been widely used to measure individuals' evaluations of their lives (Voukelatou et al., 2021). Subjective well-being is a broad psychological concept that includes life satisfaction, happiness, work satisfaction, health, and low levels of unpleasant emotions. For example, Helliwell and Barrington‐Leigh (2010) studied life evaluations and emotions from various perspectives. Bartolini et al. (2013) classified subjective well-being into four factors: income growth, reduced relational goods, declining trust in institutions, and social comparison, which they argued explain differences in well-being. In China, researchers have increasingly focused on subjective well-being (Asadullah et al., 2018; Ding et al., 2021; Dong & Ni, 2020; Kong et al., 2021). Asadullah et al. (2018) used self-reported data to study subjective well-being in China from 2005 to 2010.

Additionally, Jiangyin City in Jiangsu Province is a typical representative of local governments, which first formulates and implements policies based on residents' well-being. Jiangyin City proposed and formulated the concept of 'Jiangyin Happiness Index' in 2005 and 2006. The subjective indicators of the 'Jiangyin Happiness Index Comprehensive Evaluation Indicator System' mainly include satisfaction evaluations

in aspects such as work, income, environment, mood, and physical condition. This indicator system highlights the livelihood indicators that residents care about (The Central People's Government of the People's Republic of China, 2007).

Compared to other indicators, life satisfaction has traditionally been considered the primary indicator of subjective well-being (Diener et al., 1985). For example, Knight et al. (2009) studied the factors affecting the subjective well-being of rural residents in China. The researchers used three scales to measure people's subjective well-being: happiness, satisfaction with the living environment, and satisfaction with family income. Secondly, some researchers have shown that asking someone to evaluate their overall life satisfaction is the best way to determine their level of life well-being (Diener et al., 2013; Kubiszewski et al., 2022; Steckermeier, 2021). Furthermore, the overall satisfaction with one's life is an easy-to-use measure of well-being in research, and several examples have proven the validity and efficacy of the measurement techniques used for subjective well-being (Cheung & Lucas, 2014). Because they allow for an assessment of well-being in different life domains, thus more comprehensively understanding the factors that affect subjective well-being (Cheung & Lucas, 2014). In early research, satisfaction was considered an important indicator compared to other subjective well-being measures. For example, many scholars believe that Diener and collaborators' request for individuals to evaluate their overall life satisfaction is an effective method widely used to determine their level of life happiness (Dirzyte et al., 2021; Espejo et al., 2022; Jovanović et al., 2020; Lachmann et al., 2017).

In summary, linking well-being with people's subjective evaluations of various aspects of their lives and their circumstances, that is, those who thrive have good physical and

mental health and resilience to withstand life's pressures and turmoil, measuring subjective well-being specifically includes: (1) overall life satisfaction or happiness; (2) domain satisfaction (e.g., work, health, interpersonal relationships); (3) the experience of positive or negative emotions; and (4) psychological well-being measured by the psychological well-being index (Waldron, 2010).

2.4.3 Importance of Farmers' Well-being

The concept of well-being is crucial because, on one extreme, well-being is associated with higher productivity and levels of civic engagement; on the other extreme, it is related to stress, depression, and higher well-being costs (Ivlevs et al., 2019). In China, many social, environmental, and economic issues actively contribute to the decline in human health and well-being, making the study of well-being critically important (B. Wang et al., 2021).

The well-being of farmers is a dynamic process influenced by qualitative and quantitative elements (Bruno et al., 2021), presenting some challenges to understanding farmers' well-being. In addition to the conventional factors affecting well-being, agriculture is associated with certain occupation-specific factors that may pose problems to well-being, such as climate change, resource scarcity, outdated technology, and limited market access (Fatoki & Ajibola, 2020). Moreover, many farmers have poor health outcomes and are considered "hard-to-reach" groups (Hammersley et al., 2023). Schirmer et al. (2015) claimed that farmers have lower well-being and worse psychological health compared to non-farmers. However, research on this issue has produced contradictory findings because different types of farmers became subjects of different studies, and not all farmers are the same.

Nonetheless, some studies suggest that at least some groups of farmers may have lower physical and psychological health compared (Daghagh Yazd et al., 2019).

There are some studies related to the well-being of farmers in China. Firstly, Qiu et al. (2022) summarized the three stages of Chinese farmers' well-being by organizing related literature: firstly, from the establishment of the People's Republic of China to the period of reform and opening up, the survival well-being of farmers depended on collective resources; secondly, from the reform and opening up to the end of the 20th century, the well-being of farmers was mainly borne by themselves, and the marketization of factors such as education and health increased the burden on farmers. Thirdly, the rapid development of the 21st century. The government took on the responsibility for farmers' well-being, and the well-being of farmers was improved. Secondly, Dan et al. (2021) emphasized the significant impact of the adoption of agricultural technology on improving the economic well-being of farmers. Farmers who join farmer cooperatives and adopt agricultural technology can increase agricultural income, which is particularly significant for low-income farmers, highlighting the positive role of agricultural technology in promoting farmers' economic well-being. Moreover, Zhao et al. (2019), through a survey of six provinces (cities) in central and eastern China, believe that improving rural health and social services is an important way to enhance farmers' well-being, emphasizing the key role of improving the quality of rural human settlements in enhancing farmers' well-being.

China's rapid economic growth has significantly improved social well-being, but it has also brought negative effects, such as environmental pollution, crime, and natural disasters caused by industrial transfers, all of which reduce well-being (World Bank Group, 2018). For instance, the World Bank Group (2018) reports that pollution harms

health, degrades natural resources, and causes losses to industries and agriculture. Sustainable management of natural resources is a major challenge for China. Additionally, the urban-rural gap limits equal access to public services, particularly in education and healthcare, contributing to overall inequality. Rural residents, especially children, face disadvantages due to a lack of early education opportunities (Zhang et al., 2015), while the healthcare system remains fragmented and inadequate, with insufficient medical insurance protection for the poor (World Bank Group, 2018).

Improving farmers' well-being is central to sustainable rural development, with profound implications for ensuring food security, reducing poverty, and promoting social stability. Farmers' well-being encompasses not only an increase in economic income but also includes education, health, social security, and technical support. Enhancing farmers' economic well-being helps strengthen their adoption of modern agricultural technologies, thereby improving agricultural productivity and efficiency, laying the foundation for the economic development of rural areas (Dan et al., 2021). Meanwhile, the improvement of education and health services is crucial to enhancing the quality of life and work capacity of farmers, which is directly reflected in the quality of human resources and overall well-being in rural areas (Niu et al., 2023). Furthermore, policy support and technological innovation provide farmers with broader development opportunities, promoting social and economic transformation in rural areas. Thus, focusing on and enhancing farmers' well-being from multiple dimensions is of significant importance and value for promoting comprehensive development in agriculture and rural areas, realizing the strategy of rural revitalization, and building a harmonious society.

Bonding social capital is considered to positively influence farmers' well-being. Bonding social capital emphasizes close, affective connections between individuals and their families, close friends, and community members, which provide trust, support, and a sense of belonging, positively affecting individual well-being. For example, Simons et al. (2020) found in their study that bonding social capital, by providing emotional support and reducing loneliness, was significantly positively associated with the social, emotional, and psychological well-being of the elderly. This indicates that close social networks play an important role in improving well-being across different populations. Secondly, Poortinga's (2006) study showed that individual social support plays a significant role in improving self-rated health status, and the collective contribution of bonding social capital goes beyond the positive effects of individual social networks and support. Moreover, Weaver et al. (2013) found that several dimensions of bonding social capital, including neighborhood assistance and provision of aid, were positively related to economic well-being, emphasizing the positive contribution of close social ties to individual economic conditions across different social and economic contexts.

These literatures reveal the potential positive impacts of bonding social capital on enhancing the well-being of individuals and groups, particularly among farmers, where bonding social capital may improve the quality of life and well-being by enhancing intimate and supportive social networks, providing emotional support, and resources. These findings highlight the importance of considering and utilizing bonding social capital when designing and implementing policies and interventions aimed at enhancing farmers' well-being. This study proposes that the higher the bonding social capital among farmers, the higher their perceived level of well-being. Therefore, this study proposes the following research hypothesis H_1:

H₁: *There is a significant positive relationship between bonding social capital and farmers' well-being.*

The positive impact of bridging social capital on farmers' well-being holds a significant place in social science research, emphasizing broader and more diverse interpersonal networks to enhance the quality of life and livelihoods of rural community members in various ways. For instance, van den Berg et al. (2020) found in their qualitative study on the Farmers' Field Schools initiative that it could enhance farmers' livelihood capabilities. Bridging social capital played a vital role in improving field practices, agricultural production, and agricultural diversification. Furthermore, Rust et al. (2023) highlighted the key role that bridging social capital, through trusted and diverse networks, plays in encouraging innovation and the adoption of sustainable practices. Their research outcomes underscored the potential of leveraging bridging social capital to improve farmers' well-being and environmental outcomes. Additionally, the study by Morita (2015) demonstrated that bridging social capital, by promoting resource sharing and information flow, increased social diversity and inclusivity.

These studies collectively showcase how bridging social capital positively impacts farmers' well-being in a multifaceted manner, presenting a broad perspective on utilizing social relationships and networks in rural development strategies. Bridging social capital, by expanding the breadth and diversity of social networks, provides increased support and resources from external sources, thereby potentially improving farmers' quality of life and well-being. This research suggests that the higher the level of bridging social capital among farmers, the greater their perceived well-being. Consequently, this study proposes the following research hypothesis H₂:

H₂: *There is a significant positive relationship between bridging social capital and farmers' well-being.*

Linking social capital is believed to positively impact farmers' well-being. This type of social capital describes the relationships between individuals and those in positions of authority in various contexts, distinguishing it from bonding and bridging social capital by connecting people and groups with individuals of a completely different scale of capital or power. Impoverished and underdeveloped communities can witness the value of resource transfer through linking social capital, thereby mitigating exclusion issues and aiding vulnerable groups in improving their lives. For instance, in agricultural development projects, the establishment of linking social capital relationships gives farmers access to production materials, inputs, and training (Taruvinga et al., 2017). In another study, X. Zhang et al. (2023) analyzed microdata from 461 farmers and found that linking social capital significantly positively influences farmers' decision-making behaviors regarding the adoption of trust services.

These pieces of literature reveal the positive impact of linking social capital on enhancing the well-being of individuals and groups, particularly among farmer communities. Specifically, regarding farmers' well-being, linking social capital facilitates the establishment of relationships and networks between farmers and individuals or organizations with varying social, economic, and political status. For farmers, this type of social capital is crucial as it enables the farmer community to establish connections with higher-status individuals and institutions, thereby gaining access to the resources and information necessary for improving their living conditions. This study posits that the higher the level of linking social capital among farmers, the

greater their perceived level of well-being. Consequently, this research proposes the following research hypothesis H₃:

H₃: *There is a significant positive relationship between linking social capital and farmers' well-being.*

2.5 Farmers' Self-efficacy

The main contents of this part include the concept of self-efficacy, Empirical Studies on Social Capital and Farmers' Self-efficacy，Empirical Studies on Farmers' Self-efficacy and Well-being, and Farmers' Self-efficacy as a Possible Mediator.

2.5.1 Self-efficacy Definition

Bandura first introduced the concept of self-efficacy in his 1977 article "Self-Efficacy: Toward a Unifying Theory of Behavioral Change," where he argued that self-efficacy is the core mechanism influencing behavioral change. It determines whether individuals engage in certain behaviors, the level of effort they invest, and their persistence when faced with obstacles or adversity (Bandura, 1977, 1990). He pointed out that self-efficacy not only affects people's actions but also their emotions, thoughts, and behavioral patterns, thereby playing a decisive role in the outcomes of their actions (Schunk & DiBenedetto, 2021). Further, self-efficacy reflects an individual's assessment of their ability to complete specific tasks or activities. High levels of self-efficacy enhance a person's willingness to overcome difficulties and more actively pursue their goals (Maran et al., 2022).

There are some disagreements in academic discussions regarding the definition and characteristics of self-efficacy. Some studies consider it a stable personal trait

applicable across all areas of life, exhibiting cross-contextual generality (Luszczynska, Scholz, et al., 2005a). In contrast, other studies argue that self-efficacy can vary according to different roles or situations, thus showing context-specific variability. This divergence has influenced the application of self-efficacy across various fields, especially in education, health behavior, and career development. For example, Livinți et al. (2021) found that self-efficacy is a key factor influencing student motivation and academic achievement in the educational field, with significant positive correlations to students' research interests, career goals, and academic outcomes. Research in health behavior has shown that enhancing an individual's health self-efficacy can promote better health management behaviors, such as smoking cessation, healthy eating, and regular exercise (Quaye et al., 2024).

In the agricultural domain, research on self-efficacy particularly emphasizes the interaction between farmers' abilities and external conditions. Hanson et al. (2022) noted that farmers' self-efficacy stems from their own skills and resource assessments, as well as their positive evaluation of external support. Perry et al. (2020) argued that farmers with low self-efficacy often doubt their own abilities and struggle to cope with external threats, leading them to adopt defensive strategies to manage environmental stress, which results in anxiety and negative emotions. In contrast, farmers with high self-efficacy are more likely to actively seek solutions and demonstrate perseverance and adaptability when facing challenges (Roy, 2021).

This study focuses on the relationship between farmers' self-efficacy and well-being, considering it a key psychological mechanism in agricultural operations. As agricultural challenges continue to grow, increasing research attention has been paid to the role of self-efficacy in farmers' adaptation to new technologies and the

adjustment of agricultural practices (Brown et al., 2022a; Burnham & Ma, 2017; Gebrehiwot et al., 2021). Therefore, in this study, self-efficacy specifically refers to farmers' confidence in their agricultural management skills and resource utilization abilities, and it is believed to play a significant role in influencing farmers' well-being and behavioral choices (Gao & Arbuckle 2022).

The research on farmers' self-efficacy focuses on their belief in their abilities regarding agricultural production and management activities and how this belief influences their behaviors and production decisions. Originally, the concept of self-efficacy proposed by Bandura (1977) was not targeted at the agricultural sector, yet it has been applied to studies of rural farmers' behaviors. Studies and applications of self-efficacy in this context typically encompass several key aspects:

(1) Farmers' Self-Efficacy and Technology Adoption: The role of self-efficacy in adopting agricultural technologies has received increasing attention. Feder et al. (1985) found that farmers with higher self-efficacy are more likely to adopt new technologies and practices. Venkatesh and Bala (2008) expanded the technology acceptance model by including self-efficacy as a key factor in technology adoption, demonstrating that higher technological self-efficacy positively affects perceptions of ease of use and usefulness, thus influencing adoption. Additionally, Ahikiriza et al. (2022) found that farmers' self-efficacy, along with facilitating conditions and performance expectancy, primarily determines their intention to use farm management smartphone applications. To ensure adoption, these technologies should be user-friendly to maintain farmers' willingness and self-efficacy.

(2) Farmers' Self-Efficacy and Market Participation: Recent studies have explored the link between farmers' self-efficacy and market participation. Farmers with higher self-

efficacy are more likely to engage in the market, use market information, and effectively sell their products. Wuepper and Sauer (2016) found that self-efficacy and social capital are key to smallholder pineapple farmers' success in contract farming, with self-efficacy driving their confidence in improving income and market participation. Similarly, Ferreira and Morais (2022) found that farmers with high self-efficacy are more willing to engage in tourism micro-enterprises. Nurlaela et al. (2020) also revealed that young farmers with strong self-efficacy are more inclined to market participation and entrepreneurial activities.

(3) Education, Training, and Farmers' Self-Efficacy: Education and training are effective ways to boost farmers' self-efficacy. Locke and Latham (2002) argue that proper training increases farmers' confidence in new technologies and practices. Masta et al. (2023) studied 333 farmers in extension education, showing that self-efficacy was higher in men, which influenced their training experiences. The study found a positive link between self-efficacy and the application of learned skills on farms. Similarly, Yueh and Liu (2010) found that a two-day training on agricultural management systems improved farmers' self-efficacy, with perceived usefulness motivating further use of these systems.

Therefore, research on farmers' self-efficacy reveals the positive impact of education, training, technology adoption, social capital, and health and safety training on enhancing farmers' confidence and capabilities. These studies highlight that providing relevant training and information not only can improve farmers' production efficiency and market participation but also can strengthen their ability to adapt to environmental changes.

Although existing studies have demonstrated the positive role of self-efficacy in the adoption of agricultural technologies, market participation, and the enhancement of well-being, there are still several gaps in the current literature. For example, there is a lack of systematic research on the mediating mechanisms. While literature has explored the direct impact of self-efficacy on farmers' behavior, its role as a mediating variable has not been thoroughly analyzed. In particular, the way in which self-efficacy functions as a bridge between social capital and farmers' well-being has not been fully validated. Therefore, the current study identifies a research gap, which is to investigate the mediating effect of self-efficacy between social capital and well-being, thereby deepening the understanding of how social capital influences farmers' well-being through self-efficacy (Bandura, 2006; Brown et al., 2022).

Furthermore, there is a lack of differentiation regarding the effects of different types of social capital. Social capital includes bonding, bridging, and linking types, and the role of each type may vary in influencing farmers' self-efficacy and well-being (Putnam, 2000; Szreter & Woolcock, 2004). However, most existing studies have not distinguished the specific impact of these types of social capital on self-efficacy and well-being, which limits a comprehensive understanding of the diverse mechanisms through which social capital operates.

Additionally, there is a lack of regional specificity in current research. Most studies have focused on developed countries or regions with relatively favorable economic conditions, with less attention paid to rural farmers in mainland China, particularly in economically underdeveloped regions like Guizhou. Farmers in Guizhou may have different cultural and economic backgrounds, as well as varying levels of reliance on social capital compared to other regions. Future research should focus more on rural

farmers in China to obtain more representative data and insights (Sambas & Lawang, 2023; Xu et al., 2018).

Lastly, there is a gap in cross-population analysis regarding the impact of self-efficacy on well-being. Although the role of self-efficacy in enhancing well-being has been studied, there is a lack of analysis on the differences between various demographic variables (such as age, gender, and education level). Particularly in economically underdeveloped rural areas, different demographic characteristics may result in varying needs and impacts on self-efficacy and well-being. Future research should examine the differences in the relationship between self-efficacy and well-being across demographic variables to provide more tailored policy recommendations (Roy, 2021).

In summary, the application of self-efficacy in the agricultural sector has gained increasing attention. Existing research has highlighted its positive impact on technology adoption, market participation, and well-being enhancement. However, there remain gaps in the literature regarding the types of social capital, mediating mechanisms, regional specificity, and demographic differences. To address these gaps, this study intends to use self-efficacy as a mediating variable to explore the relationship between social capital, farmers' self-efficacy, and well-being in rural Guizhou, thereby filling the existing literature gap and providing empirical evidence for improving farmers' well-being in rural areas.

2.5.2 Empirical Studies on Social Capital and Farmers' Self-efficacy

Social relationships play a significant role in the development of competencies and self-efficacy (Coleman, 1988). When individuals hear about how others accomplish tasks, it inspires them to overcome difficulties and strengthens their confidence in their

own abilities (Korthagen & Vasalos, 2005). A successful person with a broad social network, while also serving as a role model, can encourage more individuals, possibly enhancing self-efficacy, especially if the contacts are of a similar age and considered equally capable (Bandura, 2013). Therefore, this suggests that social capital and self-efficacy are related. For instance, Moghadam et al. (2020) linked self-efficacy with a multidimensional social capital scale. According to Pearson correlation coefficients, self-efficacy showed a strong positive correlation with all aspects of social capital, including family and friends, neighborhood relations, and community participation.

Furthermore, according to the results of a multiple regression model by Ramos et al. (2018), self-efficacy was substantively related to bonding and bridging social capital. Additionally, they suggested that social capital could be seen as a tool to mitigate some of the difficulties people encounter at individual, place, and societal levels, thereby enhancing their sense of self-efficacy. Moreover, Sprengers et al. (1988) investigated the relationship between social capital and self-rated job opportunity expectations among a sample of unemployed individuals. According to the authors, there was a correlation between social capital and self-efficacy, as respondents with more social capital were more optimistic about their job opportunities than employment service experts.

The relationship between social capital and farmers' self-efficacy is crucial in agricultural social science. Social capital refers to the resources and relationships within social networks that individuals can leverage to improve their lives or achieve goals. Self-efficacy is the belief in one's ability to accomplish a task (Bandura et al., 1999). Strong social networks and community support enhance farmers' self-efficacy by providing opportunities to learn, share experiences, and receive encouragement.

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For instance, bonding social capital, through close family and friends, boosts self-efficacy by fostering confidence (Liu et al., 2014). Studies by Liñán and Santos (2007) confirm that both bonding and bridging social capital positively influence self-efficacy, with bridging social capital having a particularly strong effect. Hudson et al. (2020) argue that linking and bridging social capital are essential for farmers to develop necessary skills and self-efficacy. Slijper et al. (2022) further emphasize that high self-efficacy enables farmers to adopt new agricultural technologies early. Therefore, the research hypothesizes as follows:

H4: *There is a significant positive relationship between bonding social capital and farmers' self-efficacy.*

H5: *There is a significant positive relationship between bridging social capital and farmers' self-efficacy.*

H6: *There is a significant positive relationship between linking social capital and farmers' self-efficacy.*

2.5.3 Empirical Studies on Farmers' Self-efficacy and Well-being

According to self-efficacy theory, an individual's motivation and success are linked to their belief in achieving expected outcomes (Andersson & Mobility, 2021). Bandura and Locke (2003) noted that people take action only when they believe their efforts will lead to desired results. This has been observed in various domains, such as health management, where self-efficacy significantly influences performance and satisfaction with medical interactions (Farley, 2020; Sun et al., 2021). Self-efficacy is context-specific; for example, in healthcare, it relates to recognizing the need for mental health care (J. Chen et al., 2020). Research shows that self-efficacy is

associated with positive mental health outcomes, help-seeking behaviors, and overall well-being (Blakeslee et al., 2023; Crowe & Disabilities, 2021; Han et al., 2022). Furthermore, Blakeslee et al. (2023) and Djourova et al. (2020) emphasize self-efficacy as a key resource for psychological resilience and well-being. Ellis et al. (2017) demonstrated that farmers' self-efficacy correlates with their well-being across various measures.

Additionally, within the general working population, self-efficacy is considered a key factor in overall well-being (Andretta et al., 2020; Djourova et al., 2020). According to Truchot et al. (2018) and Lunner Kolstrup et al. (2013), many individuals employed in the agricultural sector, unlike urban residents, experience a high degree of overlap between their work and life. This suggests that self-efficacy may play a more crucial role in determining the well-being of farmers than in other industries (Brown et al., 2022).

Self-efficacy enables individuals to better understand their situations and develop the ability to adapt to changes in various occupational environments, thereby supporting personal well-being (Cabrera-Aguilar et al., 2023; Kumar Pradhan et al., 2021). This includes the agricultural sector (Burnham & Ma, 2017; Gebrehiwot & Van Der Veen, 2015; Le Dang et al., 2014). Several studies have focused on the role of self-efficacy in enhancing farmers' well-being within sustainable agricultural practices (Brown et al., 2022; Gosnell, 2022; Sherren et al., 2020).

The literature consistently links self-efficacy to health-related behaviours (Bandura, 2001; Kim & Karr, 2023). Past research has underscored the importance of self-efficacy as a predictive factor in human behaviour (Bussey et al., 2020). A positive correlation between self-efficacy and individual behaviours is acknowledged. Many

researchers have utilized self-efficacy in their studies to explain behaviours and motivations (Syan et al., 2019). However, research within the agricultural sector remains limited, leaving a knowledge gap regarding how self-efficacy influences farmers' attitudes and behaviours (Mustapa et al., 2021).

Someone has suggested that improving the self-efficacy of farmers will improve their sense of well-being. However, until recently, qualitative research mainly focused on the function of self-efficacy as a potential pathway to well-being (Brown et al., 2022). Therefore, it is important to consider perceived self-efficacy in this study, and the following hypotheses are proposed:

H7: *There is a significant positive relationship between farmers' social capital and farmers' self-efficacy.*

2.5.4 Farmers' Self-efficacy as a Possible Mediator

Numerous studies have examined the relationship between social capital and outcomes related to well-being. However, the mechanisms through which small-scale social capital, including bonding, bridging, and linking social capital, and affects health remain unclear. Evidence suggests that strong bonding social networks may positively impact outcomes related to well-being (Li et al., 2022). On the other hand, the two types of cross-cutting social capital, bridging and linking social capital, may increase individuals' ability to acquire new knowledge and resources, enhancing their capacity to cope with diverse challenges (Azad & Pritchard, 2023). The implications of social capital for its capacity to affect individuals and their well-being are promising. Defining and quantifying social capital remains a challenge, with little known about the mechanisms connecting social capital to well-being. More research is needed to

explore the nature of social capital and its mechanisms of connection with individual and population well-being (Buck‑McFadyen et al., 2019). Therefore, it is necessary to investigate the relationship between social capital and well-being.

Previous research has indicated that the mechanisms linking social capital and well-being are complex (Iqbal et al., 2022). Several researchers have explored the relationship between social capital, health, and well-being. Generally, social capital benefits individual well-being in two primary ways: by fostering positive behaviors and enhancing psychological states. Chen and Meng (2015) hypothesized that the relationship between social capital and well-being is primarily mediated by factors such as social support, psychological perception, and the availability of material resources. Similarly, Mohnen et al. (2012) found that social capital is closely associated with well-being, primarily through activities and social participation.

Existing studies have emphasized the need to understand the exact mechanisms through which social capital may influence well-being outcomes (Liang et al., 2020). Higher levels of social capital can have a positive impact on well-being from economic, social, behavioral, and emotional perspectives (Burt, 2000; Gannon, 2020). Social capital may enable communities to exert greater social control over certain health behaviors, thereby enhancing overall community well-being. Furthermore, increased self-efficacy in taking action for the greater good may contribute to improved individual well-being (Bandura, 2023; Baron-Epel et al., 2008; Marshall et al., 2020). Therefore, this study treats farmers' self-efficacy as a mediating variable between social capital and farmers' well-being.

Existing literature indicates that certain personal traits, such as self-efficacy and resilience, can promote positive developmental outcomes (Liu & Ngai, 2019).

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According to Bandura (2013), self-efficacy beliefs are developed through positive personal experiences, social modeling, and social influences, all of which contribute to a sense of control. Self-efficacy helps individuals manage their emotions and plays a key role in various aspects of social and psychological development. It also enables individuals to resist social pressures to engage in antisocial behaviors and fosters empathy toward others. Furthermore, as a personal resource, self-efficacy can protect individuals from the negative impacts of environmental risk factors (Hull et al., 2021).

Through reviewing and organizing existing literature, researchers have considered self-efficacy as a moderating variable in studies of academic motivation, career intentions, organizational citizenship behaviour, and therapy adherence (Klassen & Klassen, 2018). Some studies have used self-efficacy as a mediator (Hu et al., 2021; Sulistyani & Suhariadi, 2022). However, they focused on other variables, such as goals and success, ethical leadership, sports technology innovation, and perceived academic environment. Moreover, previous research has also considered self-efficacy as a predictive factor for information-sharing behaviour. There is not enough literature on the mediating effect of farmers' self-efficacy. Especially in rural and agricultural settings, some scholars believe that in the vast rural areas, farmers' close contact, communication, and social capital are related to improving their social skills, having higher self-esteem and self-efficacy, and helping and supporting them to overcome difficulties and succeed (Arnott et al., 2021). In this study, self-efficacy will be used as a mediator. Therefore, this research proposes the following hypotheses:

H8: *Farmers' self-efficacy mediates the significant positive relationship between bonding social capital and farmers' well-being.*

H9: *Farmers' self-efficacy mediates the significant positive relationship between bridging social capital and farmers' well-being.*

H10: *Farmers' self-efficacy mediates the significant positive relationship between linking social capital and farmers' well-being.*

2.6 Farmer Demographic Characteristics

The demographic characteristics of farmers, including key variables such as age, gender, education level, and experience, significantly impact their well-being. These variables influence the behaviors, decision-making capabilities, and adaptability of farmers to external environments, thereby affecting both their economic and psychological well-being. For instance, Peters et al. (2008) focused on the health and safety issues of elderly farmers, noting that as farmers' age, they face increased health risks and safety challenges while engaging in agricultural activities. The study proposed preventive measures such as improving workplace safety and providing health checks to maintain the productivity and quality of life of elderly farmers. Additionally, Halliru et al. (2021) explored how gender and household size in Nigeria affect farmers' awareness of climate change, subsequently influencing their adaptation strategies and well-being. Their findings highlight that female farmers in many regions face greater challenges, such as accessing land and credit, which limits their production capabilities and economic independence.

Furthermore, Lutz et al. (2019) argued that farmers with higher levels of education are usually better at managing farms, adopting new technologies, accessing market information, and adapting to policy changes. Education enhances farmers' understanding of agricultural innovation and market dynamics, thereby increasing

their economic income and improving their quality of life. Lastly, Burton (2014) discussed how experienced farmers are more effective in managing uncertainties in production, such as climate change and market fluctuations. Their knowledge and skills help them optimize resource use, improving crop yield and quality, which directly impacts their well-being.

Chinese scholars have also conducted similar studies. For instance, Ren et al. (2023) found that the aging population among smallholder farmers threatens agricultural sustainability, as it reduces labor, leads to land abandonment, and diminishes productivity. They suggested cooperative farming models as a solution. Similarly, Gao et al. (2018) highlighted education's role in improving China's social well-being system and narrowing the urban-rural divide. Lastly, Ding et al. (2022) explored the relationship between institutional performance, government trust, and farmers' subjective well-being, showing that improved economic status and trust in government can enhance farmers' well-being. Effective government services can thus raise living standards and promote social stability.

These studies illustrate that farmers' demographic characteristics have profound impacts on their well-being. Therefore, this research proposes the following hypothesis:

H11: *There are significant differences in social capital, self-efficacy, and well-being among the demographic variables of farmers in Guizhou Province, China.*

2.7 Research Framework

Based on the empirical evidence presented in the literature review and the theoretical and practical gaps identified in the previous chapter, this study establishes a theoretical

framework. This framework uses a second-order model to deeply explain the impact of the three main categories of social capital—bonding, bridging, and linking—on the one-dimensional subjective well-being of farmers, with self-efficacy as a mediating variable. In other words, this study posits that farmers' self-efficacy acts as a mediator. The research framework of this study is depicted in Figure 2.1.
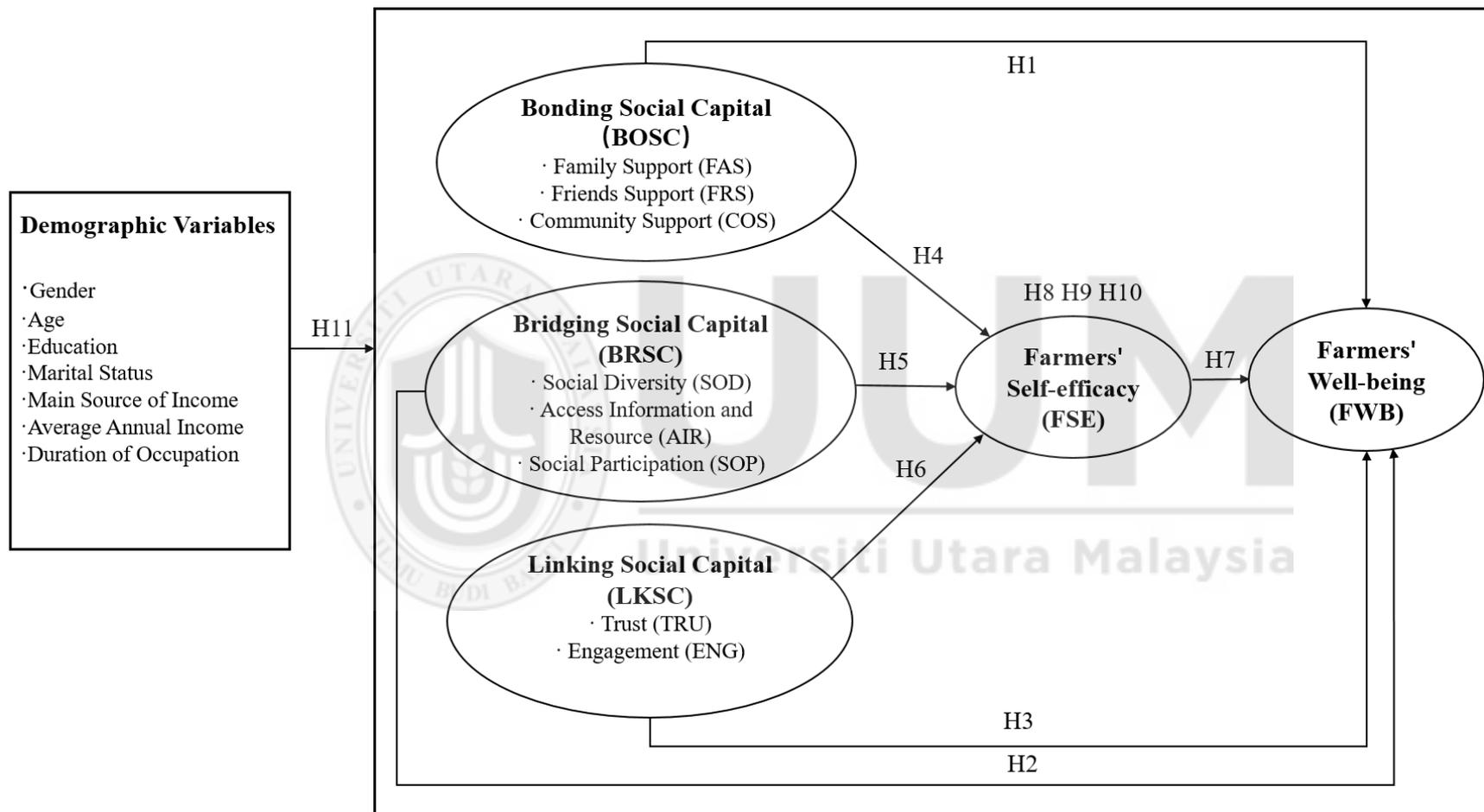
Figure 2.1 Research Framework

2.8 Conclusion

Chapter 2 provides a systematic review of the theories and literature relevant to this study, offering a theoretical foundation for understanding social capital, self-efficacy, and how they influence farmers' well-being. The chapter begins with a detailed discussion of the two theories used in this study and their applications. It then introduces the concept of social capital, including its definition, types (bonding, bridging, and linking social capital), and its application in different socio-economic contexts. By analyzing existing literature, the chapter highlights the important role of social capital in enhancing community cohesion, supporting social networks, and promoting the sharing of information and resources. Next, the chapter focuses on the concept, measurement, and significance of farmers' well-being. It then shifts to a discussion of self-efficacy, covering its definition, sources, influencing factors, and its role in individual life. Additionally, the hypotheses of this study are presented and developed in the relevant sections of this chapter.

Furthermore, the chapter provides a comprehensive analysis of the combined impact of social capital and self-efficacy on farmers' well-being, examining findings and gaps in existing research. Through a review of relevant empirical studies, the chapter evaluates how these variables manifest in rural settings and their potential to improve farmers' quality of life. Finally, the chapter concludes with a critical analysis of the current research, pointing out its limitations and suggesting potential directions for future studies. This comprehensive literature review not only informs the methodological choices and data analysis of this study but also lays a solid foundation for understanding the complexity and multi-dimensional nature of farmers' well-being in Guizhou Province.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

This study focuses on farmers in Guizhou Province, China, exploring the impact of social capital, self-efficacy, and well-being. Using appropriate sampling methods, data were collected through surveys and analyzed statistically to test the research hypotheses. This chapter outlines the research design, sampling procedures, data collection techniques, tools, and the plan for analyzing and verifying the hypotheses. It also presents the results of a pre-test study to assess the reliability and validity of the tools used.

Research philosophy, also known as a research paradigm, is the core belief system that drives a study. The three main types of research paradigms are positivism, constructivism, and pragmatism (Khatri, 2023; Morgan, 2014). Positivism, the most widely used paradigm in social sciences, posits that social reality can be studied independently of the researcher, seeking to establish causal or correlational relationships between variables (Creswell & Creswell, 2017). In contrast, constructivism focuses on deeper, qualitative insights, exploring concepts, patterns, and experiences (Aspers & Corte, 2019). Pragmatism offers flexibility by combining qualitative and quantitative techniques to address research goals (Yardley & Bishop, 2017).

Quantitative research, grounded in positivism, forms the foundation of this study. It examines the structural impact of the three dimensions of social capital—bonding, bridging, and linking—on farmers' well-being, with self-efficacy as the mediating variable. A cross-sectional approach was employed, collecting data at a single point in time to draw conclusions about the subject (Sekaran & Bougie, 2016). Quantitative research, defined as the use of statistical methods to analyze numeric data (Bruce et al., 2018), provides clear, objective evidence to support hypotheses. It is particularly well-suited to large-scale samples, enhancing the representativeness and generalizability of the study. Furthermore, statistical tools allow for the identification of relationships, trends, and patterns, making it highly effective for revealing the complex relationships between social capital, self-efficacy, and well-being. In conclusion, quantitative research offers the objectivity, scalability, and analytical rigor needed to explore the factors influencing farmers' well-being in this study.

3.2 Research Subject and Sampling

The population is defined as the group of individuals, entities, or events that a researcher focuses on within a study (Zikmund, 2009). This group consists of individuals, companies, or other entities sharing specific attributes (Zikmund, 2009). In this study, farmers in Guizhou Province were selected as the research subjects. In 2020, Guizhou's rural population totaled 18.0662 million. Guizhou has consistently ranked among the lowest in economic and social development in China; for instance, rural income levels in Guizhou are significantly below the national average, with a persistent poverty rate that has adversely impacted farmers' quality of life and overall well-being (Guizhou Provincial Bureau of Statistics & National Bureau of Statistics Survey Office in Guizhou, 2021; Guizhou Provincial Government, 2020). Moreover,

Guizhou's rural areas experience an inadequate supply of public services, and social well-being ranks among the lowest nationwide (Jiang et al., 2023). These factors make Guizhou's farmers an ideal sample for studying the relationship between social capital, self-efficacy, and well-being, underscoring the sample's research value. In addition, the unit of analysis in this study is the individual farmer in Guizhou Province.

3.2.1 Sample Size

Sample size should be carefully calculated for research to reach a valid result. Even though the law of big numbers dictates that the greater the sample size, the more likely the sample mean is to approximate the population mean (Gravetter & Wallnau, 2014) i.e., the higher the sample size, the more probable it is that the samples are truly representative of the population, and the smaller the sample size, the less likely it is (Chittaranjan, 2020). It should be manageable because doing so could invalidate the test and yield sufficient results (Gerokostopoulos et al., 2015). Further, proper sample size is essential to minimize the total cost of sampling error. Moreover, statistical test power must be considered (Park et al., 2020; Singh et al., 2014). It is universally accepted that the power of a statistical test increases as the sample size grows (Lakens, 2022).

The ever-increasing need to obtain the most appropriate representative statistical sample to produce the maximum statistical power has led various researchers to propose criteria for determining sample size. For example, Schönbrodt and Perugini (2013) recommended that a suitable sample size be at least 250. In addition, Gay et al. (2012) also claimed that the sample size shrinks as the population increases. As a result, they recommended that for a smaller population (e.g., 100), the researcher conduct a census that includes all of the individuals in the population (100 percent coverage).

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However, the sample size for a population 500 should be 50%. When the population reaches 1,500 people, 20% is plenty. Furthermore, a sample size 400 is adequate above a specific threshold (about 5,000). They also stated that if raising the sample size is possible, the researcher should do so because these percentages and figures are just suggested minimums. Moreover, Hair et al. (2019) recommend that a minimum number of 5 respondents per indicator or survey item be considered for calculating the minimum sample size.

G*Power is an independent power analysis software program frequently used in social sciences, behavioral sciences, and biomedical research for a variety of statistical tests (Faul et al., 2009). The software supports a range of statistical tests, such as F-tests, t-tests, and chi-square tests, and can calculate sample size based on hypotheses, effect size, significance level (α level), and statistical power, which makes it highly versatile (Kang, 2021). For example, it is commonly used by researchers in business and social science fields to determine sample sizes (Rahman, 2023). In this study, G*Power was applied due to the inclusion of four predictor variables; according to the results, a minimum of 129 samples was required to achieve a power of 0.95, as shown in Figure 3.1.
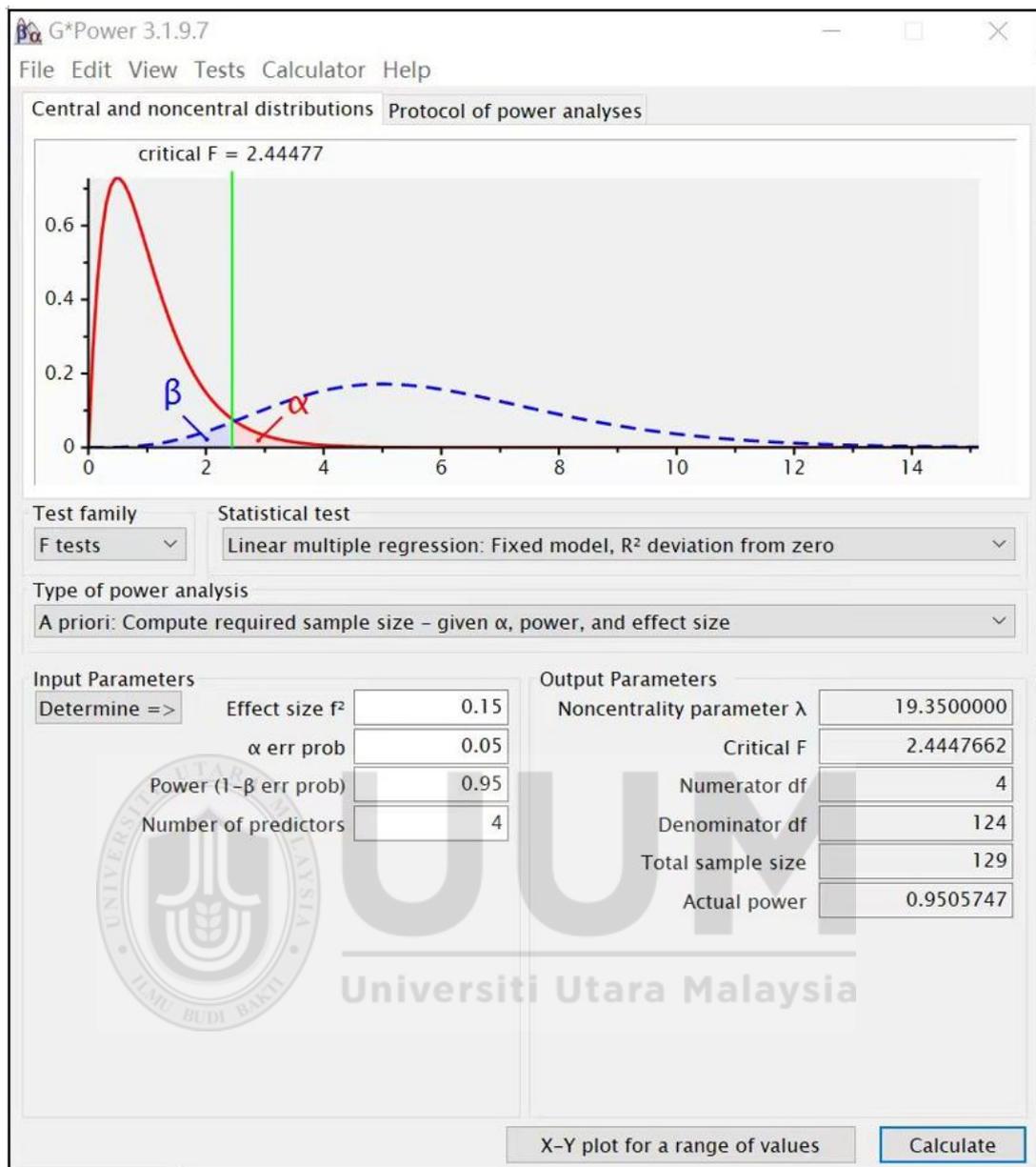
Figure 3.1 Using G*power to Calculate Sample Size

The Krejcie and Morgan Table, by contrast, is widely popular due to its simplicity, as it requires no calculations and is applicable to any defined population size (Rahman, 2023). Its methodology has shown general applicability and effectiveness in fields such as education, health sciences, and social science research. For example, Saccenti and Timmerman (2016) discussed methods for determining sample size for multivariate data. While their focus was on principal component analysis (PCA) and partial least squares discriminant analysis (PLS-DA), they highlighted the importance

of determining an appropriate sample size in experimental design, indirectly supporting the use of scientific frameworks such as Krejcie and Morgan′s Table for sample size determination. According to Krejcie and Morgan′s population-to-sample size correspondence, the required sample size for this study was set at 384.

From a review of the literature, it is evident that sample requirements calculated by G*Power are generally lower than those suggested by the Morgan Table. According to guidelines confirmed in Rahman's (2023) research, researchers can use G*Power to estimate a "baseline" sample size, which is the minimum sample needed to ensure statistical power. However, the Krejcie and Morgan Table is recommended when the population size is known, as it suggests a larger sample size, thus allowing for a broader error margin and enhancing the study's reliability. Consequently, this study adopted the Krejcie and Morgan Table's sample size of 384 (Figure 3.2), which enhances the robustness and rigor of the research results.
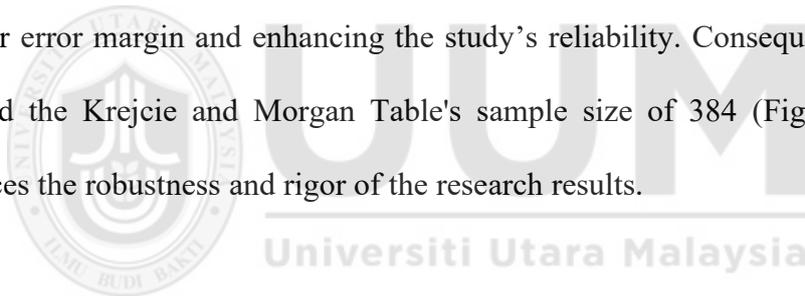
N	S	N	S	N	S
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note.—N is population size. S is sample size.

Source: Krejcie & Morgan, 1970

Figure 3.2 Determining Sample Size of a Given Population

Additionally, the study opted to distribute 700 questionnaires to improve the response rate, especially given that response rates among farmer populations may be relatively low (Johansson et al., 2017). Low response rates are a common issue in survey research and can adversely affect the validity and representativeness of findings, as insufficient responses can lead to statistical bias and inference errors (Sivo et al., 2006). To ensure representativeness, increasing the distribution of questionnaires is an effective strategy, especially in cases where low response rates are anticipated. Expanding the sample size improves data robustness and reliability (Shlomo et al., 2012; Zink, 2012).

Similarly, low response rates are common in fields such as healthcare and agriculture, making it reasonable to increase the distribution volume to offset potential response deficiencies (Andrade, 2020; Johansson et al., 2017).

3.2.2 Sampling Techniques

When selecting representatives of a particular population, researchers need to use a variety of sampling techniques depending on the nature of the research question. These techniques are divided into probabilistic and non-probabilistic ones. Non-probability sampling techniques include quota, convenience, snowballing, and judgment sampling. The selection of the sample follows a non-random manner. The results of these techniques are often not generalizable. Probability sampling includes simple random, stratified, systematic and cluster sampling. Despite its imperfections, this type of sampling dominates scientific research because non-probability sampling more accurately selects true representatives of a given population (Tyrer & Heyman, 2016).

Due to constraints in cost, logistics, time, and the accessibility of the research subjects, it was not feasible to survey every farmer in Guizhou Province. In this study, stratified sampling, cluster sampling, and purposive sampling were combined to select farmers in Guizhou as the research subjects. First, stratification was conducted based on the different administrative regions within Guizhou Province. There are several reasons for choosing administrative regions as the basis for stratified sampling. Administrative divisions are typically structured around factors such as geographic location, population characteristics, and levels of economic development, all of which are critical variables that can influence the study's focus. Stratifying by administrative regions helps capture diversity effectively, ensuring a representative sample (Hankin et al., 2019). Statistical data, including census, economic, and health statistics, are

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often organized by administrative regions, making them useful for guiding the sampling process (Levin & Kanza, 2014). These regions have clear boundaries and known population characteristics, allowing precise study definition. Figure 3.3 shows the nine administrative regions of Guizhou Province (Google, n.d.).
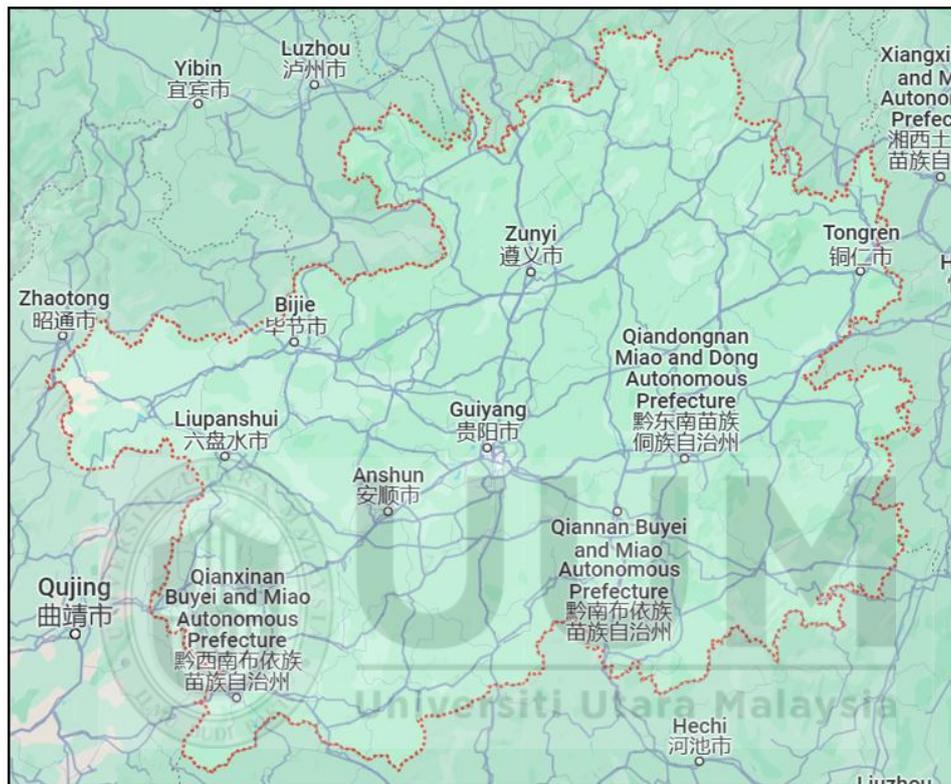

Figure 3.3 Map of Guizhou Province. Map Data [Google, n.d.]

Next, within each stratum, several counties were selected as cluster units for sampling. Choosing counties as cluster units simplifies the sampling process, making it both operationally feasible and cost-effective. In each stratum, 2-3 counties were randomly or systematically selected to ensure broad coverage and to capture the typical characteristics of that stratum. By combining stratification with county-based cluster sampling, the study efficiently and economically gathered data from farmers across diverse regional backgrounds within Guizhou Province, providing a robust foundation for analysis. This sampling strategy not only facilitated the capture of the internal

diversity within the farmer population in Guizhou but also enhanced the representativeness and reliability of the study's findings. The Table below outlines the minimum required number of questionnaires to be collected and the selected county areas (Table 3.1).

Table 3.1
Sample Size Distribution

Stratum	Sample County	Number of Farmers (County)	Percent (%)	Sample Size	Distribution Questionnaire
Guiyang	Xifeng	115337	2.69	10	19
	Kaiyang	157617	3.68	14	26
Zunyi	Meitang	184645	4.31	17	30
	Daozhen	115572	2.70	10	19
Liupanshui	Panzhou	653179	15.25	59	107
	Liuzhi	324917	7.59	29	53
Anshun	Pingba	175256	4.09	16	28
	Ziyun	197674	4.62	18	32
Bijie	Dafang	533681	12.46	48	87
	Weining	816552	19.07	73	133
Tongren	Jiangkou	102897	2.40	9	17
	Yuping	71869	1.68	6	12
Qiandongnan	Taijiang	77307	1.81	7	13
	Huangping	150133	3.51	13	25
Qiannan	Pingtang	155238	3.62	14	25
	Luodian	115007	2.69	10	19
Qianxinan	Zhenfeng	189399	4.42	17	31
	Wangmo	146539	3.42	13	24
Total		**4282819**	**100**	**384**	**700**

Source: Guizhou Statistical Yearbook (Guizhou Provincial Bureau of Statistics & National Bureau of Statistics Survey Office in Guizhou, 2021)

The third phase involved purposive sampling within the selected sample counties. Questionnaires were distributed and collected through various informal local communities where farmers typically gather, such as rural cooperatives, markets, and other community venues. To enhance the effectiveness of reaching the local farming population, the study leveraged the researcher's own social network. The questionnaires were distributed, collected, and organized by enumerators who were familiar with the local language and had experience working with farmer communities. The data collection period lasted from December 2023 to March 2024. Detailed information on the response rate and the validity of the questionnaires is provided in the Response Rate section of Chapter 4.

3.2.3 Data Collection Procedure

This study utilized primary data collected directly from a selected sample of farmers in Guizhou Province. Data were gathered through a self-administered questionnaire (SAQ) format, conducted both online and on-site. The SAQ refers to a specially designed and utilized questionnaire where respondents are expected to provide answers independently, without intervention from researchers or administrators.

In China's western regions, particularly in less developed areas, farmers often lack familiarity with digital technologies and exhibit low levels of acceptance in the use of these technologies for data collection purpose (Yao et al., 2022). Many studies on rural areas still predominantly rely on offline methods (Chen et al., 2013; Liu, 2021; Zhou et al., 2020), reflecting farmers' preference for paper-based formats when completing questionnaires. Therefore, this study primarily utilized offline questionnaires, supplemented by online surveys, for distributing and collecting data.

Offline questionnaires were distributed at locations within the selected sample counties frequented by farmers, such as farmers' markets and cooperatives. This study utilized available resources to assemble a temporary enumerators team with the help of friends who were familiar with the dialect. The team was trained to become thoroughly familiar with the questionnaire content and completion guidelines, ensuring they fully understood the eligibility criteria for respondents and could effectively address any questions from eligible farmer participants. Enumerators distributed the questionnaires at targeted locations, providing necessary guidance as needed. To encourage participation, small incentives (such as appreciation tokens) were considered. Collected questionnaires were then organized, and the data were manually entered into an electronic database for analysis.

The content of the online questionnaire is consistent with that of the offline questionnaire. The online questionnaire was distributed to farmers via the "Wenjuanxing" platform. This was done purposefully through cooperatives and agricultural associations. Due to the limitations of the online questionnaire, such as the unidentified location, the collected online questionnaire was redistributed based on the proportion of the farmer population in each of the 18 sample counties. This was done using simple random sampling to enhance the objectivity of the study (details provided in Appendix C). Overall, the combination of paper-based and digital questionnaires allowed the study to accommodate respondents with varying habits and preferences. This dual approach enabled participants to choose the most convenient method for completing the instrument, ultimately improving the overall response rate.

During the questionnaire distribution phase, the enumerators team conducted daily tracking of both online and offline questionnaire dissemination. Once the number of

distributed questionnaires reached the set target of 700, distribution was immediately halted to ensure a sufficient data volume and to prevent redundancy. In this study, missing data were addressed using the mean imputation method, while outliers were managed through removal. First, for missing data points, the variables with missing values were identified, and the mean of the observed values for each variable was calculated. These means were then used to substitute missing values, ensuring dataset completeness while maintaining variable centrality. The mean imputation method is particularly suitable for handling continuous data as it reduces bias while preserving overall data trends (Anwar et al., 2019).

For handling outliers, statistical methods were applied to detect potential anomalies in the dataset. Common detection techniques included the Z-score method and box plots; data points with a Z-score exceeding a threshold (e.g., ±3) or falling outside the interquartile range (IQR) were considered outliers. Once identified, these outliers were removed from the dataset to enhance the representativeness and consistency of the remaining data (Aljuaid & Sasi, 2016). Finally, the research team inspected the cleaned data to assess whether mean imputation and outlier removal had notably improved data quality, ensuring a more accurate analysis (Penny & Jolliffe, 1999).

Following data collection, the research team conducted a rigorous validity check on all returned questionnaires to ensure data accuracy and reliability. Three specific criteria were used to identify and exclude invalid questionnaires, thus guaranteeing the high quality of the final dataset.

(1) Incomplete or Partially Completed Questionnaires: If respondents leave sections of the questionnaire unanswered, the data is incomplete and cannot be effectively

analyzed. Such incomplete questionnaires can negatively impact the representativeness and accuracy of the analysis (Hair et al., 2013).

(2) Repetitive Answer Selection: When respondents select the same response option for all questions (e.g., selecting "Neutral" or "Strongly Agree" across all items), it indicates that they may not have engaged thoughtfully with the questionnaire and may have simply aimed to finish quickly. This pattern, known as "straight-lining" (Malhotra, 2020), can introduce bias into the data.

(3) Extreme Preference: Some respondents may choose extreme options across all questions (e.g., "Strongly Agree" or "Strongly Disagree"), which could indicate that responses were not made with careful consideration and were instead given mechanically. Such extreme preference responses may compromise the authenticity of the data (DeSimone et al., 2015).

Identifying and handling invalid questionnaires is critical to ensuring data quality. Researchers should take appropriate measures during the data cleaning stage to exclude invalid responses, thereby enhancing the reliability and validity of the dataset.

3.3 Questionnaire Instrument

Cooper and Schindler (2014) indicated that questionnaires are among the most commonly used and efficient data collection tools, allowing for the analysis of specific group behaviors and characteristics through structured question design, thus laying a data foundation for subsequent research. The low cost and high efficiency of questionnaires have led to their widespread application in fields such as social science, medicine, and behavioral science (Jack & Clarke, 1998). Effective questionnaire

design requires careful attention to question wording, sequence, and format to ensure response rates and data validity (Rowley, 2014). Different implementation methods may introduce bias, making the selection of an appropriate approach crucial (Bowling, 2005). Furthermore, questionnaires not only provide quantitative data but also capture qualitative information, such as respondents' attitudes and beliefs, which holds particular value in mental health research (Vasudevan, 2016). Consequently, questionnaires have become indispensable in cross-disciplinary research due to their flexibility as a standardized data collection tool.

In this study, a questionnaire survey was employed for data collection, making it well-suited for investigating the social capital factors affecting the well-being of farmers in Guizhou. First, questionnaires offer a systematic approach to data collection, facilitating the gathering of standardized data on variables such as well-being, social capital, and self-efficacy, ensuring data consistency and supporting structural equation modeling analysis (Marshall, 2005). Second, the questionnaire format can reduce social desirability bias, allowing respondents to answer in a low-pressure setting, which is particularly suitable for sensitive topics (Kreuter et al., 2008). Additionally, the flexibility and efficiency of questionnaires make them ideal for widely dispersed sample groups, effectively capturing responses that reflect the conditions of the farming population (Van Gelder et al., 2010). Therefore, the use of a questionnaire survey provided a standardized, efficient, and reliable data foundation for this study, contributing to a deeper understanding of the mechanisms influencing farmer well-being.

The questionnaire of this study is divided into two main parts. The first part concerns all variables involved in the study. The second part relates to demographic information

of the respondents. Respondents were asked seven demographic questions including gender, age, level of education, marital status, sources of income, income, and years of work experience.

Since English is not the primary or official language of China, it is necessary to employ the back-translation method proposed by Brislin (1993) to translate the original English questionnaire into Chinese. The back-translation of the questionnaire language for this study will be translated and validated by English experts from Guizhou University of Commerce to ensure the smoothness, clarity, and logical consistency of the statements and the simplicity and clarity of the questions in the questionnaire. Moreover, public administration experts from Guizhou University of Commerce will review and modify the content of the questionnaire for the rationality and fluency of the measurement items and provide suggestions.

The expert panel consisted of two members: the first, Professor A, an expert in English, and the second, Professor B, an expert in public administration. The translation and back-translation process included the following steps:

(1) Professor A translated the questionnaire from English to Chinese.

(2) The expert panel (Professor A and Professor B) reviewed the translation collaboratively.

(3) Professor B then translated the Chinese version back into English.

(4) The expert panel (Professor A and Professor B) compared the original and back-translated English versions.

(5) If any discrepancies or errors were found, the process restarted from step one. If no errors were identified, the questionnaire was deemed ready for the pretest phase.

Following a detailed and rigorous process, the accuracy of the survey content was maximally ensured. Consequently, the questionnaire was prepared in both English and Chinese. Additionally, the wording of the Chinese version was carefully adjusted to accommodate farmers' comprehension levels.

Researchers must unambiguously conceive and operationalize various outcomes and elements impacting them to investigate and grasp them adequately. In general, if constructs are not conceptualized and operationalized, research will lack focus and clear guidance on what the research is examining and measuring. In other words, it turns an abstract event into a concrete, measurable, and quantifiable one (Nelson et al., 2021). As a result, the current study operationalized the construct under consideration as follows.
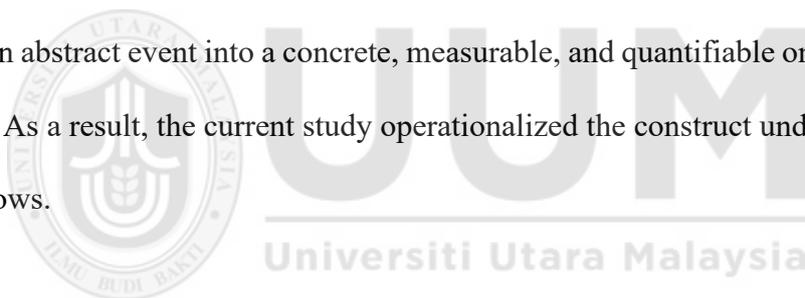
3.3.1 Questionnaire Description

The first section of the questionnaire consists of an explanation, which includes academic ethics elements such as obtaining informed consent, ensuring participant confidentiality, safeguarding privacy, and compliance with relevant data protection laws. To ensure that the respondents align with the target population for this study, the questionnaire was specifically designed for farmers aged 16 and above with household registration in Guizhou Province. This age criterion is based on the Guizhou Statistical Yearbook, which specifies that the rural labor force comprises individuals aged 16 and above who are eligible to participate in productive activities (Guizhou Provincial Bureau of Statistics & National Bureau of Statistics Survey Office in Guizhou, 2021).

Therefore, the specific content of the questionnaire explanation in the first section is provided below (Figure 3.4).
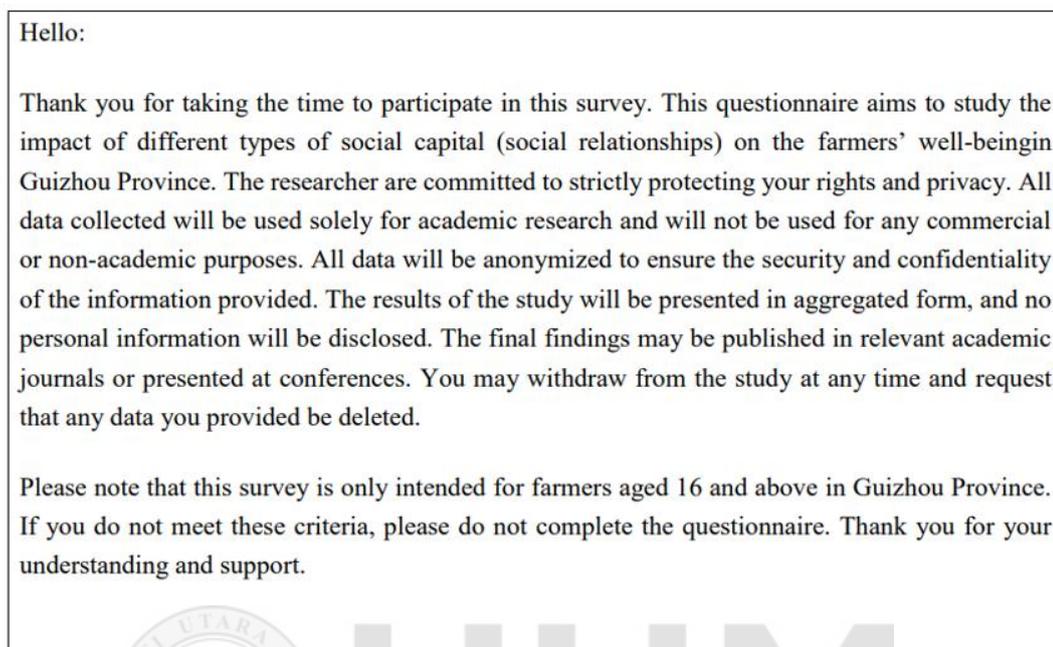
Hello:

Thank you for taking the time to participate in this survey. This questionnaire aims to study the impact of different types of social capital (social relationships) on the farmers' well-beingin Guizhou Province. The researcher are committed to strictly protecting your rights and privacy. All data collected will be used solely for academic research and will not be used for any commercial or non-academic purposes. All data will be anonymized to ensure the security and confidentiality of the information provided. The results of the study will be presented in aggregated form, and no personal information will be disclosed. The final findings may be published in relevant academic journals or presented at conferences. You may withdraw from the study at any time and request that any data you provided be deleted.

Please note that this survey is only intended for farmers aged 16 and above in Guizhou Province. If you do not meet these criteria, please do not complete the questionnaire. Thank you for your understanding and support.

Figure 3.4 Questionnaire Description

3.3.2 Research Variables

3.3.2.1 Social Capital

Social capital refers to resources accessible through social networks, enabled by shared values or standards, such as knowledge, emotional support, and financial assistance (Moore & Kawachi, 2017; Yen et al., 2020). It involves various social interactions that benefit participants (Panday et al., 2021). As a multidimensional construct, social capital is categorized into three dimensions: bonding, bridging, and linking, which form the basis of this study.

(1) Bonding Social Capital

The horizontal connection between similar social groupings is called bonding social capital (Doornbosch-Akse & van Vuuren, 2019). The resources from the social

network that are closely coupled are referred to as bonding social capital (Sheer et al., 2017), and closed ties, such as family members, close friends, and colleagues, make people feel obligated to repay one other's emotional and financial support (Nguyen-Trung et al., 2020).

Bonding social capital typically focuses on close and emotional connections, such as those between family members, close friends, and fellow community members. Based on the literature mentioned above, this study divides it into three sub-constructs: Family Support, Friends Support, and Community Support.

1) Family Support

In this study, the operational definition of family support within the bonding social capital sub-category for farmers in Guizhou Province is measured by the support received from family members when having distress and a problem, my family will support me; my family will always be with me, and my family knows how to help me. This study references the research by Usta et al. (2021), whose aim was to develop a scale, the Systemic Family Functionality Scale (SFFS), to measure the level of systemic family functionality. Among them, the sub- category of family support items are very suitable for measuring family support in this study. Out of its 11 items, this study selected those with a factor loading exceeding 0.7, totaling 5 questions.

2) Friends Support

In this study, the operational definition of friends support within the sub-constructs of bonding social capital for farmers in Guizhou Province is measured by their availability to help when needed, the relaxation and well-being experienced when with friends, trust in friends, sharing personal problems, and encouragement from friends

on goals and dreams. This study adopts items from Cobb and Xie (2015), who examined the structure of the Spanish version of the Multidimensional Scale of Perceived Social Support (MSPSS).

3) Community Support

In this study, the operational definition of community support within the sub-construct of bonding social capital is defined as community members being able to offer advice, provide support in times of difficulty, and having some members in the community share common values or interests. Specifically, the questionnaire on community participation consists of 3 items. This study adopts the research by Zhang et al. (2021), which verified the mediating role of community commitment between community support and sustainable development, and how different commitment pathways impact sustainable development differently. The community support sub-construct includes three items. These are very suitable for measuring the perception of community support among farmers in Guizhou Province in this study.

 (2) Bridging Social Capital

Resources gained from weak connections in social networks are referred to as bridging social capital (Trieu et al., 2019). Weak commitment ties with others may help people open their minds to new perspectives, paths, resources, and talents (Yen et al., 2020). Interactions between various communities are made possible by bridging capital, allowing those communities to work together and diversify their asset bases (Halstead et al., 2022).

Bridging social capital is typically associated with broader, weaker relationship networks, such as connections across different social groups, cultures, or communities.

Based on relevant literature, this study divides it into three sub-constructs: Social Diversity, Access Information and Resource, and Social Participation.

1) Social Diversity

For farmers in Guizhou Province, establishing a network of friends from different social, economic, and ethnic backgrounds is very important. This not only increases the channels through which farmers can access crucial information and resources but also helps them understand and adapt to the rapidly changing social and economic environments. The operational definition of social diversity is measured by the connections that bring new things from the outside world to the farmers in Guizhou Province, making them interested in happenings beyond their village, curious about the outside world, and providing them with new topics of conversation and the opportunity to make new friends. Specifically, there are four items. This study refers to the development and validation of the Internet Social Capital Scales by Williams (2006), with items 1, 4, 9, and 10 from the bridging social capital dimension, used to measure social diversity. The measurement involves communicating with people from different backgrounds, fostering interest and curiosity about the external world, and encountering new friends.

2) Access Information and Resource

In rural areas like Guizhou Province, the operational definition of information and resource acquisition within the aspect of bridging social capital in this study is defined as individuals trying new things, engaging with people of different ideas through their broad social networks, always benefiting, having a pleasant experience, and being a wise action. This can help farmers to increase their exposure to new groups and gain

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new development opportunities. Specifically, there are five items. First, this study refers to the development and validation of the Internet Social Capital Scales by Williams (2006), with items 2 and 3 from the bridging social capital dimension used to measure information and resource acquisition. Secondly, this study refers to the research by Arshad and Akram (2018), which proposed a conceptual model to assess the adoption of social media in the academic community by using collaboration, communication, and resource sharing as predictive factors for social media adoption. It modifies the items measuring the Resource sharing dimension into three items suitable for this study's context.

3) Social Participation

In rural areas of Guizhou Province, participating in activities and projects of different social groups can not only expand the social networks of farmers in Guizhou Province but also enhance their sense of belonging and participation in society, thereby promoting their overall well-being and development. The operational definition of social participation in the study is interacting with others online/offline making farmers feel like part of a larger community, connected to a larger environment, linked with everyone in the world, and willing to spend time supporting general online/offline community activities. Specifically, there are four items. This references the development and validation of the Internet Social Capital Scales by Williams (2006), with items 5, 6, 7, and 8 from the bridging social capital dimension used to measure the diversity of social networks. Through these theoretical perspectives, we can see that bridging social capital is key for farmers in Guizhou Province to achieve social integration and improve the quality of life.

 (3) Linking Social Capital

Linking social capital refers to a pattern of interaction where individuals, despite facing explicit power or authority differences, can still engage in communication based on norms of mutual respect and networks of trust. Specifically, this capacity for interaction encompasses the ability to establish connections with groups that are demographically quite different from oneself. This not only demonstrates the capability to communicate across social, economic, and cultural boundaries but also reflects the crucial role of social capital in fostering social integration and understanding (Cofré-Bravo et al., 2019). That is the resources obtained from connections with institutions and individuals in power positions (Solomon, 2023; Ziersch et al., 2023).

This study adopts the linking social capital measurement items from Chazdon et al. (2013), focusing on trust and engagement. Their work developed a social capital model and survey for the University of Minnesota Extension program, providing tools to assess social capital's role in communities. In this study, the trust sub-construct for farmers in Guizhou is measured by trust in village committees, local educational and healthcare institutions, social services, and the law. Five items are used, based on Chazdon et al.'s scale, with a Cronbach's alpha of 0.786. These items are adapted to fit the context of this study, as these institutions represent the formal authorities accessible to farmers in Guizhou.

Secondly, the operational definition of the engagement sub-construct in this study is measured by the extent to which villagers participate in formal institutions, such as attending meetings organized by the village committee, visiting the homes of village cadres, solving community problems, reporting issues, and organizing activities. Specifically, there are five items, based on the social capital scale used by Chazdon et

al. (2013), with a Cronbach's alpha of 0.788 for this dimension. These items were modified for the study's context and represent the formal institutions accessible to Guizhou farmers.

In summary, the measurement items used in this study to assess each sub-construct of bonding, bridging, and linking social capital have been systematically organized and are presented in Table 3.2. These items not only cover the various dimensions of social capital but are also carefully designed for each sub-construct to capture more accurately how each type of social capital specifically contributes to farmers' well-being. By incorporating relevant factors such as trust, engagement, and resource access, these items provide a comprehensive understanding of how different forms of social capital impact various aspects of well-being.

Additionally, this study used three or more letter codes for each variable in the questionnaire to facilitate easy identification by researchers in SPSS and PLS-SEM. Specifically, all items were coded as follows: Farmers' Self-efficacy (FSE1-FSE10), Farmers' Well-being (FWB1-FWB7), Family Support (FAS1-FAS5), Friends Support (FRS1-FRS4), Community Support (COS1-COS3), Social Diversity (SOD1-SOD4), Access to Information and Resources (AIR1-AIR5), Social Participation (SOP1-SOP4), Trust (TRU1-TRU5), and Engagement (ENG1-ENG5). Bonding Social Capital was coded as BOSC, Bridging Social Capital as BRSC, and Linking Social Capital as LKSC. The following Table shows the sub-construct and items of bonding, bridging and linking social capital (Table 3.2).

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Table 3.2
Sub-construct and Items of Bonding, Bridging and Linking

Construct	SN	Items	Source
Bonding Social Capital (BOSC)			
Family Support (FAS)	FAS1	When I have distress my family supports me to overcome it.	Usta et al. (2021)
	FAS2	I feel my family by my side when I have a problem.	
	FAS3	I'm sure that my family will always be with me anyway.	
	FAS4	My family knows how to help me when I am not feeling well.	
	FAS5	My family is by my side.	
Friends Support (FRS)	FRS1	I have friends with whom I can share my joys and sorrows.	Cobb and Xie (2015)
	FRS2	I can count on my friends when things go wrong.	
	FRS3	I can talk about my problems with my friends.	
	FRS4	My friends really try to help me.	
Community Support (COS)	COS1	The community members provided advice to help me solve the problem.	Zhang et al. (2021)
	COS2	The community members sided with me when I was in trouble.	
	COS3	There are some members in the community with whom I share common values or interests.	
Bridging Social Capital (BRSC)			
Social Diversity (SOD)	SOD1	Interacting with people online/offline makes me interested in things that happen outside of my village.	Williams (2006)
	SOD2	Talking with people online/offline makes me curious about other places in the world.	
	SOD3	Interacting with people online/offline gives me new people to talk to.	
	SOD4	Online/Offline, I come in contact with new people all the time.	
Access Information and Resource (AIR)	AIR1	Interacting with people online/offline makes me want to try new things.	Williams (2006), Arshad and Akram (2018)
	AIR2	Interacting with people online/offline makes me interested in what people unlike me are thinking.	
	AIR3	Interacting with people online/offline is always beneficial.	
	AIR4	Interacting with people online/offline is always an enjoyable experience.	
	AIR5	Interacting with people online/offline is always a wise move.	

Table 3.2 (Continued)

Social Participation (SOP)	SOP1	Interacting with people online/offline makes me feel like part of a larger community.	Williams (2006)
	SOP2	Interacting with people online/offline makes me feel connected to the bigger picture.	
	SOP3	Interacting with people online/offline reminds me that everyone in the world is connected.	
	SOP4	I am willing to spend time to support general online/offline community activities.	
Linking Social Capital (LKSC)			
Trust (TRU)	TRU1	I trust village committee.	Chazdon et al. (2013)
	TRU2	I trust educational organizations in my community.	
	TRU3	I trust health care organizations in my community.	
	TRU4	I trust social service organizations in my community.	
Engagement (ENG)	ENG1	I often attend meetings organized by the village committee.	Chazdon et al. (2013)
	ENG2	I frequently visit the homes of village officials.	
	ENG3	I regularly work with other community members to address public affairs issues.	
	ENG4	I often provide feedback to official institutions (village committee, educational institutions, healthcare organizations, social service agencies, etc.) on relevant matters.	
	ENG5	I frequently organize community activities.	

3.3.2.2 Farmers' Self-efficacy

Bandura defines self-efficacy as the individual's confidence in their ability to organize and execute actions to achieve desired results (Bandura & Flammer, 2000). It reflects farmers' belief in their skills and abilities to mobilize successfully in specific actions (Puozzo & Audrin, 2021). In this study, self-efficacy is operationalized as unidimensional and measured using ten items adapted from Pant et al. (2022).

In this study, self-efficacy for farmers in Guizhou Province is defined as the belief that they can achieve their goals through sufficient effort and remain calm, think of solutions, and resolve issues when faced with difficulties. This definition is based on

Pant et al. (2022), which explored the impact of social capital and self-efficacy on producer organizations' performance, including the mediating effect of self-efficacy between social capital and performance. The self-efficacy dimension consists of 10 items with a composite reliability of 0.95, modified for this study's context (Table 3.3). Farmers with higher self-efficacy are more likely to engage in community development, utilize social capital, and participate in cooperatives, which enhances their access to resources and strengthens community cohesion, promoting inclusive growth. Self-efficacy thus plays a crucial role in improving farmers' economic status, social participation, and psychological well-being.

Table 3.3
Farmers' Self-Efficacy Items

SN	Items	Source
FSE1	I can always manage to solve difficult problems if I try hard enough.	
FSE2	If someone opposes me, I can find means and ways to get what I want.	
FSE3	It is easy for me to stick to my aims and accomplish my goals.	
FSE4	I am confident that I could deal efficiently with unexpected events.	
FSE5	Thanks to my resourcefulness, I know how to handle unforeseen situations.	Pant et al. (2022)
FSE6	I can solve most problems if I invest the necessary effort.	
FSE7	I can remain calm when facing difficulties because I can rely on my coping abilities.	
FSE8	When I am confronted with a problem, I can usually find several solutions.	
FSE9	If I am in trouble, I can usually think of something to do.	
FSE10	No matter what comes my way, I am usually able to handle it.	

3.3.2.3 Farmers' Well-being

Literature suggested two dimensions of well-being: objective and subjective. In this study, subjective well-being, which refers to the farmer's self-reported satisfaction and

happiness, is the primary focus because it is essential to the farmers. It is a feeling of accomplishment and cherished in their life (Wang & Sohail, 2022). This study operationalized subjective well-being as a unidimensional construct. It was measured using seven items of Chakrabarti et al., (2020), which derived primarily from the scale employed by Diener et al. (1985). The scale has been used in more than 150 countries worldwide, including China, and has been widely proven to have good reliability and validity (Brailovskaia et al., 2022; Krueger & Schkade, 2008).

In this study, well-being is defined through the assessment of key aspects of life satisfaction: the closeness of life to the ideal, the superiority of living conditions, satisfaction with life, the extent to which important desires are achieved, reflections on the choice of rebirth, a positive attitude towards the future, and a general sense of well-being. This study references the research by Chakrabarti et al. (2020), which explores the factors influencing the improvement of subjective well-being among caregivers of children and adolescents in anti-poverty policies in developing countries. The research on the dimension of self-efficacy includes a total of 7 items. These are then modified appropriately for the context of this study (Table 3.4).

Table 3.4
Farmer's Well-being Items

SN	Items	Source
FWB1	In most ways my life is close to ideal.	
FWB2	The conditions of my life are excellent.	
FWB3	I am satisfied with my life.	Chakrabarti et al. (2020)
FWB4	So far I have gotten the important things I want in life.	
FWB5	If I could live my life over, I would change almost nothing.	
FWB6	I feel positive about my future.	
FWB7	I generally feel happy.	

Well-being encompasses multiple aspects including health, education, and social participation. In Guizhou, improving the health level of farmers, their level of education, and strengthening community building and social integration play a significant role in constructing a harmonious society and reducing the urban-rural gap. Enhancing the well-being of farmers helps to strengthen social cohesion and promote social equity.

In this study, the Likert scale was used to rate all items. Rensis Likert established this scoring system in 1932. The psychological distance between different possibilities, such as 3-4, 4-5, 5-6, 6-7, etc., is generally considered equal (Wakita et al., 2012). This scale system has long been the most popular method of psychological measurement, especially in quantitative survey research, for assessing personality, attitudes, and attributes (Ogden & Lo, 2012; Wakita et al., 2012). It is easy to compile and modify. Tools based on the Likert scale are particularly reliable. Researchers using it can easily collect and analyze a large amount of data in a short time. For many scales, a 5-point scale meets the needs of research and measurement (Wakita et al., 2012). Therefore, a five-point Likert scale was used in this study.

3.4 Pre-test

The pre-test aims to determine the instrument's understandability, appropriateness, and reduction of measurement error before it is used in the research (In, 2017). Researchers should perform a short study before collecting data for the significant study. Research might be judged practicable when using the pre-test approach (Bornmann & technology, 2013). Before collecting accurate data, the pre-test technique is required to confirm that respondents comprehend the researcher's aim. Even though the questions included

in this research were adapted from earlier work on this subject, this study went above and beyond to validate the instrument's reliability since, as Hair et al. (2023) noted, several elements may require alteration. Pre-test was done to be able to accomplish the following goals:

(1) To get the researcher acquainted with the data collection procedures.

(2) To detect any possible challenge and prepare to surmount the challenge during the main study.

(3) To further confirm the questionnaire's validity and reliability of the structure and items.

Various sample size cut-offs for a particular pre-test were recommended in the literature. Cocks and Torgerson (2013), for instance, suggested a minimum of 9% of the complete sample. Also recommended by Sim and Lewis (2012) is a minimum of 50 participants. As a result, farmers in Guizhou province will be given 50 questionnaires. The pre-test results will be utilized to modify the questions for questionnaire quality control. To analyze the pre-test data of this study, SPSS will be used, and the Cronbach's Alpha of each construct in the model will be assessed to confirm the reliability of the items used before the data collection.

3.4.1 Results of Pre-test Scale

The Pre-test of this study was conducted in two parts sequentially. First, an item analysis was conducted to understand the suitability of each question item. Finally, a reliability analysis was performed to examine the quality of the pre-test items. The results are as follows:

To assess the discriminability of each item in the scale, a project analysis was conducted on pre-test data. This analysis used the correlation coefficient (r) and Critical Ratio (CR) between each item's score and the total scale score. The Critical Ratio measures the significance of the difference in average scores between the high-score and low-score groups, with higher values indicating better discriminability (Hair, 2009). Hair (2009) also stated that the correlation coefficient between each item and the total score should exceed 0.5. Therefore, the criteria for item selection in this study were a significant difference in CR and a correlation (r) greater than 0.5. Cronbach's α, a measure of internal consistency, is commonly used for reliability analysis. A value greater than 0.7 is considered indicative of good internal consistency (Hair, 2009). This study conducted an internal consistency reliability analysis, with the results shown in the Table below.

(1) Pre-test Analysis of Family Support Scale

As can be seen from the Table 3.5 below, the correlation coefficient (r) between item scores and the total scale score ranged from 0.575 to 0.803; the Critical Ratio (CR) ranged from 9.055 to 17.000, and the Cronbach's Alpha value was 0.878, all meeting the standards. Therefore, all items were retained.

Table 3.5
Pre-test Analysis of Family Support

Item	Correlation Coefficient (r)	Critical ratio (CR)	Cronbach's Alpha	Number of Items	Deleted/Retained
FAS1	0.575	9.055***		5	Retained
FAS2	0.751	14.353***			Retained
FAS3	0.803	17.000***	0.878		Retained
FAS4	0.731	13.015***			Retained
FAS5	0.678	14.913***			Retained

***$p<0.001$

(2) Pre-test Analysis of Friends Support Scale

As shown in the Table 3.6 below, the correlation coefficients (r) between item scores
and the total scale score range from 0.704 to 0.803; the Critical Ratio (CR) ranges from
8.822 to 9.542, and the Cronbach's Alpha value of 0.887 meets the standard, therefore
all items are retained.

Table 3.6
Pre-test Analysis of Friends Support

Item	Correlation Coefficient (r)	Critical ratio (CR)	Cronbach's Alpha	Number of Items	Deleted/Retained
FRS1	0.718	9.369***	0.887	4	Retained
FRS2	0.803	9.542***			Retained
FRS3	0.704	9.054***			Retained
FRS4	0.791	8.822***			Retained

***$p<0.001$

(3) Pre-test Analysis of Community Support Scale

As shown in the Table 3.7 below, the correlation coefficients (r) between item scores
and the total scale score range from 0.593 to 0.845; the Critical Ratio (CR) ranges from
8.857 to 13.616, and the Cronbach's Alpha value of 0.862 meets the standard, therefore
all items are retained.

Table 3.7
Pre-test Analysis of Community Support

Item	Correlation Coefficient (r)	Critical ratio (CR)	Cronbach's Alpha	Number of Items	Deleted/Retained
COS1	0.845	12.494***	0.862	3	Retained
COS2	0.809	14.096***			Retained
COS3	0.593	9.244***			Retained

***$p<0.001$

(4) Pre-test Analysis of Social Diversity Scale

As shown in the Table 3.8 below, the correlation coefficients (r) between item scores and the total scale score range from 0.556 to 0.694; the Critical Ratio (CR) ranges from 8.572 to 9.484, and the Cronbach's Alpha value of 0.821 meets the standard, therefore all items are retained.

Table 3.8
Pre-test Analysis of Social Diversity

Item	Correlation Coefficient (r)	Critical ratio (CR)	Cronbach's Alpha	Number of Items	Deleted/Retained
SOD1	0.678	9.484***	0.821	4	Retained
SOD2	0.694	8.641***			Retained
SOD3	0.647	8.572***			Retained
SOD4	0.556	8.663***			Retained

***$p<0.001$

(5) Pre-test Analysis of Access Information and Resource Scale

As shown in the Table 3.9 below, the correlation coefficients (r) between item scores and the total scale score range from 0.665 to 0.771; the Critical Ratio (CR) ranges from 6.995 to 10.507, and the Cronbach's Alpha value of 0.880 meets the standard, therefore all items are retained.

Table 3.9
Pre-test of Access Information and Resource

Item	Correlation Coefficient (r)	Critical ratio (CR)	Cronbach's Alpha	Number of Items	Deleted/Retained
AIR1	0.678	8.808***	0.880	5	Retained
AIR2	0.729	10.507***			Retained
AIR3	0.721	8.903***			Retained
AIR4	0.665	6.995***			Retained
AIR5	0.771	9.841***			Retained

***$p<0.001$

(6) Pre-test Analysis of Social Participation Scale

As shown in the Table 3.10 below, the correlation coefficients (r) between item scores and the total scale score range from 0.688 to 0.794; the Critical Ratio (CR) ranges from 9.911 to 10.618, and the Cronbach's Alpha value of 0.887 meets the standard, therefore all items are retained.

Table 3.10
Pre-test Analysis of Social Participation

Item	Correlation Coefficient (r)	Critical ratio (CR)	Cronbach's Alpha	Number of Items	Deleted/Retained
SOP1	0.781	9.911***	0.887	4	Retained
SOP2	0.794	9.399***			Retained
SOP3	0.747	10.618***			Retained
SOP4	0.688	10.225***			Retained

***$p<0.001$

(7) Pre-test Analysis of Trust Scale

As shown in the Table 3.11 below, the correlation coefficients (r) between item scores and the total scale score range from 0.690 to 0.848; the Critical Ratio (CR) ranges from 8.406 to 10.605, and the Cronbach's Alpha value is 0.918, all conforming to the standard, thus all items are retained.

Table 3.11
Pre-test Analysis of Trust

Item	Correlation Coefficient (r)	Critical ratio (CR)	Cronbach's Alpha	Number of Items	Deleted/Retained
Trust1	0.762	9.370***	0.918	5	Retained
Trust2	0.830	9.225***			Retained
Trust3	0.819	9.984***			Retained
Trust4	0.848	10.605***			Retained
Trust5	0.690	8.406***			Retained

***$p<0.001$

(8) Pre-test Analysis of Engagement Scale

According to the Table 3.12 below, the correlation coefficients (r) between item scores and the total scale score range from 0.741 to 0.833; the Critical Ratio (CR) ranges from 9.392 to 10.904, and the Cronbach's Alpha value is 0.916, all meeting the criteria, hence all items are kept.

Table 3.12
Pre-test Analysis of Engagement

Item	Correlation Coefficient (r)	Critical ratio (CR)	Cronbach's Alpha	Number of Items	Deleted/Retained
ENG1	0.741	10.327***	0.916	5	Retained
ENG2	0.762	9.493***			Retained
ENG3	0.833	10.904***			Retained
ENG4	0.819	9.392***			Retained
ENG5	0.761	10.402***			Retained

***$p<0.001$

(9) Pre-test Analysis of Farmers' Self-Efficacy Scale

From the Table 3.13 below, the correlation coefficients (r) between item scores and the total scale score range from 0.646 to 0.799; the Critical Ratio (CR) ranges from 6.507 to 9.439, and the Cronbach's Alpha value is 0.935, all conforming to the standard, thus all items are retained.

Table 3.13
Pre-test Analysis of Farmers' Self-efficacy

Item	Correlation Coefficient (r)	Critical ratio (CR)	Cronbach's Alpha	Number of Items	Deleted/Retained
FES1	0.646	8.025***	0.935	10	Retained
FES2	0.720	6.507***			Retained
FES3	0.717	8.215***			Retained
FES4	0.780	9.529***			Retained
FES5	0.799	9.439***			Retained
FES6	0.719	7.550***			Retained
FES7	0.697	7.592***			Retained
FES8	0.741	8.269***			Retained
FES9	0.776	8.571***			Retained
FES10	0.799	9.113***			Retained

 (10) Pre-test Analysis of the Farmers' Well-being Scale

As seen in the Table 3.14 below, the correlation coefficients (r) between item scores and the total scale score range from 0.583 to 0.796; the Critical Ratio (CR) ranges from 6.757 to 10.827, and the Cronbach's Alpha value is 0.900, all meeting the standard, therefore all items are kept.

Table 3.14
Pre-test Analysis of Farmers' Well-being

Item	Correlation Coefficient (r)	Critical ratio (CR)	Cronbach's Alpha	Number of Items	Deleted/Retained
FWB1	0.744	9.486***	0.9	7	Retained
FWB2	0.796	10.344***			Retained
FWB3	0.766	9.502***			Retained
FWB4	0.759	10.827***			Retained
FWB5	0.631	6.757***			Retained
FWB6	0.583	7.587***			Retained
FWB7	0.678	7.485***			Retained

***p<0.001

3.5 Methods of Data Analysis

After successfully obtaining the data, it must be refined to derive useful and valuable insights (Faroukhi et al., 2020). In this study, mean imputation was employed to address missing values, while outliers were managed by removal. First, for handling missing data, each variable with missing entries was identified, and the mean of observed values for each variable was calculated. For variables with missing values, the mean was used as a replacement to ensure dataset completeness while maintaining central tendencies. Mean imputation is particularly suitable for continuous data, as it retains overall trends while minimizing bias (Anwar et al., 2019).

To address outliers, statistical methods were used to detect potential outliers within the dataset. Common detection techniques include the Z-score method and the box plot method, where data points with a Z-score exceeding a specific threshold (e.g., ±3) or those outside the interquartile range (IQR) are flagged as outliers. Once identified, these outliers were removed from the dataset to ensure the representativeness and consistency of the remaining data (Aljuaid & Sasi, 2016). Finally, enumerators examined the cleaned data to verify if mean imputation and outlier removal significantly improved the overall quality, allowing for more precise analysis (Penny & Jolliffe, 1999).

Subsequently, the entire set of questionnaires was subjected to validity checks. This study identified and excluded invalid questionnaires based on the following three criteria:

(1) Incomplete or partially completed questionnaires: When respondents fail to answer all the questions in the questionnaire, the data may be incomplete and unsuitable for valid analysis. Incomplete questionnaires can negatively affect the representativeness and accuracy of the analysis (Hair et al., 2010).

(2) Repeated selection of the same option: If respondents select the same answer for all questions (e.g., choosing "Neutral" or "Strongly Agree" for every item), it suggests that they may not have answered thoughtfully, or they may have rushed through the questionnaire. This phenomenon, known as "straight-lining" (Malhotra, 2010), can lead to biased data.

(3) Extreme preferences: Some respondents may choose extreme options (e.g., "Strongly Agree" or "Strongly Disagree") for all items, which may reflect a lack of careful consideration or a mechanical response pattern. Extreme preference responses can also distort the authenticity of the data (DeSimone et al., 2015).

Identifying and handling invalid questionnaires is crucial for ensuring data quality. Researchers should take appropriate measures during the data cleaning phase to exclude invalid responses, thereby improving the reliability and validity of the data.

To answer the research questions and achieve the study objectives, hypotheses were tested using accessible, relevant, and up-to-date statistical software and methods. First, the research data were analyzed through descriptive statistics. Descriptive statistics provide a concise summary of data using numerical values, charts, or graphs, thereby enhancing the clarity of data characteristics and helping both researchers and readers understand data distribution and key features (Cooksey & Cooksey, 2020; McCarthy et al., 2022). Typically, measures of central tendency (e.g., mean) and variability (e.g., standard deviation) are employed to summarize data characteristics (Kaur et al., 2018; Rendón-Macías et al., 2016). Additionally, descriptive statistics help assess normal distribution, facilitating decisions regarding the use of parametric or non-parametric statistical methods (Mishra et al., 2019).

The primary purpose of descriptive statistics is to make large data sets more comprehensible and to lay the groundwork for subsequent inferential statistics or analyses. This step is essential in research, enabling researchers to gain an overall view of the data and identify potential trends or anomalies (Vetter & Analgesia, 2017). Furthermore, descriptive statistics allow for a quick understanding of sample characteristics, aiding in the development of more suitable analysis strategies (Kaur et

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al., 2018). The importance of descriptive statistics lies in providing a clear framework for further data analysis, reducing data complexity, and facilitating decision-making. Particularly in fields such as medicine, social sciences, and management, descriptive statistics support decision-making processes and help professionals better understand study populations (Murphy, 2021; Spriestersbach et al., 2009). This study employed SPSS 26.0 to perform descriptive statistical analyses.

Additionally, this study utilized SPSS software to compare the mean differences of research variables across different demographic variables. Such comparisons can help identify the influence of specific demographic factors (e.g., age, gender, education level) on research variables (e.g., health status, job satisfaction). Statistical tests, such as the t-test for means or analysis of variance (ANOVA), were typically applied to determine whether these variables differ significantly across groups (Zhang, 2010).

The purpose of such analyses is to gain deeper insights into the differences among various demographic groups regarding the research variables, thereby enabling more tailored analyses. For instance, by comparing job satisfaction across age groups or educational backgrounds, a better understanding of how demographic characteristics influence individual work experiences can be achieved, which, in turn, can guide policy formulation (Mgaiwa, 2023). Additionally, examining mean differences across demographic variables is essential because it provides insights into the characteristics of different groups, highlighting variability in the variables, which supports policy development and the personalized allocation of resources (Bell et al., 2011). In fields like healthcare and social sciences, these comparisons also help identify varying needs across groups, facilitating resource optimization and enhancing quality of life (Kreuter et al., 2021).

The structural equation model (SEM) is a widely used analytical tool for causal and correlational analysis of latent variables, particularly effective in evaluating intangible constructs like attitude and perception (Hair et al., 2023). SEM provides researchers with a powerful method to test hypotheses and examine causal relationships between structures and variables (Mao et al., 2023). A subset of SEM, Partial Least Squares Structural Equation Modeling (PLS-SEM), is highly regarded for its ability to assess causal and correlational models across diverse relationships (Hair et al., 2011). PLS-SEM is particularly useful for analyzing complex models with multiple variables, offering advantages in handling small sample sizes and abnormal data, capabilities that other statistical methods may lack (Akhavan & Philsoophian, 2023; Hair et al., 2023). Its broad applicability has made PLS-SEM a valuable tool in various research fields.

Moreover, Structural Equation Modeling (SEM) is a modern analytical technique used for causal and correlational analysis of latent variables. It has become one of the most widely used practical tools in social and management research. SEM primarily assesses intangible constructs that are difficult to measure directly, such as attitudes and perceptions (Hair et al., 2023). This technique provides researchers with a versatile and powerful measurement method to test research hypotheses and examine the causal relationships and correlations between structures and variables (Mao et al., 2023).

SEM consists of two stages: the measurement model and the structural model. The measurement model employs Confirmatory Factor Analysis (CFA), one of the most commonly used statistical methods, to test whether the relationships between observed variables and their corresponding latent variables align with the expected theoretical structure. This includes evaluating factor loadings, Composite Reliability (CR), and Average Variance Extracted (AVE) to assess the reliability of the measurements and

the internal consistency of the constructs. Specifically, factor loadings should be 0.7 or higher to indicate strong predictive relationships between observed variables and their latent variables. CR values should exceed 0.7 to demonstrate good internal consistency (Fornell & Larcker, 1981; Hair et al., 2010). The AVE value should be greater than 0.5, which indicates that the indicators of a construct can explain more than 50% of the variance, thus supporting good convergent validity. Additionally, the AVE method proposed by Fornell and Larcker is used to assess discriminant validity, meaning the square root of the AVE for a latent variable should be greater than the correlation coefficient between that variable and any other variable in the model (Fornell & Larcker, 1981).

In Structural Equation Modeling (SEM), in addition to the measurement model, the structural model is a core component that focuses on analyzing the hypothesized relationships between latent variables. The structural model examines the causal relationships between latent variables, which are typically based on theory or hypotheses. These relationships can be direct or mediated through intermediary or moderating variables. The primary goal of the structural model is to test whether the hypothesized relationships proposed by the theory are supported by the data, thereby providing new insights or evidence to either advance or validate existing theories (Schumacker & Lomax, 2010). When testing the structural model, the first step is to assess the model's goodness of fit, followed by the examination of the research hypotheses. Path analysis is one of the most commonly used methods within the structural model, employed to analyze both direct and indirect effects between variables. The significance of path coefficients is determined using the standard criterion of $p < 0.05$, which confirms that the relationships between variables are statistically significant. Additionally, the explained variance (R^2) should be as high as

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possible, indicating that the model is able to explain a substantial proportion of the variance in the variables.

Partial Least Squares Structural Equation Modeling (PLS-SEM) is a subset of Structural Equation Modeling (SEM) that is widely accepted by scholars. When applied correctly, PLS-SEM has the potential to serve as an effective tool for evaluating causal and correlational models across various relationships (Hair et al., 2011). In this study, SmartPLS 4 software was used to test both the measurement and structural models.

In this research context, the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach was selected as the primary data analysis method for several reasons. First, PLS-SEM is well-suited for cases with smaller sample sizes or non-normally distributed data. Given that the study focuses on the specific population of farmers in Guizhou, where sample size limitations and non-normal distribution of data may arise, PLS-SEM demonstrates robust performance under these conditions. Second, this study explores the impact of three dimensions of social capital (bonding, bridging, and linking) along with self-efficacy on well-being—a complex research framework involving multiple latent variables. PLS-SEM is advantageous for handling such complex, multi-path relationships, especially when second-order models are involved, as it effectively explores the interrelations among variables. Furthermore, as a predictive analysis tool, PLS-SEM aligns well with this study's goal of examining the relationships between well-being, social capital, and self-efficacy among Guizhou farmers, providing insights for future research and policy implications. Finally, PLS-SEM is highly effective in analyzing mediation effects, such as the mediating role of self-efficacy between social capital and well-being. In this study, PLS-SEM allows for

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simultaneous estimation of direct and indirect effects, enhancing the understanding of the interaction among variables.

3.6 Ethical Considerations

In the questionnaire description for this study, it is explicitly stated that strict adherence to academic ethics will be followed to ensure the rights and privacy of participants are protected. The specific ethical guidelines are as follows:

(1) Purpose of Data Collection: Farmers participating in the survey were clearly informed that the purpose of data collection was to gain insights into their perspectives and attitudes on each questionnaire item relevant to this study. They were assured that the collected data would be used solely for academic research purposes and would not be applied to any commercial or non-academic use.

(2) Data Usage and Confidentiality Guarantee: To alleviate any concerns about confidentiality, participants were assured that all information provided would be treated with strict confidentiality. All data would be anonymized to prevent any identification of individuals, ensuring full protection of participants' privacy and confidentiality rights, as well as guaranteeing the appropriate use of their data.

(3) Sharing of Research Results: Farmers were informed that the study's results would be presented only in an aggregated form, contributing to the research findings in the researcher's doctoral dissertation. Personal identifiers would neither be disclosed nor appear in any research reports.

(4) Voluntary Participation: The participants were informed of their right to withdraw from the study at any time, as well as their right to request the deletion of their data.

The researcher expressed full respect for the participants' personal autonomy regarding their involvement in the study.

3.7 Conclusion

Chapter 3 begins by explaining the research philosophy. It then describes the type of study conducted (quantitative design). This chapter also provides a complete overview of the research design (survey), including the population, units of analysis, and sampling strategy (sample size and techniques). The following sections discuss the questionnaire, its design, measurement, scales, and operationalization of constructs. This part also outlines the specific data collection procedures. The explanation of the pre-test is also included, along with a detailed discussion of the data analysis methods, highlighting the use of SPSS and SmartPLS4. Finally, the chapter discusses ethical considerations.

First, the chapter details the methodological framework of the study, covering research design, sample selection, data collection methods, and data analysis strategy. It also elaborates on the operational definitions and measurement tools to ensure the scientific rigor and applicability of the research approach. The chapter then discusses the target population and sampling method. The study sample primarily consists of farmers from Guizhou Province, selected using stratified, cluster and purposive sampling techniques to ensure representativeness. Detailed criteria for selecting each stratum and the sampling process are provided, emphasizing the broad scope and diversity of the sample. Additionally, the chapter introduces the design of the questionnaire used for data collection, including the initial development, pre-test, and the final version of the questionnaire. The pretest validates the reliability and validity of the questionnaire, ensuring data accuracy. The questionnaire contains multiple sections designed to

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comprehensively measure the various dimensions of social capital, self-efficacy, and farmers' well-being.

In the data analysis section, the chapter describes the statistical techniques used, including descriptive statistics, reliability analysis, exploratory and confirmatory factor analyses, and path analysis. The analyses help researchers test the study's hypotheses and explore complex relationships between variables. Lastly, the chapter discusses ethical considerations during the research process, including how participants' privacy was protected, how data was managed, and ensuring participants' voluntary participation. Through these detailed methodological descriptions, Chapter 3 provides a solid foundation for understanding the research results while ensuring transparency and reproducibility of the study process, offering a practical guide for future research.

CHAPTER 4

DATA ANALYSIS AND RESULTS

4.1 Introduction

The primary objective of this chapter is to present findings based on data collected from farmers in Guizhou Province, China. Initially, the chapter explicitly discusses the response rate, descriptive demographics, and preliminary data filtering. Subsequently, the Partial Least Squares Structural Equation Modeling (PLS-SEM) using Smart-PLS version 4.0 is employed to assess the measurement model, determining both its convergent and discriminant validity. Furthermore, the structural model reports on the significance of path coefficients, effect sizes, and explanatory power. Additionally, mediation effects are tested using bootstrapping methods. Finally, this study examines significant variations in research variables across different demographic groups.

4.2 Descriptive Statistics

In social science research, conducting descriptive statistical analysis is a common and crucial preliminary method that provides a quantitative description of basic characteristics of the data set, such as measures of central tendency, variability, and distribution shape. This analysis aids researchers in assessing the distribution of data, setting the stage for further statistical testing and interpretation. The descriptive statistical analysis in this study includes response rate, statistical analysis methods, demographic information descriptions, and item results.

4.2.1 Response Rate

The primary data for this study were obtained from farmers in Guizhou Province, China. Throughout the distribution and response process, farmers demonstrated a significantly stronger preference for completing offline questionnaires over online questionnaires. This preference likely stems from many farmers' familiarity with traditional methods of communication and record-keeping, as paper surveys align with their long-standing habits of recording information. Furthermore, when encountering questions that they did not fully understand, farmers could easily ask survey administrators for clarification. This interaction fostered greater engagement and comprehension of the survey content, reducing any stress associated with online surveys. Additionally, limited familiarity with digital technology led some farmers to have concerns about data security measures on online survey platforms.

The survey collection results aligned closely with the enumerators team's and projections, showing a clear advantage in the distribution and response rates of offline questionnaires. Out of the 700 questionnaires distributed, 86 were not returned, resulting in a non-response rate of 12.28%. Among the returned questionnaires, 34 were identified as invalid, accounting for 4.86% of the total. Thus, the effective response rate was 82.90%, with a total of 580 valid responses. Of these, 146 (Which accounts for 25.71% of the total valid questionnaires) reflecting valid responses were collected through online means, while 434 (Which accounts for 74.83 % of the total valid questionnaires) indicating valid responses were gathered through paper-based methods, suggesting a higher effectiveness of offline collection in this survey. These valid questionnaires served as the basis for data analysis in this study, as shown in Table 4.1.

Table 4.1
Response Rate of Questionnaires

Response	Number / Frequency	Rate (%)
Number of Questionnaire Distribution	700	100.00
Unreturned	86	12.28
Invalid questionnaires	34	4.86
Valid Questionnaires Returned (online)	146	20.86
Valid Questionnaires Returned (offline)	434	62.00
Valid Response	580	82.90

Table 4.2 presents the survey data collected from farmers in selected sample counties across different strata in Guizhou Province. The research subjects were distributed across nine regions within the province, with specific counties chosen from each region for sampling. The Table records the names of the sample counties, the actual number of valid questionnaires collected both online and offline, and the response rates for each county. The survey response rates across counties ranged from 76.92% in Taijiang County to 88.68% in Liuzhi County, resulting in a total of 580 valid responses. These data indicate consistent response rates across regions and a sufficient number of valid responses, providing a representative dataset to support research on farmers' well-being.

Table 4.2
Data Collection and Analysis of Each Sample County

Stratum	Sample County	Offline Valid Questionnaire	Online Valid Questionnaire	Response Rate (%)
Guiyang	Xifeng (15)	11	4	78.95
	Kaiyang (21)	16	5	80.77
Zunyi	Meitang (26)	20	6	86.67
	Daozhen (15)	11	4	78.95
Liupanshui	Panzhou (86)	64	22	80.37
	Liuzhi (47)	36	11	88.68
Anshun	Pingba (22)	16	6	78.57
	Ziyun (27)	20	7	84.38

Table 4.2 (Continued)

Bijie	Dafang (69)	51	18	79.31
	Weining (110)	82	28	82.71
Tongren	Jiangkou (15)	11	4	88.24
	Yuping (10)	7	3	83.33
Qiandongnan	Taijiang (10)	7	3	76.92
	Huangping (22)	17	5	88.00
Qiannan	Pingtang (21)	16	5	84.00
	Luodian (16)	12	4	84.21
Qianxinan	Zhenfeng (27)	21	6	87.10
	Wangmo (21)	16	5	87.50
Total		**434**	**146**	

4.2.2 Statistical Analysis Methods

This study first utilized the SPSS 21.0 statistical software to analyze the frequency distribution and percentage of the participants' demographic information and to compute descriptive statistics such as mean, standard deviation, skewness, and kurtosis for each item. Next, the structural equation modeling tool Smart PLS 4.0 was employed to assess the convergent and discriminant validity of the measurement model and to verify the overall model fit. Finally, based on the evaluation results, the study examined the validity of the research hypotheses and explored the potential existence of mediating effects. Data analysis and raw data Tables are provided in Appendix D and Appendix E.

Through the use of relevant professional statistical analysis tools, this study is able to transform the collected raw data into concrete analysis results, systematically address and validate the proposed research questions and hypotheses, and completely present the research findings and theoretical implications.

4.2.3 Demographic Information Descriptive

This study examines the gender distribution of the sample, with 279 men comprising 48.1% and 301 women comprising 51.9%. This distribution closely aligns with the gender ratio reported in the Guizhou Statistical Yearbook, where males account for 51.15% and females for 48.85%. Regarding age distribution, the largest group is 16-29 years old, accounting for 39.4% of the sample with 228 individuals; followed by 30-39 years old with 197 individuals making up 34.0%; and the third largest group being 40-49 years old, with 87 individuals accounting for 15.0%. The sample was collected through both online and offline methods. Online data was gathered via the Questionnaire Star platform by distributing survey links on social media, which might explain the lower response rate from older farmers who are less active on social media platforms.

In terms of education levels, 237 respondents (40.9%) have junior high school education or below, 194 (33.4%) completed high school, and 149 (25.7%) have a college degree or higher. Most farmers had an education level of junior high school or below, followed by high school. Regarding marital status, 353 farmers (60.9%) are married, 192 (33.1%) are unmarried, and 35 (6.0%) fall into other categories, indicating that most participants are married. The main sources of family income include 235 people (40.5%) who work outside the agricultural sector, followed by 66 (11.4%) involved in cultivation (crops, fruits, etc.), 55 (9.5%) in livestock farming, 72 (12.4%) running their own businesses (stalls, taxis, agritourism, etc.), and 152 (26.2%) in other sectors, demonstrating the diverse income sources of modern farmers.

Concerning average annual household income, the most common income range is 10,000-14,999 yuan with 280 individuals (48.3%); followed by 7,000-9,999 yuan with

134 individuals (23.1%); 20,000 yuan and above with 95 individuals (16.4%); and 15,000-19,999 yuan with 71 individuals (12.2%), aligning with the typical annual income levels of farmers in Guizhou. Additionally, the duration of engagement in the primary occupation shows that 174 individuals (30.0%) have been in their main industry for 6-10 years; 157 (27.1%) for 3-5 years; 109 (18.8%) for 11-20 years; 89 (15.3%) for less than 3 years; and 51 (8.8%) for over 20 years. Detailed demographic differentiation analysis is detailed in 4.3 of this section.

Based on the aforementioned descriptions, the demographic information of this study has been organized and presented in Table 4.3.

Table 4.3
Analysis of Demographic Information

Items	Group	Frequency Distribution	Percentage (%)
Gender	Male	279	48.1
	Female	301	51.9
Age	16-29 years	228	39.3
	30-39 years	197	34.0
	40-49 years	87	15.0
	50-59 years	48	8.3
	60 years and above	20	3.4
Educational Level	Junior high school and below	237	40.9
	High school	194	33.4
	College and above	149	25.7
Marital Status	Married	353	60.9
	Unmarried	192	33.1
	Other	35	6.0
Main Source of Family Income	Working outside	235	40.5
	Farming (crops, fruits, etc.)	66	11.4
	Animal husbandry	55	9.5
	Self-employed (stalls, taxi driving, agritourism, etc.)	72	12.4
	Other	152	26.2

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Table 4.3 (Continued)

Annual Family Income per Capita	7,000-9,999 yuan	134	23.1
	10,000-14,999 yuan	280	48.3
	15,000-19,999 yuan	71	12.2
	20,000 yuan and above	95	16.4
Duration in Main Occupation (Main Source of Income)	Less than 3 years	89	15.3
	3-5 years	157	27.1
	6-10 years	174	30.0
	11-20 years	109	18.8
	More than 20 years	51	8.8

4.2.4 Item Results

In this study, the mean scores of survey items ranged from 2.910 to 4.220, indicating the average level of responses to the questions. The mean is a measure of the central tendency of a dataset and reflects the general intensity of responses from the participants. Standard deviations ranged from 0.850 to 1.291, representing the degree of dispersion or variability in responses. A larger standard deviation indicates a higher degree of dispersion relative to the mean, while a smaller value suggests more concentrated data. Understanding standard deviations in social science research helps in assessing the consistency and variability of responses.

Regarding the distribution of the data, the skewness values ranged from -1.125 to 0.105, and kurtosis values ranged from -1.032 to 2.323. Skewness and kurtosis are statistics that measure the shape of data distribution. Skewness refers to the symmetry of the distribution; values within ±2 are generally considered to be nearly symmetric, indicating no significant bias towards higher or lower scores. Kurtosis reflects the peakedness of the distribution; values within ±7 typically suggest that the distribution's sharpness is moderate compared to a normal distribution. According to Kline (2023), normal distribution standards for skewness and kurtosis are essential for parametric tests, which assume data is normally distributed. In this study, all skewness and

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kurtosis values fall within acceptable ranges, indicating the data is suitable for parametric analyses.

These analytical outcomes not only bolster confidence in the dataset's validity but also provide a robust statistical foundation for further data processing and interpretation, ensuring the reliability and scientific integrity of the research findings (Table 4.4).

Table 4.4
Analysis of Personal Basic Information

Item	Mean	Standard Deviation	Skewness	Kurtosis
FAS1	4.21	1.007	-1.566	2.323
FAS2	4.22	0.926	-1.125	0.889
FAS3	4.21	0.928	-0.992	0.251
FAS4	4.05	0.944	-0.743	-0.151
FAS5	3.99	1.113	-0.972	0.214
FRS1	4.09	0.903	-0.845	0.250
FRS2	3.64	1.032	-0.468	-0.073
FRS3	3.87	0.907	-0.679	0.297
FRS4	3.70	0.994	-0.399	-0.179
COS1	3.43	1.006	-0.215	-0.340
COS2	3.35	1.011	0.001	-0.367
COS3	3.58	0.911	-0.617	0.372
SOD1	3.67	1.021	-0.742	0.200
SOD2	3.73	0.936	-0.819	0.623
SOD3	3.75	0.976	-0.822	0.366
SOD4	3.52	0.995	-0.369	-0.498
AIR1	3.80	0.923	-0.816	0.590
AIR2	3.62	0.959	-0.536	-0.136
AIR3	3.58	1.011	-0.485	-0.160
AIR4	3.60	0.900	-0.448	0.426
AIR5	3.55	0.927	-0.182	-0.365
SOP1	3.69	0.982	-0.830	0.398
SOP2	3.69	0.931	-0.897	0.864
SOP3	3.67	0.951	-0.596	0.017
SOP4	3.61	0.929	-0.396	-0.259
TRU1	3.59	1.070	-0.617	-0.041
TRU2	3.62	0.964	-0.396	-0.419
TRU3	3.67	1.013	-0.591	0.162

Table 4.4 (Continued)

TRU4	3.60	1.043	-0.675	0.038
TRU5	3.78	1.036	-0.675	0.177
ENG1	3.33	1.273	-0.436	-0.772
ENG2	2.83	1.291	0.105	-1.111
ENG3	3.13	1.280	-0.240	-1.032
ENG4	3.17	1.156	-0.330	-0.748
ENG5	3.01	1.232	-0.104	-0.976
FSE 1	3.87	0.912	-0.663	0.425
FSE 2	3.45	0.951	-0.488	0.192
FSE 3	3.55	1.038	-0.464	-0.252
FSE 4	3.61	0.933	-0.422	0.170
FSE 5	3.49	1.009	-0.437	-0.123
FSE 6	3.79	0.851	-0.800	0.811
FSE 7	3.77	0.850	-0.735	0.699
FSE 8	3.73	0.927	-0.527	-0.064
FSE 9	3.77	0.837	-0.534	0.539
FSE 10	3.55	0.938	-0.313	-0.169
FWB1	3.33	1.132	-0.328	-0.771
FWB2	3.03	1.201	-0.090	-0.981
FWB3	3.39	1.117	-0.615	-0.550
FWB4	3.26	1.150	-0.326	-0.836
FWB5	2.91	1.193	-0.148	-0.851
FWB6	3.76	0.912	-0.869	0.907
FWB7	3.71	1.049	-0.810	0.283

4.3 Differentiation Analysis

Differentiated analysis is a statistical method used to test for significant differences between two or more groups on certain variables. Common techniques include the T-test and Analysis of Variance (ANOVA). These methods are widely applied in fields such as psychology, social sciences, and biology, especially in experimental and observational research to determine the impact of different treatments or conditions on outcome variables.

The T-test is a statistical method used to compare whether there is a significant difference in the means of two groups. It assumes that the samples come from

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populations that follow a normal distribution and that these populations have equal variances. There are several forms of T-tests:

(1) One-sample T-test: Used to compare the mean of a single sample to a known population mean.

(2) Independent samples T-test: Used to compare the means of two independent samples or experimental groups. This is the most common method for testing differences between two groups.

(3) Paired samples T-test: Used to compare the means of the same group of samples under two different conditions or times. It is suitable for pre-post studies or matched samples.

During a T-test, researchers calculate a T-value that reflects the ratio of the difference between groups to the random variation in the sample data. The statistical significance of this value is then determined by looking up a T-distribution Table, considering the degrees of freedom and a preset significance level (usually 0.05).

Analysis of Variance (ANOVA) is a broader method used to compare the means of three or more groups. ANOVA is particularly useful when the study involves multiple experimental groups or variables. It is based on comparing the variance within groups to the variance between groups to determine if there are significant differences in the means across groups. The main types of ANOVA include:

(1) One-way ANOVA: Used when the study design involves only one independent variable (factor). For example, examining the effects of different teaching methods on student performance.

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(2) Factorial ANOVA (also known as multiple ANOVA): Used when the study design involves two or more independent variables. This method can assess the effects of multiple factors and their interactions on the dependent variable.

(3) Repeated measures ANOVA: Used to compare the performance of the same subjects at different times or under different conditions, suitable for longitudinal data.

Key outputs of ANOVA include the F-statistic, which represents the ratio of variance between groups to variance within groups. A significant F-value indicates that there are significant differences between at least two groups. Post-hoc multiple comparison tests (such as Tukey, Bonferroni, Scheff, etc.) can further explore which specific groups differ significantly.

4.3.1 T-test

(1) T-test on Gender

The statistical analysis of this study provides results based on gender differences in the Well-being dimension. The following is the response results: There were 279 males with an average score of 3.250 and a standard deviation of 0.972, and 301 females with an average score of 3.414 and a standard deviation of 0.802. The T-value was 2.200, and the P-value of 0.028 (<0.05) indicates a significant gender difference, with females significantly higher than males.

The results for the Bonding Social Capital dimension are as follows: There were 279 males with an average score of 3.770 and a standard deviation of 0.778, and 301 females with an average score of 3.946 and a standard deviation of 0.617. The T-value

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was 3.003, and the P-value of 0.003 (<0.05) indicates a significant gender difference, with females scoring significantly higher than males.

For the Bridging Social Capital dimension, there were 279 males with an average score of 3.482 and a standard deviation of 1.021, and 301 females with an average score of 3.688 and a standard deviation of 0.654. The T-value was 2.869, and the P-value of 0.004 (<0.05) indicates a significant gender difference, with females scoring significantly higher than males.

In the Linking Social Capital dimension, there were 279 males with an average score of 3.316 and a standard deviation of 0.954, and 301 females with an average score of 3.426 and a standard deviation of 0.869. The T-value was 1.455, and the P-value of 0.146 (>0.05) indicates no significant gender difference.

Responses regarding Farmer Self-efficacy are as follows: Among 279 males, the average score was 3.655 with a standard deviation of 0.771, and 301 females had an average score of 3.658 with a standard deviation of 0.702. The T-value was 0.049, and the P-value of 0.961 (>0.05) indicates no significant gender difference in Engagement. Table 4.5 presents the T-test results for gender.

Table 4.5
T-test on Gender

Dimension	Group	N	Mean	SD	T-value	P-Value
FWB	Male	279	3.250	0.972	2.200	0.028
	Female	301	3.414	0.802		
BOSC	Male	279	3.770	0.778	3.003	0.003
	Female	301	3.946	0.617		
BRSC	Male	279	3.482	1.021	2.869	0.004
	Female	301	3.688	0.654		

Table 4.5 (Continued)

LKSC	Male	279	3.316	0.954	1.455	0.146
	Female	301	3.426	0.869		
FSE	Male	279	3.655	0.771	0.049	0.961
	Female	301	3.658	0.702		

4.3.2 ANOVA

(1) Age

The statistical analysis of this study shows the results for the Well-being dimension based on Age differences: Among the age group 16-29, there were 228 individuals with an average score of 3.652 and a standard deviation of 0.839. For ages 30-39, there were 197 individuals with an average score of 3.176 and a standard deviation of 0.954. The age group 40-49 consisted of 87 individuals with an average score of 2.869 and a standard deviation of 0.710. Those aged 50-59 had 48 individuals with an average score of 3.432 and a standard deviation of 0.683, and those aged 60 and above had 20 individuals with an average score of 3.093 and a standard deviation of 0.624. The F-value was 16.918, and the P-value was less than 0.05, indicating significant differences. Post-hoc Scheffé analysis revealed that the 16-29 age group scored significantly higher than both the 30-39 and 40-49 age groups, and the 50-59 age group scored significantly higher than the 40-49 age group.

Responses related to the aspect of Bonding Social Capital dimension are as follows: Participants aged 16-29 numbered 228 with an average score of 3.974 and a standard deviation of 0.690. Those aged 30-39, totaling 197, had an average score of 3.849 and a standard deviation of 0.667. The 87 participants aged 40-49 scored an average of 3.610 with a standard deviation of 0.797. Ages 50-59, comprising 48 individuals, recorded an average score of 3.799 and a standard deviation of 0.723. Participants 60

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years and older, numbering 20, achieved an average score of 3.950 with a standard deviation of 0.447. The F-value was 4.517, and the P-value of 0.001 (<0.05) indicates significant differences, with post-hoc Scheffé tests showing that those aged 16-29 scored significantly higher than those aged 40-49.

In the Bridging Social Capital dimension, 228 participants aged 16-29 had an average score of 3.652 and a standard deviation of 0.793. The 197 individuals aged 30-39 scored an average of 3.689 with a standard deviation of 0.893. Participants aged 40-49, numbering 87, achieved an average score of 3.446 and a standard deviation of 0.961. Those aged 50-59, totaling 48, scored an average of 3.314 with a standard deviation of 0.679. The 20 participants aged 60 and above had an average score of 3.169 and a standard deviation of 0.800. The F-value was 4.123; the P-value of 0.003 (<0.05) indicates significant differences, with no significant differences found between groups in post-hoc Scheffé tests.

For Linking Social Capital, 228 participants aged 16-29 scored an average of 3.590 with a standard deviation of 0.828. The 197 participants aged 30-39 had an average score of 3.416 and a standard deviation of 0.939. Those aged 40-49, numbering 87, scored an average of 2.983 with a standard deviation of 0.939. Ages 50-59, with 48 participants, achieved an average score of 3.283 and a standard deviation of 0.729. Participants aged 60 and above, totaling 20, scored an average of 2.400 with a standard deviation of 0.642. The F-value was 14.342; the P-value of 0.000 (<0.05) indicates significant differences, with post-hoc Scheffé tests revealing that ages 16-29 and 30-39 scored significantly higher than those aged 40-49 and 60 and above, and ages 50-59 scored higher than those 60 and above.

Responses in Farmers' Self-efficacy sub-construct are as follows: There were 228 individuals aged 16-29 with an average score of 3.740 and a standard deviation of 0.686; 197 individuals aged 30-39 had an average score of 3.773 and a standard deviation of 0.759. The 40-49 age group consisted of 87 individuals with an average score of 3.268 and a standard deviation of 0.775, and those aged 50-59 included 48 individuals with an average score of 3.542 and a standard deviation of 0.653. Those aged 60 and above had 20 individuals with an average score of 3.525 and a standard deviation of 0.423. The F-value was 8.958, and the P-value was less than 0.05, indicating significant differences with the 16-29 and 30-39 age groups scoring significantly higher than the 40-49 age group. Table 4.6 below shows the results of the one-way ANOVA on Age.

Table 4.6
Age

Dimension	Group	N	Mean	SD	F-Value	P-Value	Scheff post hoc comparison
FWB	16-29	228	3.652	0.839	16.918	0.000	16-29>30-39;16-29>40-49；50-59>40-49
	30-39	197	3.176	0.954			
	40-49	87	2.869	0.710			
	50-59	48	3.432	0.683			
	60 and above	20	3.093	0.624			
BOSC	16-29	228	3.974	0.690	4.517	0.001	16-29>40-49
	30-39	197	3.849	0.667			
	40-49	87	3.610	0.797			
	50-59	48	3.799	0.723			
	60 and above	20	3.950	0.447			
BRSC	16-29	197	3.689	0.893	4.123	0.000	16-29>40-49；16-29>60 and above；30-16-29>40-49；16-29>60 and above；30-39>40-49；30-39>60 and above；50-59 >60 and above
	30-39	87	3.446	0.961			
	40-49	48	3.314	0.679			
	50-59	20	3.169	0.800			
	60 and above						

Table 4.6 (Continued)

LKSC	16-29	228	3.590	0.828	14.342	0.000	16-29>40-49；16-
	30-39	197	3.416	0.939			29>60 and
	40-49	87	2.983	0.939			above；30-39>40-
	50-59	48	3.283	0.729			49；30-39>60 and
	60 and above	20	2.400	0.642			above；50-59 >60 and above
FSE	16-29	228	3.740	0.686	8.958	0.000	16-29>40-49；30-
	30-39	197	3.773	0.759			39>40-49
	40-49	87	3.268	0.775			
	50-59	48	3.542	0.653			
	60 and above	20	3.525	0.423			

 (2) Educational Level

Based on varying Educational Level within the sample, the results for responses in the Well-being dimension are as follows: Individuals with junior high school education or below numbered 237, with an average score of 3.110 and a standard deviation of 0.706. Those with high school education numbered 194, averaging 3.237 with a standard deviation of 0.975. Those with a college education or above, totaling 149, scored an average of 3.822 with a standard deviation of 0.859. The F-value was 34.592 with a P-value less than 0.05, indicating significant differences. Post-hoc Scheffé comparisons showed those with college education or above scored significantly higher than those with junior high school or below and high school educations.

Responses related to the aspect of Bonding Social Capital dimension are as follows: Participants with junior high school education or lower numbered 237, with an average score of 3.828 and a standard deviation of 0.572. Those with a high school education totaled 194, averaging 3.711 with a standard deviation of 0.810. Participants with a college education or higher numbered 149, with an average score of 4.111 and a standard deviation of 0.682. The F-value was 14.780, and the P-value was less than

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0.0005, indicating significant differences. Post-hoc Scheffé tests showed that those with a college education or higher scored significantly higher than both junior high and high school educated groups.

In the Bridging Social Capital dimension, 237 participants with junior high school or lower education had an average score of 3.405 (SD = 0.932). The 194 high school educated participants scored an average of 3.613 (SD = 0.874). The 149 participants with a college education or higher scored an average of 3.850 (SD = 0.602). The F-value was 12.987, and the P-value was less than 0.0005, indicating significant differences. Post-hoc Scheffé analysis revealed that those with a college education or higher scored significantly above those with junior high school or high school education.

For Linking Social Capital, 237 participants with junior high school or lower education scored an average of 3.195 (SD = 0.895). The 194 high school educated participants averaged 3.277 (SD = 0.939). The 149 participants with a college education or higher had an average score of 3.781 (SD = 0.769). The F-value was 22.009, and the P-value was less than 0.0005, indicating significant differences. Post-hoc Scheffé tests showed that those with a college education or higher significantly outperformed the junior high and high school educated groups.

Responses related to Farmers' Self-efficacy are as follows: Scores for the least educated were 3.570 (SD = 0.638), for high school graduates 3.596 (SD = 0.838), and for those with higher education 3.873 (SD = 0.699). The F-value was 8.962 with a P-value less than 0.05, indicating significant differences with higher education scoring higher. Table 4.7 below shows the results of the one-way ANOVA on Education Level.

Table 4.7
Educational Level

Dimension	Group	N	Mean	SD	F-Value	P-Value	Scheff post hoc comparison
FWB	Middle School and Below	237	3.110	0.706	34.592	0.000	College and Above>Middle School and Below；College and Above>High School
	High School	194	3.237	0.975			
	College and Above	149	3.822	0.859			
BOSC	Middle School and Below	237	3.828	0.572	14.780	0.000	College and Above>Middle School and Below；College and Above>High School
	High School	194	3.711	0.810			
	College and Above	149	4.111	0.682			
BRSC	Middle School and Below	237	3.405	0.932	12.987	0.000	College and Above>Middle School and Below；College and Above>High School
	High School	194	3.613	0.874			
	College and Above	149	3.850	0.602			
LKSC	Middle School and Below	237	3.195	0.895	22.009	0.000	College and Above>Middle School and Below；College and Above>High School
	High School	194	3.277	0.939			
	College and Above	149	3.781	0.769			
FSE	Middle School and Below	237	3.570	0.638	8.962	0.000	College and Above>Middle School and Below；College and Above>High School
	High School	194	3.596	0.838			
	College and Above	149	3.873	0.699			

(3) Marital Status

The statistical analysis of this study shows the results for the Well-being dimension based on Marital Status differences: Married individuals numbered 353 with an average score of 3.454 and a standard deviation of 0.937. Unmarried individuals numbered 192 with an average score of 3.103 and a standard deviation of 0.766. Others numbered 35 with an average of 3.416 and a standard deviation of 0.818. The F-value was 10.119 with a P-value of less than 0.05, indicating significant differences. Post-

hoc Scheffé tests showed that married individuals scored significantly higher than unmarried ones.

Responses related to the aspect of Bonding Social Capital dimension are as follows: Among the respondents, 353 were married with an average score of 3.833 and a standard deviation of 0.682. A total of 192 unmarried participants had an average score of 3.789 with a standard deviation of 0.719. The category 'other', which included 35 respondents, showed an average score of 4.048 and a standard deviation of 0.805. The F-value was 2.427 with a P-value of 0.089, indicating no significant differences among the groups.

In the Bridging Social Capital dimension, there were 353 married participants with an average score of 3.658 and a standard deviation of 0.885. The 192 unmarried participants had an average score of 3.436 with a standard deviation of 0.764. Those categorized as 'other', numbering 35, scored an average of 3.734 with a standard deviation of 0.943. The F-value was 4.762 and the P-value was 0.009, signifying a significant difference, with post-hoc Scheffé tests showing married individuals scored higher than unmarried ones.

For the Linking Social Capital dimension, 353 married respondents averaged a score of 3.503 with a standard deviation of 0.904. The 192 unmarried participants averaged 3.153 with a standard deviation of 0.853, while the 35 in the 'other' category had an average score of 3.274 with a standard deviation of 1.060. The F-value was 9.656 with a P-value of less than 0.0005, indicating significant differences. Post-hoc Scheffé tests revealed that married respondents scored significantly higher than their unmarried counterparts did.

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Responses related to the aspect of Farmers' Self-efficacy are as follows: Married individuals scored 3.787 (SD = 0.742), unmarried 3.416 (SD = 0.665), and others 3.660 (SD = 0.725). The F-value was 16.714 with a P-value less than 0.05, showing significant differences with married scoring higher than unmarried individuals. Table 4.8 below shows the results of the one-way ANOVA on Marital Status.

Table 4.8
Marital Status

Dimension	Group	N	Mean	SD	F-Value	P-Value	Scheff post hoc comparison
FWB	Married	353	3.454	0.937	10.119	0.000	Married>Unmarried
	Unmarried	192	3.103	0.766			
	Others	35	3.416	0.818			
BOSC	Married	353	3.883	0.682	2.427	0.089	
	Unmarried	192	3.789	0.719			
	Others	35	4.048	0.805			
BRSC	Married	353	3.658	0.885	4.762	0.009	Married>Unmarried
	Unmarried	192	3.436	0.764			
	Others	35	3.734	0.943			
LKSC	Married	353	3.503	0.904	9.656	0.000	Married>Unmarried; Others>Unmarried
	Unmarried	192	3.153	0.853			
	Others	35	3.274	1.060			
FSE	Married	353	3.787	0.742	16.714	0.000	Married>Unmarried
	Unmarried	192	3.416	0.665			
	Others	35	3.660	0.725			

(4) Primary Sources of Family Income

Based on varying Primary of Family Income within the sample, the results for responses in the Well-being dimension are as follows: There were 235 farmers, who go out to work with an average score of 3.179 and a standard deviation of 0.888; 66 farmers primarily engaged in planting (crops, fruits, etc.) with an average score of 3.206 and a standard deviation of 0.951; 55 farmers primarily engaged in breeding with an average score of 3.571 and a standard deviation of 1.077; 72 farmers primarily engaged in self-employment (stalls, taxis, agro-tourism, etc.) with an average score of

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3.540 and a standard deviation of 0.660; and 152 others with an average score of 3.450 and a standard deviation of 0.844. The F-value was 4.822 with a P-value of 0.001, indicating significant differences with no group differences in post-hoc Scheffé comparisons.

Responses related to the Bonding Social Capital dimension are as follows: Among 235 participants working away from home, the average score was 3.665 (SD = 0.732). Sixty-six participants in agriculture (crops, fruits, etc.) had an average score of 3.841 (SD = 0.691). Fifty-five individuals involved in livestock farming had the highest average score of 4.286 (SD = 0.573). Seventy-two participants running businesses (e.g., street vending, taxi services, rural tourism) had an average score of 3.865 (SD = 0.560). The 'other' category, with 152 participants, scored an average of 4.020 (SD = 0.670). The F-value was 12.438, with a P-value of less than 0.0005, indicating significant differences. Post-hoc Scheffé comparisons showed that livestock farming scored significantly higher than working away from home, agriculture, and self-employment.

In the Bridging Social Capital dimension, 235 participants who worked away from home scored an average of 3.539 with a standard deviation of 0.857. Those engaged in agriculture (crops, fruits, etc.) numbered 66 and scored an average of 3.330 with a standard deviation of 0.914. Fifty-five individuals involved in livestock farming had an average score of 3.680 with a standard deviation of 1.072, while 72 self-employed participants (in street vending, taxi services, and rural tourism) scored an average of 3.730 with a standard deviation of 0.765. The 'other' category included 152 people who averaged 3.692 with a standard deviation of 0.749. The F-value was 3.331, with a P-value of 0.010 (<0.05), indicating significant differences. Post-hoc Scheffé

comparisons revealed that the 'other' category scored significantly higher than those engaged in agriculture.

For Linking Social Capital, 235 participants who worked away from home had an average score of 3.389 with a standard deviation of 0.820. Those involved in agriculture (crops, fruits, etc.) numbered 66 and scored an average of 3.192 with a standard deviation of 0.921. Fifty-five individuals in livestock farming scored an average of 3.609 with a standard deviation of 0.914. Seventy-two participants running their own businesses (such as street vending, taxi services, and rural tourism) had an average score of 3.263 with a standard deviation of 1.046. The 'other' category, including 152 people, averaged 3.395 with a standard deviation of 0.961. The F-value was 1.887, with a P-value of 0.111 (>0.05), indicating no significant differences among the groups.

Responses in Farmers' Self-efficacy dimention are as follows: farmers going out to work scored 3.661, while planting had a lower score of 3.364. Those in livestock breeding scored the highest at 3.889, and farmers primarily engaged in self-employment scored 3.678. Others scored similarly at 3.682. The F-value was 4.143 with a P-value of 0.003, indicating significant differences, with livestock breeding scoring significantly higher than agricultural work. Table 4.9 below shows the results of the one-way ANOVA on Household Income Sources.

Table 4.9
Household Income Sources

Dimension	Group	N	Mean	SD	F-Value	P-Value	Scheff post hoc comparison
FWB	Going out to Work	235	3.179	0.888	4.822	0.000	No difference between groups
	Planting (Crops, Fruits, etc.)	66	3.206	0.951			

Table 4.9 (Continued)

FWB	Livestock Breeding	55	3.571	1.077			
	Self-employed (Setting up Stalls, Driving Taxis, Agritourism, etc.)	72	3.540	0.660			
	Others	152	3.450	0.844			
BOSC	Going out to Work	235	3.665	0.732	12.438	0.000	Livestock Breeding>Going out to Work；Livestock breeding>Planting (Crops, Fruits, etc.)；Livestock breeding>Self-employed (Setting up Stalls, Driving Taxis, Agritourism, etc.)
	Planting (Crops, Fruits, etc.)	66	3.841	0.691			
	Livestock Breeding	55	4.286	0.573			
	Self-employed (Setting up Stalls, Driving Taxis, Agritourism, etc.)	72	3.865	0.560			
	Others	152	4.020	0.670			
BRSC	Going out to Work	235	3.539	0.857	3.331	0.010	Others> Going out to Work； Others>Planting (Crops, Fruits, etc.)
	Planting (Crops, Fruits, etc.)	66	3.300	0.914			
	Livestock Breeding	55	3.680	1.072			
	Self-employed (Setting up Stalls, Driving Taxis, Agritourism, etc.)	72	3.730	0.765			
	Others	152	3.692	0.749			
LKSC	Going out to Work	235	3.389	0.820	1.887	0.111	
	Planting (Crops, Fruits, etc.)	66	3.192	0.921			
	Livestock Breeding	55	3.609	0.914			

Table 4.9 (Continued)

LKSC	Self-employed (Setting up Stalls, Driving Taxis, Agritourism, etc.)	72	3.263	1.046			
	Others	152	3.665	0.732			
FSE	Going out to Work	235	3.661	0.738	4.143	0.003	Livestock Breeding>Planting (Crops, Fruits, etc.)
	Planting (Crops, Fruits, etc.)	66	3.364	0.883			
	Livestock Breeding	55	3.889	0.661			
	Self-employed (Setting up Stalls, Driving Taxis, Agritourism, etc.)	72	3.678	0.664			
	Others	152	3.682	0.687			

 (5) Annual Per Capita Household Income

The statistical analysis of this study shows the results for the Well-being dimension based on Annual Per Capita Household Income differences: In the income bracket of 7,000-9,999 RMB, 134 individuals reported an average well-being score of 3.318 with a standard deviation of 0.855. For those earning 10,000-14,999 RMB, the average score among 280 respondents was 3.337, with a standard deviation of 0.925. The 71 individuals earning 15,000-19,999 RMB scored slightly higher with an average of 3.362 and a standard deviation of 0.970. Meanwhile, 95 participants with incomes of 20,000 RMB and above averaged 3.334, with a lower standard deviation of 0.782. The F-value stood at 0.039, with a P-value of 0.990, indicating no significant differences among the groups.

Responses related to the aspect of Bonding Social Capital dimension are as follows: Among participants, 134 individuals with an income between 7,000 and 9,999 RMB had an average score of 3.610 with a standard deviation of 0.791. Those earning between 10,000 and 14,999 RMB, numbering 280, had an average score of 3.869 with a standard deviation of 0.653. Participants earning between 15,000 and 19,999 RMB, totaling 71, had an average score of 3.923 with a standard deviation of 0.727. Additionally, 95 participants earning 20,000 RMB or more had the highest average score of 4.149 with a standard deviation of 0.575. The F-value was 11.832, and the P-value was less than 0.0005, indicating significant differences. Post-hoc Scheffé tests revealed that participants earning 10,000-14,999 RMB, 15,000-19,999 RMB, and 20,000 RMB or more scored significantly higher than those earning 7,000-9,999 RMB.

For the Bridging Social Capital dimension, 134 participants with incomes between 7,000 and 9,999 RMB had an average score of 3.458 with a standard deviation of 0.866. Those earning between 10,000 and 14,999 RMB, numbering 280, had an average score of 3.648 with a standard deviation of 0.792. Seventy-one participants with incomes between 15,000 and 19,999 RMB had an average score of 3.282 with a high standard deviation of 1.129. Participants earning 20,000 RMB or more, totaling 95, had an average score of 3.831 with a standard deviation of 0.690. The F-value was 7.307, and the P-value was less than 0.0005, indicating significant differences. Post-hoc Scheffé comparisons showed that participants earning 10,000-14,999 RMB scored higher than those earning 15,000-19,999 RMB, and those earning 20,000 RMB or more scored higher than those earning both 7,000-9,999 RMB and 15,000-19,999 RMB.

For the Linking Social Capital dimension, 134 participants with incomes between 7,000 and 9,999 RMB had an average score of 3.410 with a standard deviation of 0.823.

Those earning between 10,000 and 14,999 RMB, totaling 280, had an average score of 3.389 with a standard deviation of 0.924. Seventy-one participants with incomes between 15,000 and 19,999 RMB had an average score of 3.182 with a standard deviation of 0.976. Participants earning 20,000 RMB or more, numbering 95, had an average score of 3.418 with a standard deviation of 0.938. The F-value was 1.225, and the P-value was 0.300, indicating no significant differences among the income groups.

Responses related to the aspect of Farmers' Self-efficacy Among Farmers sub-category are as follows: The lowest earners scored an average of 3.478, the middle-income group scored 3.667, those earning 15,000-19,999 RMB scored 3.817, and the highest earners scored 3.757. The F-value was 4.432, with a P-value of 0.004, indicating significant differences, particularly showing that higher income groups reported greater self-efficacy. Table 4.10 below shows the results of the one-way ANOVA on Annual Per Capita Household Income.

Table 4.10
Annual Per Capita Household Income

Dimension	Group	N	Mean	SD	F-Value	P-Value	Scheff post hoc comparison
FWB	7,000-9,999	134	3.318	0.855	0.039	0.990	
	10,000-14,999	280	3.337	0.925			
	15,000-19,999	71	3.362	0.970			
	20,000 and above	95	3.334	0.782			
BOSC	7,000-9,999	134	3.610	0.791	11.832	0.000	10,000-14,999>7,000-9,999；15,000-19,999>7,000-9,999；20,000 and above>7,000-9,999
	10,000-14,999	280	3.869	0.653			
	15,000-19,999	71	3.923	0.727			
	20,000 and above	95	4.149	0.575			

Table 4.10 (Continued)

BRSC	7,000-9,999	134	3.458	0.866	7.307	0.000	10,000-14,999>15,000-19,999；20,000 and above>15,000-19,999；20,000 and above>15,000-19,999
	10,000-14,999	280	3.648	0.792			
	15,000-19,999	71	3.282	1.129			
	20,000 and above	95	3.831	0.690			
LKSC	7,000-9,999	134	3.410	0.823	1.225	0.300	
	10,000-14,999	280	3.389	0.924			
	15,000-19,999	71	3.182	0.976			
	20,000 and above	95	3.418	0.938			
FSE	7,000-9,999	134	3.478	0.804	4.432	0.004	15,000-19,999>7,000-9,999；20,000 and above>7,000-9,999
	10,000-14,999	280	3.667	0.742			
	15,000-19,999	71	3.817	0.660			
	20,000 and above	95	3.757	0.620			

(6) Duration of Engagement in Primary Occupation

Based on varying Duration of Engagement in Primary Occupation within the sample, the results for responses in the Well-being dimension are as follows: Participants engaged in their main occupation for less than 3 years (89 individuals) reported an average well-being score of 3.416 with a standard deviation of 1.076. Those with 3-5 years in their occupation (157 individuals) had an average score of 3.288 with a standard deviation of 0.856. Participants with 6-10 years of engagement (174 individuals) reported an average of 3.378 with a standard deviation of 0.880. Those who have been in their field for 11-20 years (109 individuals) had an average score of 3.261 with a standard deviation of 0.733, while those with over 20 years (51 individuals) scored an average of 3.353 with a standard deviation of 0.991. The F-value was 0.582 and the P-value was 0.676, indicating no significant differences across the groups.

Responses related to the aspect of Bonding Social Capital dimension are as follows: Among participants, 89 individuals with less than 3 years of experience had an average

174

score of 3.929 with a standard deviation of 0.883. Those with 3-5 years of experience, totaling 157, had an average score of 3.850 with a standard deviation of 0.690. Participants with 6-10 years of experience, numbering 174, had an average score of 3.889 with a standard deviation of 0.681. There were 109 individuals with 11-20 years of experience, averaging 3.765 with a standard deviation of 0.602. Finally, 51 participants with over 20 years of experience had an average score of 3.892 with a standard deviation of 0.678. The F-value was 0.815, and the P-value was 0.516, indicating no significant differences.

For the Bridging Social Capital dimension, 89 participants with less than 3 years of experience had an average score of 3.749 with a standard deviation of 0.841. Those with 3-5 years of experience, totaling 157, had an average score of 3.622 with a standard deviation of 0.810. The 174 participants with 6-10 years of experience had an average score of 3.684 with a standard deviation of 0.838. Participants with 11-20 years of experience, numbering 109, had an average score of 3.396 with a standard deviation of 0.862. Lastly, 51 individuals with over 20 years of experience had an average score of 3.299 with a standard deviation of 0.956. The F-value was 4.317, and the P-value was 0.002, indicating significant differences. However, post-hoc Scheffé tests showed no significant differences between specific groups.

In the Linking Social Capital dimension, 89 participants with less than 3 years of experience had an average score of 3.680 with a standard deviation of 0.934. Those with 3-5 years of experience, numbering 157, had an average score of 3.412 with a standard deviation of 0.894. The 174 participants with 6-10 years of experience had an average score of 3.452 with a standard deviation of 0.906. Participants with 11-20 years of experience, totaling 109, averaged 3.055 with a standard deviation of 0.820.

Finally, 51 individuals with over 20 years of experience had an average score of 3.129 with a standard deviation of 0.906. The F-value was 7.471, and the P-value was less than 0.0005, indicating significant differences. Post-hoc Scheffé tests revealed that participants with less than 3 years of experience scored significantly higher than those with 11-20 years and over 20 years of experience. Additionally, those with 3-5 years and 6-10 years of experience scored higher than those with 11-20 years of experience.

Responses related to the aspect of Farmers' Self-efficacy are as follows: Those engaged for less than 3 years averaged 3.697 with a standard deviation of 0.943. The 3-5 year group averaged 3.614 with a standard deviation of 0.739, the 6-10 year group averaged 3.703 with a standard deviation of 0.710, those with 11-20 years averaged 3.594 with a standard deviation of 0.547, and those with over 20 years averaged 3.690 with a standard deviation of 0.764. The F-value was 0.599 and the P-value was 0.663, showing no significant differences. Table 4.11 below shows the results of the one-way ANOVA on Duration of Engagement in Main Occupation.

Table 4.11
Duration of Engagement in Main Occupation

Dimension	Group	N	Mean	SD	F-Value	P-Value	Scheff post hoc comparison
FWB	3 years below	89	3.416	1.076	0.582	0.676	
	3-5 years	157	3.288	0.856			
	6-10 years	174	3.378	0.880			
	11-20 years	109	3.261	0.733			
	Above 20 years	51	3.353	0.991			
BOSC	3 years below	89	3.929	0.883	0.815	0.516	
	3-5 years	157	3.850	0.690			
	6-10 years	174	3.889	0.681			
	11-20 years	109	3.765	0.602			
	Above 20 years	51	3.892	0.678			

Table 4.11 (Continued)

		N	Mean	SD	F	p	Result
BRSC	3 years below	89	3.749	0.841	4.317	0.002	No difference between groups
	3-5 years	157	3.622	0.810			
	6-10 years	174	3.684	0.838			
	11-20 years	109	3.396	0.862			
	Above 20 years	51	3.299	0.956			
LKSC	3 years below	89	3.680	0.934	7.471	0.000	3 years below>11-20；3 years below>Above 20 years；3 years below>11-20；6-10 >11-20
	3-5 years	157	3.412	0.894			
	6-10 years	174	3.452	0.906			
	11-20 years	109	3.055	0.820			
	Above 20 years	51	3.129	0.906			
FSE	3 years below	89	3.697	0.943	0.599	0.663	
	3-5 years	157	3.614	0.739			
	6-10 years	174	3.703	0.710			
	11-20 years	109	3.594	0.547			
	Above 20 years	51	3.690	0.764			

4.4 Measurement Model

In social science research, Structural Equation Modeling (SEM) is a highly versatile statistical analysis technique widely utilized for analyzing complex data structures, especially suited for research designs involving multivariate relationships and presumed causal and correlational connections between variables. SEM is typically divided into two main components: the measurement model and the structural model. The measurement model focuses on linking observed data to latent variables (variables that are not directly observable), while the structural model examines the causal and correlational relationships among these latent variables, often grounded in theoretical frameworks. By integrating both the measurement and structural models, SEM provides a robust tool for assessing both measurement errors and complex relationships among variables. This has led to the widespread application of SEM across various fields such as psychology, marketing, social sciences, educational

research, and health sciences. For example, in educational research, SEM might be used to explore the relationships between students' self-efficacy, motivation, and academic performance, taking into account measurement errors and the internal structure of latent variables. Overall, the layered structure of SEM (measurement and structural models) offers a precise and complex approach for analyzing theoretical models, enabling researchers to deeply understand the dynamics among variables and their impact on observed data.

The measurement model includes two critical phases: convergent validity and discriminant validity. In SEM, assessing the validity of the measurement model is a crucial step that typically comprises two main components: convergent validity and discriminant validity. Evaluating these forms of validity is essential to ensure that research instruments accurately and effectively measure the latent variables within the conceptual model.

4.4.1 Convergent Validity

Partial Least Squares Structural Equation Modeling (PLS-SEM) is a powerful statistical analysis method used to test the causal and correlational relationships between constructs in theoretical models. Ensuring all constructs possess good convergent validity is an important step in model evaluation.

Convergent validity employs Confirmatory Factor Analysis (CFA), with assessment criteria including several indicators: first, Composite Reliability and Cronbach's alpha should be higher than 0.7, ensuring internal consistency of constructs. Secondly, the outer loadings of each observed variable should be greater than 0.7, indicating these variables effectively reflect the corresponding constructs. Lastly, following Fornell

and Larcker's (1981) suggestion, the Average Variance Extracted (AVE) for each construct should exceed 0.5, meaning the construct explains more variance than error variance. Meeting these criteria ensures that the construct's indicator variables accurately and effectively represent the construct's concept, laying the foundation for subsequent model analysis. Hair et al. (2019) have detailed these criteria, serving as an important reference for researchers conducting PLS-SEM analysis.

As shown in Table 4.12, standardized factor loadings range between 0.703-0.960, which is reasonable. The Cronbach's alpha of the study dimensions ranges between 0.860-0.959; composite reliability ranges between 0.876-0.963, all exceeding 0.7, meeting the standards suggested by scholars, indicating the dimensions have internal consistency. Finally, the range of average variance extracted amounts to 0.633-0.898, all above 0.5, meeting the standards of Hair et al. (2009) and Fornell and Larcker (1981), showing good convergent validity for the constructs.

Table 4.12
Convergent Validity Analysis Summary

Construct / Sub-constructs	Item	Factor loadings	Cronbach's alpha	Composite reliability	Average variance extracted (AVE)
AIR	AIR1	0.836	0.911	0.912	0.738
	AIR2	0.866			
	AIR3	0.871			
	AIR4	0.835			
	AIR5	0.885			
COS	COS1	0.941	0.860	0.876	0.786
	COS2	0.927			
	COS3	0.782			
ENG	ENG1	0.837	0.916	0.917	0.748
	ENG2	0.846			
	ENG3	0.899			
	ENG4	0.889			
	ENG5	0.853			

Table 4.12 (Continued)

FAS	FAS1	0.715	0.877	0.881	0.672
	FAS2	0.850			
	FAS3	0.887			
	FAS4	0.838			
	FAS5	0.799			
FSE	FSE1	0.703	0.935	0.942	0.633
	FSE2	0.768			
	FSE3	0.774			
	FSE4	0.836			
	FSE5	0.854			
	FSE6	0.761			
	FSE7	0.754			
	FSE8	0.804			
	FSE9	0.832			
	FSE10	0.856			
FRS	FRS1	0.849	0.887	0.888	0.747
	FRS2	0.893			
	FRS3	0.828			
	FRS4	0.886			
FWB	FWB1	0.820	0.904	0.908	0.636
	FWB2	0.861			
	FWB3	0.839			
	FWB4	0.841			
	FWB5	0.724			
	FWB6	0.706			
	FWB7	0.777			
SOD	SOD1	0.859	0.866	0.868	0.715
	SOD2	0.874			
	SOD3	0.854			
	SOD4	0.792			
SOP	SOP1	0.905	0.913	0.914	0.794
	SOP2	0.911			
	SOP3	0.889			
	SOP4	0.858			
TRU	TRU1	0.850	0.918	0.921	0.754
	TRU2	0.896			
	TRU3	0.889			
	TRU4	0.912			
	TRU5	0.788			
BOSC	FAS	0.854	0.917	0.886	0.721
	FRS	0.868			
	COS	0.825			
BRSC	SOD	0.931	0.959	0.963	0.898
	AIR	0.960			
	SOP	0.951			
LKSC	TRU	0.925	0.938	0.924	0.858
	ENG	0.928			

4.4.2 Discriminant Validity

(1) AVE Method

This study rigorously applies the Average Variance Extracted (AVE) method to test for discriminant validity. Fornell and Larcker (1981) suggested that discriminant validity should consider both convergent validity and the relationships among dimensions. Thus, it is recommended that the square root of each dimension's AVE should exceed the correlation coefficients between dimensions. If this condition is met, it indicates that the model in this study possesses discriminant validity.

As shown in Table 4.13, the square roots of the AVE for most dimensions on the diagonal are greater than the off-diagonal correlation coefficients, confirming the discriminant validity of our study. Furthermore, this Table clearly demonstrates that the dimensions are distinct from each other, reinforcing the integrity of our measurement model. These findings validate that each construct uniquely contributes to the overall framework, thereby enhancing the robustness and reliability of our results. This comprehensive validation process underscores the credibility and accuracy of our research outcomes.

Table 4.13
AVE Method

Item	AVE	BOSC	BRSC	FWB	FSE	LKSC
BOSC	0.721	**0.849**				
BRSC	0.898	0.632	**0.948**			
FWB	0.636	0.600	0.563	**0.797**		
FSE	0.633	0.620	0.628	0.653	**0.797**	
LKSC	0.858	0.627	0.711	0.630	0.596	**0.926**

(2) HTMT Method

Secondly, the Heterotrait-Monotrait Ratio (HTMT) is employed to assess the discriminant validity between dimensions, meaning there should be sufficient distinction between different dimensions. When the HTMT value is below 0.90, it indicates good discriminant validity between the dimensions (Hair et al., 2019), as it was showed in Table 4.14.

Table 4.14
HTMT Method

Item	BOSC	BRSC	FWB	FSE	LKSC
BOSC					
BRSC	0.665				
FWB	0.655	0.601			
FSE	0.662	0.658	0.694		
LKSC	0.670	0.750	0.683	0.634	

(3) Cross Loading

Then, Cross loading is when a marker's factor loadings on its intended construct should be greater than its loadings on other dimensions in different models. (Hair et al., 2011). In this study, the factor loadings for each dimension are consistently higher than the cross-loadings with other dimensions (Table 4.15).

Table 4.15
Cross Loading

Item	AIR	COS	ENG	FAS	FSE	FRS	FWB	SOD	SOP	TRU
AIR1	**0.836**	0.523	0.507	0.226	0.532	0.270	0.396	0.724	0.679	0.508
AIR2	**0.866**	0.598	0.506	0.316	0.569	0.458	0.437	0.737	0.756	0.579
AIR3	**0.871**	0.545	0.531	0.332	0.597	0.472	0.448	0.709	0.759	0.620
AIR4	**0.835**	0.518	0.472	0.310	0.491	0.473	0.450	0.735	0.748	0.591
AIR5	**0.885**	0.597	0.557	0.271	0.613	0.448	0.487	0.693	0.791	0.598
COS1	0.614	**0.941**	0.525	0.508	0.523	0.592	0.466	0.649	0.603	0.631
COS2	0.578	**0.927**	0.548	0.531	0.551	0.578	0.546	0.606	0.596	0.657
COS3	0.530	**0.782**	0.505	0.414	0.536	0.485	0.500	0.651	0.546	0.592
ENG1	0.480	0.507	**0.837**	0.323	0.398	0.283	0.497	0.491	0.453	0.658

Table 4.15 (Continued)

ENG2	0.473	0.539	**0.846**	0.246	0.498	0.364	0.478	0.419	0.458	0.564
ENG3	0.556	0.536	**0.899**	0.347	0.551	0.321	0.557	0.514	0.511	0.649
ENG4	0.509	0.484	**0.889**	0.318	0.484	0.291	0.536	0.426	0.484	0.597
ENG5	0.571	0.500	**0.853**	0.346	0.544	0.397	0.608	0.509	0.544	0.629
FAS1	0.229	0.356	0.217	**0.715**	0.372	0.491	0.334	0.271	0.266	0.319
FAS2	0.285	0.421	0.301	**0.850**	0.381	0.496	0.321	0.323	0.331	0.350
FAS3	0.346	0.493	0.282	**0.887**	0.397	0.502	0.384	0.390	0.354	0.436
FAS4	0.293	0.522	0.369	**0.838**	0.432	0.458	0.446	0.336	0.300	0.467
FAS5	0.228	0.450	0.328	**0.799**	0.353	0.427	0.372	0.298	0.254	0.408
FSE1	0.558	0.440	0.430	0.385	**0.703**	0.354	0.329	0.417	0.436	0.402
FSE 10	0.513	0.503	0.456	0.441	**0.856**	0.527	0.657	0.458	0.461	0.463
FSE 2	0.470	0.459	0.432	0.317	**0.768**	0.405	0.480	0.352	0.364	0.342
FSE 3	0.544	0.440	0.463	0.304	**0.774**	0.326	0.425	0.400	0.439	0.435
FSE 4	0.596	0.492	0.516	0.379	**0.836**	0.438	0.594	0.539	0.556	0.448
FSE 5	0.577	0.513	0.479	0.387	**0.854**	0.512	0.620	0.521	0.527	0.449
FSE 6	0.436	0.484	0.417	0.325	**0.761**	0.380	0.393	0.327	0.359	0.326
FSE 7	0.433	0.459	0.488	0.412	**0.754**	0.311	0.476	0.330	0.355	0.421
FSE 8	0.493	0.487	0.446	0.406	**0.804**	0.414	0.533	0.457	0.464	0.424
FSE 9	0.565	0.520	0.437	0.392	**0.832**	0.443	0.581	0.538	0.493	0.486
FRS1	0.421	0.521	0.352	0.624	0.473	**0.849**	0.504	0.491	0.480	0.461
FRS2	0.433	0.577	0.313	0.449	0.450	**0.893**	0.464	0.489	0.474	0.405
FRS3	0.427	0.500	0.309	0.466	0.396	**0.828**	0.373	0.477	0.491	0.415
FRS4	0.432	0.560	0.346	0.451	0.486	**0.886**	0.458	0.497	0.474	0.443
FWB1	0.486	0.469	0.535	0.328	0.602	0.462	**0.820**	0.471	0.471	0.449
FWB2	0.468	0.463	0.592	0.318	0.561	0.412	**0.861**	0.492	0.469	0.435
FWB3	0.439	0.423	0.496	0.380	0.492	0.460	**0.839**	0.504	0.518	0.447
FWB4	0.429	0.515	0.528	0.384	0.556	0.432	**0.841**	0.453	0.459	0.476
FWB5	0.278	0.445	0.490	0.307	0.426	0.333	**0.724**	0.320	0.315	0.398
FWB6	0.373	0.374	0.372	0.426	0.527	0.367	**0.706**	0.344	0.346	0.389
FWB7	0.387	0.470	0.427	0.401	0.461	0.441	**0.777**	0.452	0.417	0.449
SOD1	0.649	0.612	0.437	0.370	0.461	0.525	0.493	**0.859**	0.682	0.579
SOD2	0.686	0.541	0.424	0.332	0.430	0.517	0.441	**0.874**	0.692	0.592
SOD3	0.775	0.607	0.481	0.274	0.508	0.468	0.458	**0.854**	0.760	0.582
SOD4	0.716	0.652	0.503	0.371	0.468	0.402	0.460	**0.792**	0.677	0.558
SOP1	0.809	0.565	0.531	0.285	0.491	0.477	0.465	0.767	**0.905**	0.586
SOP2	0.774	0.546	0.457	0.277	0.478	0.484	0.461	0.750	**0.911**	0.571
SOP3	0.771	0.580	0.489	0.382	0.499	0.479	0.487	0.734	**0.889**	0.620
SOP4	0.745	0.653	0.546	0.375	0.549	0.541	0.515	0.717	**0.858**	0.616
TRU1	0.546	0.609	0.627	0.413	0.471	0.392	0.467	0.549	0.589	**0.850**
TRU2	0.605	0.675	0.598	0.519	0.507	0.485	0.444	0.621	0.586	**0.896**
TRU3	0.628	0.584	0.640	0.345	0.457	0.419	0.468	0.622	0.599	**0.889**
TRU4	0.619	0.667	0.694	0.420	0.486	0.402	0.502	0.623	0.589	**0.912**
TRU5	0.526	0.526	0.544	0.414	0.374	0.481	0.493	0.549	0.547	**0.788**

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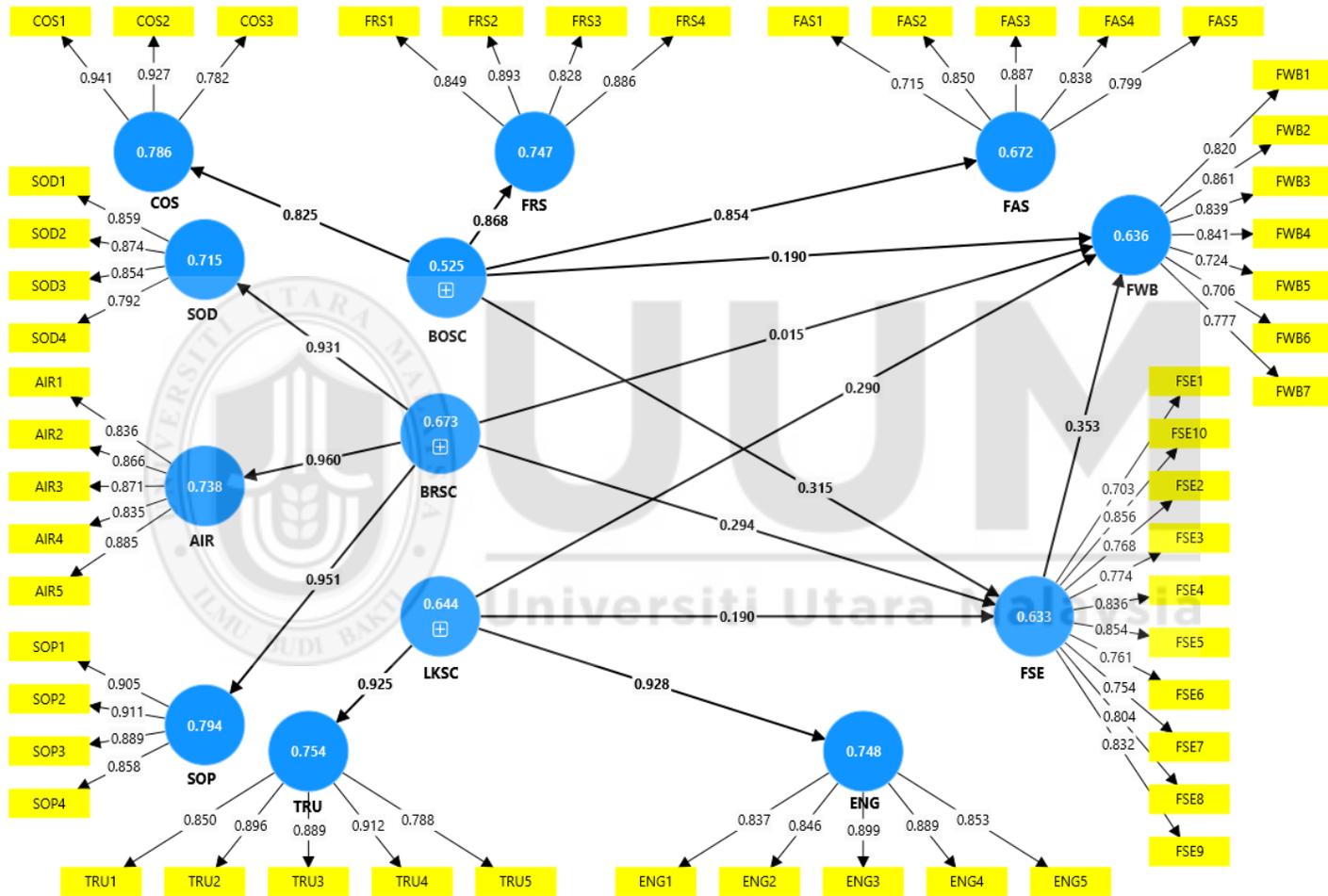
Figure 4.1 PLS Measurement Model

4.5 Structural Model

In the structural model, researchers define the pathway relationships between latent variables. These relationships include direct effects, indirect effects, and potential moderating effects. The core of the structural model lies in testing the relationships between variables through theoretically guided hypotheses. These relationships can be characterized as:

(1) Causal paths, which indicate the predictive effect of one variable on another.

(2) Correlational paths, referring to the correlation between variables without specifying the direction of causation.

(3) Mediating effects, where one or more variables act as intermediaries between two related variables.

The evaluation of the structural model typically relies on the overall fit of the model and the significance testing of the path coefficients. This helps to determine whether the model can reasonably explain the data and validate the accuracy of the theoretical assumptions.

4.5.1 Model Fit

Hair et al. (2021) demonstrated in Partial Least Squares Structural Equation Modeling (PLS-SEM) that PLS-SEM is a prediction oriented approach that focuses on explaining variance rather than fitness. Traditional model adaptation metrics such as CFI, RMSEA, etc. are not applicable to PLS-SEM. This study used the PLS-SEM method, therefore Modal fit was measured using GOF (Goodness of Fit) as the

indicator. Goodness of Fit (GOF) is measured by $GOF = \sqrt{\overline{AVE}} \times \sqrt{\overline{R^2}}$, indicating the overall indicator of the measurement model. A GOF of 0.1 indicates weak fit, 0.25 indicates medium fit, and 0.36 indicates strong fit (Vinzi et al., 2010). The result of this study shows a GOF of 0.470, indicating a strong fit.

$$GOF = \sqrt{\overline{AVE}} \times \sqrt{\overline{R^2}} = \sqrt{0.514 \times 0.429} = 0.470$$

4.5.2 Assess Structural Model for Collinearity

To avoid bias in path coefficients, it is necessary to assess whether the structural model has issues with multicollinearity before analyzing the path coefficients (Hair et al., 2019). A Variance Inflation Factor (VIF) value greater than or equal to 5 is considered to indicate severe multicollinearity problems (Hair et al., 2011). As shown in Table 4.16, all constructs' VIF values are significantly below the critical value of 5. Therefore, there is no severe multicollinearity problem among the predicted constructs in the structural model, allowing researchers to proceed with the analysis and report the results.

Table 4.16
Inner VIF Values

Item	AIR	COS	ENG	FAS	FRS	FSE	FWB	SOD	SOP	TRU
BOSC		1		1	1	1.863	2.059			
BRSC	1					2.287	2.458	1	1	
FSE							1.974			
LKSC			1			2.26	2.331			1

4.5.3 Path Analysis

The path coefficient of Bonding Social Capital on Farmers' Well-being is 0.190; standard deviation 0.039; (t-value 4.924, p-value 0.000 < 0.05), thus Hypothesis 1: Bonding Social Capital has a significant impact on Farmers' Well-being is supported.

The path coefficient of Bridging Social Capital on Farmers' Well-being is 0.015; standard deviation 0.053; (t-value 0.282, p-value 0.778 > 0.05), thus Hypothesis 2: Bridging Social Capital has no significant impact on Farmers' Well-being is not supported.

The path coefficient of Linking Social Capital on Farmers' Well-being is 0.290; standard deviation 0.044; (t-value 6.539, p-value 0.000 < 0.05), thus Hypothesis 3: Linking Social Capital has a significant impact on Farmers' Well-being is supported.

The path coefficient of Bonding Social Capital on Farmers' Self-efficacy is 0.315; standard deviation 0.046; (t-value 6.852, p-value 0.000 < 0.05), thus Hypothesis 4: Bonding Social Capital has a significant impact on Farmers' Self-efficacy is supported.

The path coefficient of Bridging Social Capital on Farmers' Self-efficacy is 0.294; standard deviation 0.052; (t-value 5.654, p-value 0.000 < 0.05), thus Hypothesis 5: Bridging Social Capital has a significant impact on Farmers' Self-efficacy is supported.

The path coefficient of Linking Social Capital on Farmers' Self-efficacy is 0.190; standard deviation 0.053; (t-value 3.603, p-value 0.000 < 0.05), thus Hypothesis 6: Linking Social Capital has a significant impact on Farmers' Self-efficacy is supported.

The path coefficient of Farmers' Self-efficacy on Farmers' Well-being is 0.353; standard deviation 0.044; (t-value 7.923, p-value 0.000 < 0.05), thus Hypothesis 7: Farmers' Self-efficacy has a significant impact on Farmers' Well-being is supported.

Based on the above description, all path relationships of this study are shown in Table 4.17 and Figure 4.2.

Table 4.17
Path Relationship Analysis

Hypothesis	Path Relationship	Path Coefficient	Standard Deviation	t-value	p-value
1	BOSC →FWB	0.190	0.039	4.901	0.000
2	BRSC →FWB	0.015	0.053	0.256	0.798
3	LKSC →FWB	0.290	0.044	6.664	0.000
4	BOSC→FSE	0.315	0.046	6.771	0.000
5	BRSC → FSE	0.294	0.052	5.742	0.000
6	LKSC → FSE	0.190	0.053	3.608	0.000
7	FSE → FWB	0.353	0.044	7.923	0.000
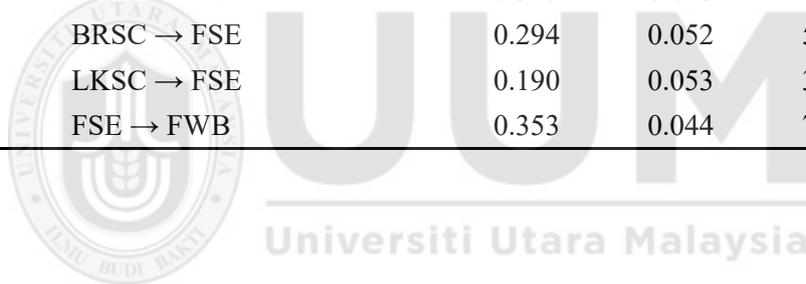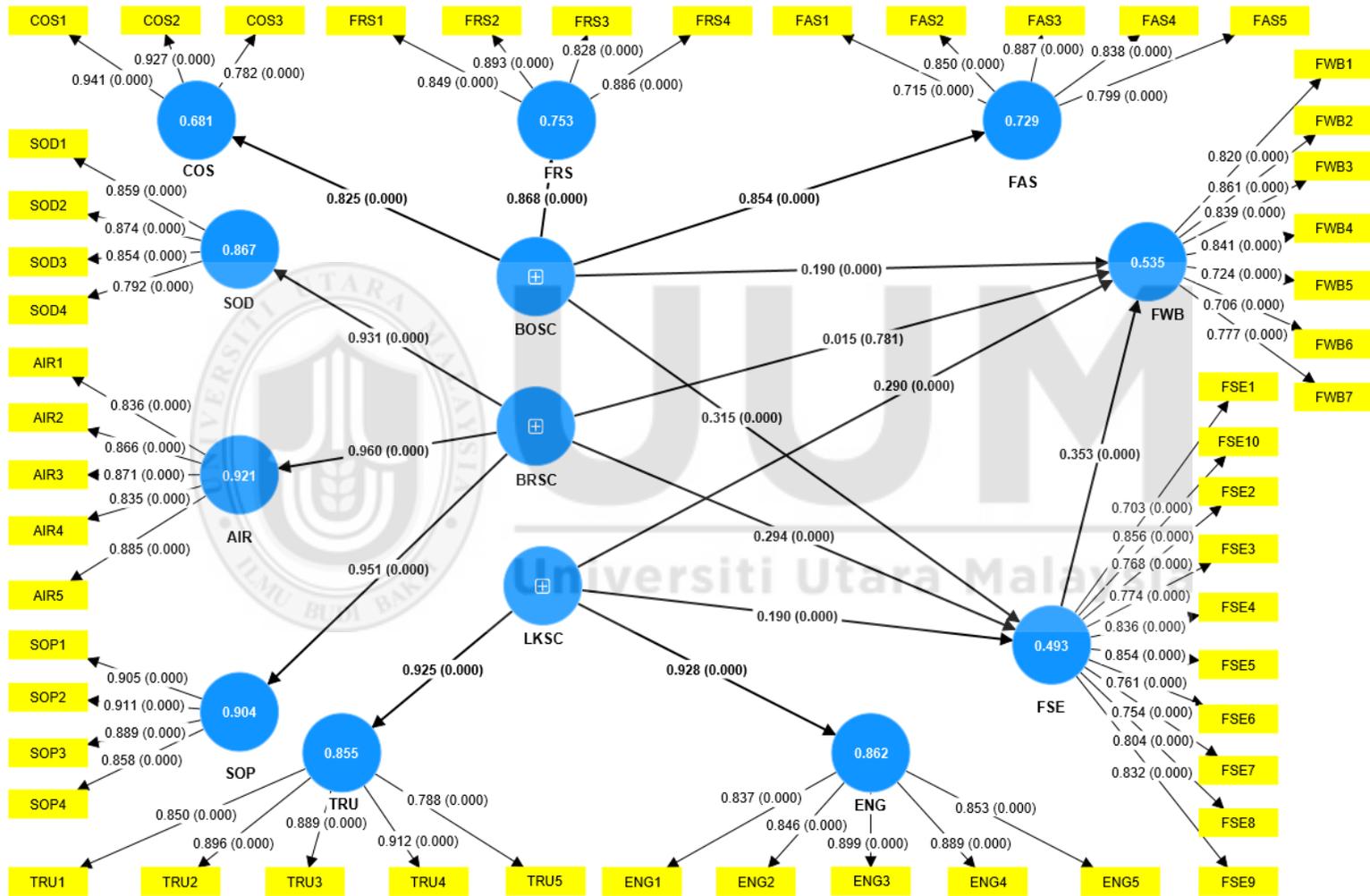
Figure 4.2 PLS Structural Model

4.5.4 Assessment of Coefficient of Determination (R^2)

The coefficient of determination (R^2 value) is the most commonly used metric to assess the predictive power of a model. The R^2 value represents the extent of the combined influence of exogenous latent variables on endogenous latent variables (Hair et al., 2019). For endogenous latent variables, R^2 values of 0.75, 0.50, or 0.25 are considered to indicate substantial, moderate, or weak determination, respectively (Hair et al., 2011; Henseler et al., 2009). According to Table 4.18, this study found that the exogenous variables Bonding Social Capital, Bridging Social Capital, Linking Social Capital, and Farmers' Self-Efficacy together explain 49.3% of Farmers' Well-being. Bonding Social Capital, Bridging Social Capital, and Linking Social Capital as exogenous variables together explain 53.5% of Farmers' Self-efficacy.

Table 4.18
Results of R^2

Item	R-square
FWB	0.535
FSE	0.493

4.5.5 Assessment of Effect Size (f^2)

This study also evaluated the f^2 effect size, interpreting it as the contribution of exogenous variables to the R^2 value of endogenous variables (Chin, 1998). The effect size f^2 can be estimated using the following formula (Hair et al., 2013): Effect sizes of f^2 at 0.02, 0.15, and 0.35 represent small, medium, and large effects of exogenous latent variables on endogenous variables, respectively, while an effect size smaller than 0.02 indicates no effect (Cohen, 2013). Table 4.19 showed the f^2 effect sizes for each exogenous latent variable. Bonding Social Capital → Farmers' well-being has an

f^2 effect size of 0.038, indicating a small to medium effect size; Bonding Social Capital → Farmers' Self-efficacy has an f^2 effect size of 0.105, indicating a small to medium effect size; Bridging Social Capital → Farmers' well-being has an f^2 effect size of 0.000, indicating no effect size; Bridging Social Capital → Farmers' Self-efficacy has an f^2 effect size of 0.075, indicating a small to medium effect size; Farmers' Self-efficacy → Farmers' well-being has an f^2 effect size of 0.135, indicating a small to medium effect size; Linking Social Capital → Farmers' well-being has an f^2 effect size of 0.078, indicating a small to medium effect size; Linking Social Capital → Farmers' Self-efficacy has an f^2 effect size of 0.078, indicating a small to medium effect size (Table 4.19).

Table 4.19
Results of f^2 Effect Size Values

Path Relationships	f-square
BOSC→ FWB	0.038
BOSC → FSE	0.105
BRSC→ FWB	0.000
BRSC → FSE	0.075
FSE → FWB	0.135
LKSC → FWB	0.078
LKSC → FSE	0.032

4.5.6 Mediating Effects

A mediating effect occurs when a third mediator variable is inserted between two other related dimensions. More precisely, a change in the exogenous dimension leads to a change in the mediator variable, which in turn leads to a change in the endogenous dimension within the PLS path model. The mediator variable controls the nature of the relationship between the two dimensions (i.e., the potential mechanism or process), making the understanding of mediation critically important for researchers in at least

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two respects: (1) they form the basis for explaining how certain process factors enhance or impede the impact of success drivers, which is a management theme (Castro & Roldán, 2013; Cepeda & Vera, 2007); (2) including a third variable that plays an intermediary role between two variables in the model is a methodological challenge (Nitzl et al., 2016).

In the indirect effect of Bonding Social Capital → Farmers' Self-efficacy → Farmers' well-being, with p<0.05 and the confidence interval not including 0 [0.073 ,0.158], indicates that the indirect effect is significant.

In the indirect effect of Bridging Social Capital → Farmers' Self-efficacy → Farmers' well-being, with p<0.05 and the confidence interval not including 0 [0.060 ,0.157], indicates that the indirect effect is significant.

In the indirect effect of Linking Social Capital → Farmers' Self-efficacy → Farmers' well-being, with p<0.05 and the confidence interval not including 0 [0.032 ,0.108], indicates that the indirect effect is significant. Table 4.20 presented the indirect effect analysis of mediator.

Table 4.20
Indirect Effect Analysis of Mediation Model

Hypotheses	Path Relationships	Original sample (O)	Standard deviation (STDEV)	T statistics	P values	2.50%	97.50%
H8	BOSC → FSE → FWB	0.111	0.022	5.160	0.000	0.073	0.158
H9	BRSC → FSE → FWB	0.104	0.025	4.134	0.000	0.060	0.157
H10	LKSC → FSE → FWB	0.067	0.019	3.510	0.000	0.032	0.108

4.5.7 Summaries of Testing Hypotheses

Table 4.21 summarized the results of testing the hypotheses in this study. Direct and mediate tests were applied to answer the research objectives of this study. This study includes seven direct relationship hypotheses and three indirect relationship hypotheses. The results of the study showed that all the hypotheses were supported except the second hypothesis, which was not supported.

Table 4.21
Testing Hypotheses

Hypotheses	Path Relationships	Results
H_1	BOSC → FWB	Supported
H_2	BRSC → FWB	**Not Supported**
H_3	LKSC → FWB	Supported
H_4	BOSC → FSE	Supported
H_5	BRSC → FSE	Supported
H_6	LKSC → FSE	Supported
H_7	FSE → FWB	Supported
H_8	BOSC → FSE → FWB	Supported
H_9	BRSC → FSE → FWB	Supported
H_{10}	LKSC → FSE → FWB	Supported

4.6 Conclusion

Chapter 4 presents a detailed account of the study's data analysis results, including descriptive statistics, T-test, ANOVA, reliability and validity analyses, exploratory and confirmatory factor analysis outcomes, and the results of structural equation modeling (SEM). Through these analyses, the chapter provides a comprehensive evaluation of the research hypotheses and uncovers the relationships between social capital, self-efficacy, and farmers' well-being.

The chapter begins with basic statistical descriptions of the collected data, including demographic characteristics such as gender, age, and education level. These descriptive statistics offer a foundational understanding of the sample structure and baseline traits. Next, the application of T-test and ANOVA provides a presentation of the differentiation among different groups in the data results. Following this, the chapter discusses the reliability and validity analyses of the measurement tools used in the study, ensuring the reliability of the questionnaire and the accuracy of the measurements. Cronbach's Alpha and composite reliability values were used to assess internal consistency, while exploratory and confirmatory factor analysis results supported the validity of the constructs.

The core of this chapter is the analysis of the structural equation model, detailing the direct and indirect relationships between the various dimensions of social capital, self-efficacy, and farmers' well-being. The SEM results reveal the level of support for the hypotheses, including mediation and direct effects. Moreover, the results explain how different dimensions of social capital (bonding, bridging, and linking) and self-efficacy influence farmers' well-being, offering new insights into the specific role of social capital in farmers' lives. The chapter concludes with a discussion of the practical significance of these results, including their contribution to current theory and practice and their potential impact on policy-making and improving farmers' well-being.

By providing comprehensive data analyses and in-depth interpretation of the results, Chapter 4 not only validates the research hypotheses but also deepens the understanding of the relationship between social capital and well-being among farmers in Guizhou Province, laying a solid foundation for the discussion and conclusion in subsequent chapters.

CHAPTER 5

DISCUSSIONS AND CONCLUSION

5.1 Introduction

The main purpose of this paper is to test the relationship hypothesis in the structural model used in this study. This study adopts farmers' self-efficacy as a mediating factor between social capital and farmers' well-being. Assuming that three types of social capital (bonding social capital, bridging social capital, and connecting social capital) will have a direct or indirect impact on the well-being of farmers, farmers' self-efficacy therefore is the mediating factor of these impacts. Discuss the research hypotheses proposed in this paper in two parts: direct hypothesis and intermediate hypothesis. This study proposes a total of four research questions and eleven hypotheses to respond to the research questions and achieve the research objectives.

The focus of this chapter is to discuss in detail the research results of this thesis, offering a comprehensive and thorough analysis. The discussion in this chapter is divided into several parts: firstly, summarizing the research questions and results to establish a clear understanding of the study's key findings; secondly, discussing the substantive construction related to this study based on existing literature, thereby placing the research within the broader academic context; and finally, analyzing and elaborating on the theoretical and practical significance of the research results, as well as providing future research recommendations that could guide further investigations and applications in related fields.

5.2 Research Conclusions

Based on the research questions, this study outlines the main work objectives as follows:

5.2.1 The Impact of Different Types of Social Capital on Farmers' Well-being

1) The Impact of Bonding Social Capital on Farmers' Well-being

This study confirmed hypothesis H_1, demonstrating that bonding social capital has a positive significant impact on farmers' well-being. This finding aligns with previous research, underscoring the importance of tight social networks and trust and support within communities for individual well-being (Aldrich, 2017; Alfano, 2022; Ceci et al., 2020; Coleman, 1988; Ghorbani et al., 2022; Jeong et al., 2021; Kaminska, 2010; Luo et al., 2018; Simons et al., 2020; Simons et al., 2023; Williams, 2019; Woolcock, 2010; Xue et al., 2020). Further explanation of this result and comparison with prior studies are as follows: Theoretically, bonding social capital involves close relationships between individuals and their intimate, tight-knit, and relatively stable social networks, such as family members, close friends and fellow community members). These relationships provide trust, support, and a sense of belonging, serving as a buffer against life stresses and challenges. Bandura's (1982) social cognitive theory highlights the critical role of social support in enhancing individual self-efficacy, thereby affecting individuals' behaviors, emotions, and cognitive processes, which corresponds with the findings that bonding social capital positively influences farmers' well-being.

Comparisons with prior studies yield similar results (Alfano, 2022; Ghorbani et al., 2022; Poortinga, 2006; Simons et al., 2020; Simons et al., 2023; Weaver et al., 2013). For instance, an empirical study by Simons, et al. (2020) found that bonding social capital is significantly positively correlated with the well-being of the elderly by reducing feelings of loneliness. This strongly indicates that bonding social capital plays a positive role in enhancing the well-being of different population groups. Additionally, Poortinga (2006) demonstrated that personal social support contributes to improved self-rated health status, supporting the positive impact of bonding social capital on farmers' well-being. Furthermore, Weaver et al. (2013) discovered that several dimensions of bonding social capital are positively related to well-being, indicating that bonding social capital enhances individual well-being by providing emotional support, thus improving access to resources.

Bonding social capital, by strengthening the close ties between individuals and their social networks, provides the necessary social support and resources, helping farmers cope with life's stresses and challenges, thereby enhancing their quality of life and satisfaction. This support system is especially crucial for farmers, who often face greater economic and environmental pressures. Additionally, bonding social capital fosters mutual help and cooperation within communities, enhancing community cohesion and mutual trust among members. This contributes to creating a supportive and positive community environment, further enhancing farmers' well-being. Moreover, tight social networks offer farmers a platform for information and resource sharing, aiding in the acquisition of agricultural knowledge and market information, improving agricultural productivity and income, and indirectly enhancing their well-being.

In summary, the positive impact of bonding social capital on farmers' well-being can be attributed to its role in providing social support, enhancing community cohesion, and facilitating resource sharing. This finding emphasizes the importance of valuing and leveraging the power of bonding social capital in designing policies and interventions aimed at improving farmers' well-being.

In the survey data of farmers in Guizhou Province, within the sub-construct of bonding social capital— family support, the item "I feel my family by my side when I have a problem." (FAS2) scored the highest, whereas "My family is by my side." (FAS5) scored the lowest. It's possible that the item "I feel my family by my side when I have a problem." specifically asks respondents about their perception of family support in a particular context (i.e., " when I have a problem "). This context-specific questioning might resonate more with respondents since the perception and need for support are stronger when facing difficulties and challenges, thus making it easier to recall and assess the support from family during tough times. Conversely, the item "My family is by my side." might be interpreted as a more general, non-context-specific description of the state of family support. In daily life, due to various reasons (such as being busy at work, life's pace, etc.), family members might not always be able to provide support and companionship at every moment, which could lead to a relatively lower overall score for this item. Moreover, in rural communities of Guizhou Province where family ties are close, there is a high expectation of mutual support among family members. The support from family members becomes especially crucial when facing challenges and difficulties.

Therefore, when the item relates to support in the context of facing challenges, it might align more with respondents' expectations and experiences of family support, hence

scoring higher. Lastly, although both items describe family support, the addition of "when I have a problem" specifies a particular condition, likely making the item more concrete and easier to evaluate, while the term 'always' is vaguer, possibly leading respondents to consider more general family interactions in daily life, thus affecting the score. In summary, this difference in scores reflects the complexity of how farmers in Guizhou Province perceive family support and the significance of support in specific contexts.

In the survey data of farmers from Guizhou Province, within the sub-construct of bonding social capital—friends support, the item "I have friends with whom I can share my joys and sorrows." (FRS1) scored the highest, while "I can count on my friends when things go wrong." (FRS2) scored the lowest. The FRS1 item emphasizes the aspect of emotional sharing and mental support, which is often more readily obtained from friends, as sharing joys and sorrows does not necessarily require friends to take specific actions or responsibilities. In contrast, the FRS2 item involves relying on friends for practical help or support during difficult times, which may require a higher level of commitment and resource investment from friends, making it more challenging in practice and leading to a lower score. Secondly, in Chinese rural communities, relationships between people are often based on long-term mutual understanding and trust. Emotional exchange and support are common forms of social interaction, so farmers may more easily feel emotional support from friends. However, when specific help is needed, due to the limited nature of resources or personal embarrassment, people may be more hesitant to ask for help from friends readily.

Furthermore, farmers' expectations of friends support may vary in different aspects. Sharing personal joys and sorrows may be seen as a more basic social interaction need,

while seeking friends' help in actual difficulties involves more complex social interactions and expectation management. Therefore, farmers may have higher satisfaction with the former. Again, farmers' social networks may be family-centered, with a relatively small circle of friends. Although they are willing to share personal emotions with friends, they may prefer to seek support from family members when specific help is needed. This family-centric social structure may also be a reason for the lower score of the FRS2 item. Lastly, farmers in Guizhou Province may face economic and resource constraints, limiting the practical help that friends can offer when things go wrong. Moreover, the geographic and infrastructural conditions of rural communities may also affect friends' ability to provide timely help. In summary, this difference in scores reveals the different expectations and experiences of farmers in Guizhou Province regarding friends support, highlighting the distinction between emotional sharing and providing concrete assistance.

In the survey, data of farmers from Guizhou Province, within the sub-construct of bonding social capital related to community support, the item "There are some members in the community with whom I share common values or interests." (COS3) scored the highest, whereas "The community members sided with me when I was in trouble." (COS2) scored the lowest. The COS3 item underscores the significance of shared values or interests in fostering cohesion among community members. When individuals recognize shared values or interests with others in the community, this sense of identification enhances their sense of belonging and satisfaction with the community. In contrast, actual help and support (as described in COS2) may rely more on specific circumstances and the availability of resources. Moreover, the COS2 item requires respondents to recall and evaluate the support provided by the community during specific difficulties, which may vary due to individual experiences.

In comparison, identifying with common values or interests represents a more abstract and broad concept, likely garnering more agreement from respondents. Additionally, shared values and interests may promote more frequent and in-depth interactions among community members, thereby strengthening the community's cohesion. Support sought during specific difficulties may occur less frequently, making such support experiences less prominent compared to everyday community life and interactions. Lastly, in rural areas like Guizhou Province, community culture and social structures may influence the modes of interaction and support among members. The presence of common values or interests could be a vital part of community culture, while receiving actual support from the community when facing difficulties may be constrained by community organizational structures, resource distribution, and cultural practices. These reasons indicate that the cohesion among community members based on shared values and interests may be more widespread and stable than actual support during specific difficulties, thereby playing a more critical role in the experience of community support among farmers in Guizhou Province.

Looking at the three sub-construct of Family Support, Friends Support, and Community Support, the overall average score for family support is 4.136, for friends support is 3.825, and for community support is 3.45. Comparing these sub-constructs, Family Support ranks the highest, followed by Friends Support, with Community Support having the lowest overall average score. The family, as the basic unit of society, plays the most central and stable support role in an individual's life. The intimate relationships between family members and the long-term experience of living together provide a solid foundation for offering emotional support, material help, and mutual care in daily life. In many cultures, especially in China, family relationships and responsibilities are highly valued, making the role of family support more

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prominent in individual well-being. While friends support occupies an important place in an individual's social life, compared to family relations, the connections between friends might be more variable and selective. Friend relationships depend on common interests, values, and personal choices, which may change over time and circumstances. Therefore, the stability and persistence of friends support might not be as strong as that of family support.

Community support encompasses a broader social network and more complex social relations, including neighbuors' assistance and support provided by community organizations. The lack of intimate and long-term contacts among community members, akin to those found in family and friends, may lead to a lower perception of support obtained from the community. Additionally, the acquisition of community support might also be influenced by factors such as community resources, organizational capacity, and community culture. Furthermore, in rural areas like Guizhou Province, traditional family values and social structures may further emphasize the importance of family support in personal life. Meanwhile, the limited resources and social services in rural communities might restrict the provision and effectiveness of community support. Lastly, individuals may have different expectations towards support from family, friends, and the community, influenced by personal experiences, cultural background, and current living conditions. Family support is usually the most fundamental expectation for individuals, while expectations for support from friends and the community may vary, leading to differences in satisfaction with different sources of support.

In summary, family, friend, and community support play different roles and have varying impacts within the social capital framework of farmers in Guizhou Province.

These differences reflect the characteristics of support types, the influence of cultural values, and patterns of interaction between individuals and society. Understanding these differences can help design and implement more effective social support strategies to enhance the well-being and quality of life of farmers.

2) The Impact of Bridging Social Capital on Farmers' Well-being

The research findings indicate that bridging social capital does not have a significant impact on farmers' well-being (Annamalah et al., 2023; Baylis et al., 2018; Bjørnskov, 2006; Burt, 2018; Ceci et al., 2020; Fung et al., 2003; M. S. Granovetter, 1973; Hidalgo et al., 2024; Kim & Cho, 2016; Liu et al., 2016; Lo & Fan, 2020; Putnam, 1993; Tuominen et al., 2023). This result might be inconsistent with previous research findings, necessitating an understanding of the reasons behind this phenomenon through comparison and analysis. From a theoretical standpoint, bridging social capital involves social networks that connect diverse communities and cultures, primarily facilitating the circulation of information and resources. However, for farmers, this type of social capital may not directly affect their daily lives and well-being as much as bonding social capital does.

In comparison with previous research, first, Putnam (2000) suggests that bridging social capital can enhance societal inclusiveness and diversity, promoting social integration. However, for the specific group of farmers, they might rely more on close connections with intimate communities (such as family, friends, and fellow community members), that is, bonding social capital, for support and resources (Gong et al., 2018; Wang, 2022). Secondly, Granovetter's (1973) "strength of weak ties" theory emphasizes the role of weak social ties in accessing new information and opportunities. Yet, in the context of farmers, due to limitations in geographical location,

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educational level, and economic conditions, it might be challenging to capitalize on new opportunities presented by these weak ties (Gong et al., 2018; Xia, 2014).

Farmers' social and economic activities largely depend on geographical location and the support of close-knit communities. Although bridging social capital can provide a broader range of information and resources, in practice, farmers may face barriers to accessing information and utilizing resources, leading to an insignificant impact of bridging social capital on their well-being. That is, enhancing farmers' well-being requires not only the circulation of information and resources but also more specific, actionable support and assistance, which usually comes from bonding social capital. Thus, the direct impact of bridging social capital on farmers' well-being may be limited. This finding suggests that in designing social capital strategies aimed at enhancing farmers' well-being, it is necessary to consider the characteristics of different types of social capital and the specific needs of farmers. While strengthening bonding social capital, we should also explore how to effectively utilize bridging social capital to promote a comprehensive improvement in farmers' well-being.

In this study's survey data from farmers in Guizhou Province, regarding the bridging social capital's sub-construct of social diversity, there are four items, among which the highest scoring item is SOD3, "Interacting with people online/offline gives me new people to talk to." while the lowest scoring item is SOD4, "Online/Offline, I come in contact with new people all the time." Specifically, the SOD3 item emphasizes the qualitative change brought by interaction, namely acquiring new conversational partners through interaction, which is likely perceived and valued by farmers as a positive social experience. Conversely, the SOD4 item focuses more on the quantity of constantly meeting new people, which may be more challenging for farmers in

Guizhou Province, especially within the relatively closed rural community environment. Furthermore, farmers in Guizhou Province may be more accustomed to interacting within a fixed social circle rather than frequently meeting new people. This social habit and cultural background influence their perception and evaluation of social diversity, placing more importance on the experience of establishing connections with new conversational partners.

Additionally, in rural areas, especially in the economically less developed province of Guizhou, opportunities for farmers to meet new people may be limited due to factors such as remote geographical locations and restricted social networks, making the continuous encounter with new people described in SOD4 less common. Moreover, with the proliferation of the internet and social media platforms, farmers have more channels to communicate with the outside world. However, the level of activity in online socializing may vary from person to person, and for those farmers who do not frequently use social media or internet resources, the frequency of meeting new people online may be lower. Lastly, "Interacting with people online/offline has given me new conversational partners" may reflect a more purposeful social activity, i.e., achieving specific social outcomes (new conversational partners) through social interaction. This purposeful social activity may bring more tangible social satisfaction to farmers than mere quantitative new encounters. In summary, this scoring difference reflects farmers' actual experiences and expectations in social diversity, where factors such as the quality of interaction, the purposefulness of social activities, and cultural and resource constraints, influence farmers' perception of social diversity. Understanding these differences helps to delve deeper into the role of bridging social capital in rural communities and its potential impact on farmers' wellbeing.

In the sub-construct of bridging social capital concerning access information and resources, there are five items, among which the highest scoring item is AIR1, "Interacting with people online/offline makes me want to try new things." while the lowest scoring item is AIR5, "Interacting with people online/offline is always a wise move." Several reasons might explain these findings: Firstly, the AIR1 item emphasizes the new experiences and opportunities to try new things brought about by social interaction, which could be particularly appealing to farmers. In rural areas, opportunities to encounter new information and technologies are relatively limited, so the new endeavors stimulated by social interactions might be seen as a positive change and an opportunity for personal growth. Secondly, the AIR5 item involves an assessment of the universality of social interaction, questioning whether it is always a wise choice. This might require farmers to consider more comprehensively the potential risks and benefits of social interactions. In real life, interacting with new individuals online or offline could come with certain risks, such as information security issues or misleading information, hence farmers might be reserved about this unequivocal affirmation.

Moreover, in rural areas like Guizhou Province, people's social habits and interaction patterns may be influenced by traditional culture and the unique socio-economic environment of the region. Farmers might prefer to engage in social interactions with assured benefits and relative safety, rather than unconditionally deem all interactions as wise choices. Lastly, item AIR5 asks respondents to make a more subjective judgment—whether social interaction is always a wise approach. This judgment could be influenced by individual values, past experiences, and personal expectations of the potential outcomes of social interactions, resulting in lower scores. In conclusion, this difference in scores reveals the complex psychological processes of farmers regarding

social interactions and their acquisition of information and resources. It helps to deepen the understanding of the role of bridging social capital in rural areas and its potential impact on farmers' well-being.

In the sub-construct of bridging social capital concerning social participation, four items were included, with the highest average scores attributed to SOP1 and SOP2. These items are "Interacting with people online/offline makes me feel like part of a larger community." and "Interacting with people online/offline makes me feel connected to the bigger picture." respectively. In contrast, the lowest score was for SOP4, "I am willing to spend time to support general online/offline community activities." Specifically, SOP1 and SOP2 emphasize the sense of emotional belonging and connection derived from interactions, providing psychological fulfillment without necessitating significant physical labor or time investment. Interactions with individuals online or offline enable people to feel part of a larger community and connected to a vast expanse of time and space, offering psychological comfort and satisfaction. Conversely, SOP4 demands actual time investment and physical participation in community activities, requiring more effort and resources, which could be burdensome for busy farmers. Moreover, people often find it easier to feel emotionally connected to a community, a sensation achievable through straightforward online interactions with low barriers to entry. Transforming this emotional connection into actual participation in community activities demands a higher threshold of action, such as time management and potential financial costs.

In rural areas like Guizhou Province, community culture may encourage emotional connections and mutual assistance among individuals, yet opportunities for active participation in community activities might be relatively limited. Additionally,

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community members might be more accustomed to face-to-face interactions, with less pronounced habits of participating in online community activities. Finally, with the widespread use of the internet and social media, interacting with people online/offline has become a common way to connect with a larger community. However, participating in actual online/offline community activities may require greater technological proficiency and familiarity with social media platforms, potentially explaining some farmers' low participation levels. In summary, farmers in Guizhou Province exhibit a high degree of emotional belonging and connection in the aspect of social participation but show lower involvement in supporting community activities. This may result from a combination of factors such as limitations in time and resources, differences in thresholds for action, sociocultural factors, and variances in technology access and preferences.

Looking at the sub-construct of social diversity, access information and resource, and social participation, the overall average scores were 3.668 for social diversity, 3.630 for access information and resource, and 3.665 for social participation. Among the sub-constructs, social diversity scored the highest, followed by social participation, with access information and resource having the lowest average score. The highest score in social diversity likely reflects the ability of farmers in Guizhou Province to interact with people from diverse backgrounds and groups within their social networks. This diversity provides them with a broad perspective and a variety of interaction experiences, enhancing their social capital. A diversified social network can bring different types of information and support, which is particularly valuable in dealing with various challenges in daily life. Moreover, social diversity may also facilitate the exchange of new ideas and the occurrence of innovative behaviors, positively affecting farmers' lives and work. The relatively lower average score for acquiring information

and resources may be due to certain limitations in information dissemination and resource distribution in the rural areas of Guizhou Province. Although social networks offer channels for information and resources for farmers, the accessibility of information and the actual availability of resources might be constrained by technological, economic, and social structural factors. Furthermore, inconsistencies in information quality and competition and inequality in the process of resource acquisition could further influence farmers' scores in this sub-construct.

The overall average score for social participation being slightly higher than information and resource acquisition but slightly lower than social diversity may reflect the level of farmers' involvement in community activities and social affairs. Social participation includes both offline community activities and online interactions, which help to build community cohesion and individual social identity. However, the level of involvement could be influenced by time, resources, and social and cultural factors. For instance, farmers may find it difficult to participate in community activities during busy farming seasons, and the accessibility and attractiveness of community activities also affect their willingness to engage. In summary, the variation in results might reflect the characteristics and interplay of social capital among farmers in Guizhou Province, along with the real challenges and opportunities they face in terms of social networks, information and resource acquisition, and social participation. This indicates a need to make efforts to improve the channels and quality of information and resources available to farmers, promote broader social participation, and enhance the diversity of social networks.

3) The Impact of Linking Social Capital on Farmers' Well-being

Research findings reveal that linking social capital significantly positively affects farmers' well-being. Linking social capital pertains to vertical relationships between different social levels or groups, especially connections with organizations or individuals that have resources, power, or influence. This form of social capital assists in the flow of resources, information, and support, thus positively impacting farmers' well-being. In comparison to previous research, Szreter and Woolcock (2004) highlighted the role of linking social capital in promoting social cohesion and the effective implementation of public policies, noting that establishing robust links can effectively connect marginalized groups with resources and opportunities. Moreover, Woolcock and Narayan (2000) suggested that linking social capital helps disadvantaged group's access resources and support beyond their immediate social networks, which is crucial for improving their living conditions and economic well-being.

Linking social capital enables farmers to establish connections with governmental bodies, non-governmental organizations, and other entities, providing them with broader channels for resource acquisition, technical support, and market information. This plays a significant role in enhancing agricultural productivity, expanding sales channels for agricultural products, and improving farmers' incomes. Through linking social capital, farmers can participate more extensively in decision-making processes, have a greater say in the formulation and implementation of public policies, ensuring that policies better reflect the needs and interests of farmers, thereby enhancing their social and economic well-being. Additionally, linking social capital helps build bridges between farmers and the external world, facilitating the exchange of knowledge and culture, and increasing farmers' receptiveness to new technologies and

ideas, which is beneficial for the long-term well-being of farmers and the sustainable development of communities.

In summary, by facilitating the flow of resources, information, and support, linking social capital strengthens the connections between farmers and other parts of society, helping to improve farmers' economic well-being and social status. This finding emphasizes the need to focus on and utilize the power of linking social capital in policies and projects aimed at enhancing farmers' well-being.

In investigating the sub-construct of linking social capital among farmers in Guizhou Province, particularly trust, this study found that among five items, the highest average score was for TRU5, "I trust people in law enforcement." while the lowest score was for TRU1, "I trust village committee." Law enforcement officers are generally viewed as symbols of authority and professionalism, tasked with maintaining law and order and protecting the public's safety and rights. This professional attribute may lead farmers to trust them more, believing in their ability to handle issues and conflicts fairly. In contrast, village (residential) committees may suffer from lower trust due to issues such as lack of transparency in management, absence of public discussions in decision-making processes, or conflicts of interest. Farmers may question the efficiency and fairness of the village (residential) committee's work or feel insufficiently involved in the decision-making process. Moreover, in certain cultural and socio-historical contexts, state institutions and official authorities are often seen as more reliable and trustworthy. In contrast, the role of grassroots organizations like village (residential) committees historically may have influenced people's trust levels in them.

Additionally, farmers' trust in these two types of institutions might also be influenced by personal experiences. If farmers have positive interactions and fair treatment from law enforcement officers, they might develop a higher level of trust in them. Conversely, if they observe or experience unfair practices or mismanagement by the village (residential) committee, this might lead to lower trust in the latter. Lastly, farmers' perceptions of law enforcement officers and village (residential) committees might also be shaped by sources of information. Media coverage and public opinion might shape farmers' trust in these institutions to some extent, especially in cases of conflict or controversy. Therefore, this difference reflects the complex attitudes and levels of trust farmers have towards different components of social capital, highlighting the importance of improving transparency in grassroots governance, enhancing the quality of public services, and strengthening communication between the village (residential) committee and farmers.

In investigating the sub-construct of linking social capital regarding engagement among farmers in Guizhou Province, this study found among five items, the highest average score was for ENG1, "I often attend meetings organized by the village committee." while the lowest was for ENG2, "I frequently visit the homes of village officials." The potential reasons for this disparity include: Firstly, attending meetings organized by the village (residential) committee represents a form of engagement. These meetings usually discuss communal affairs and are open to all villagers. In contrast, visiting the homes of village officials is a more private act, likely related to specific needs or relationships. Farmers may prefer to engage in public affairs through formal, collective means rather than private visits to officials' homes. Secondly, attending committee meetings typically requires no specific criteria, just the villagers' willingness to participate, and meetings may be viewed as an effective way to

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influence village decision-making. Conversely, personal visits to village officials might necessitate specific social relations or reasons, and their effectiveness may not be visibly or deemed effective by everyone.

Furthermore, engagement provides a platform for understanding village matters, discussing issues, and expressing opinions, which may enhance farmers' trust in the transparency and fairness of village governance. In contrast, private visits to officials may not offer the same level of informational transparency and inclusiveness. Lastly, farmers may prefer to interact with others in public or semi-public settings, and might be hesitant about entering the more private spaces of others' homes, especially if there is no close personal relationship. This survey result shows that in promoting farmer's engagement, open and collective participation opportunities may be more favored and effective in fostering public discussion and democratic engagement within the community than private contacts.

In the survey of farmers in Guizhou Province, when comparing the two sub-construct of linking social capital—trust and engagement —it was found that the overall average score for trust was 3.652, higher than the overall average score of 3.094 for engagement. Several reasons may account for this discrepancy: In many rural communities, trust in law enforcement and other institutions may be rooted in long-standing social and cultural traditions. People might tend to trust these institutions, as they are perceived as authorities maintaining social order and safety. The authority and stability of institutions might offer farmers a sense of relative security, even when facing challenges or difficulties. Moreover, compared to general trust, participation in engagement may require more time, energy, and resources. Farmers might participate

less in engagement due to the demands of daily life, resource constraints, or uncertainty about the impact and effectiveness of their participation.

Furthermore, trust might stem from an understanding of their roles and functions, while engagement relies more on access to information and transparency. If farmers cannot easily obtain information about public affairs or feel that their engagement will not lead to significant change, they might be more hesitant and unwilling to engage. Lastly, in the past, especially during poverty alleviation efforts, farmers might have directly benefited from programs and policies associated with institutions, thus enhancing their trust in these entities. In contrast, the outcomes related to engagment might be harder to immediately perceive or experience, leading to relatively lower engagement levels. Therefore, while farmers might have relatively high trust, their enthusiasm for participating in engagement could be influenced by various factors, including cultural norms, accessibility of information, barriers to participation, and expectations for change. This necessitates that policymakers and social organizations consider lowering barriers to participation, increasing transparency and accessibility of information, and enhancing farmers' self-efficacy and motivation to participate through education and training, in order to encourage more engagement.

5.2.2 Investigating How Different Types of Social Capital Affect Farmers' Well-being and Self-efficacy

(1) The Impact of Bonding Social Capital on Farmers' Self-efficacy

Research findings indicate that bonding social capital significantly positively affects farmers' self-efficacy. This discovery supports social cognitive theory, particularly Bandura's (1977) self-efficacy theory, which emphasizes the influence of factors such

as observational learning, social support, and emotional states on an individual's belief system. This study aligns with similar results from previous research (Bandura, 1977; Coleman, 1988; Hudson et al., 2020; Liu et al., 2014; Luszczynska et al., 2005a; Mohajan, 2020; Ramos et al., 2018; Sprengers et al., 1988). For instance, Bandura (1977) suggested in his theory of self-efficacy that an individual's sense of self-efficacy primarily stems from four main sources: personal achievement experiences, vicarious experiences (observational learning), verbal persuasion, and physiological and emotional states. Bonding social capital, especially support from intimate relationships and close community networks, directly relates to these sources, particularly in terms of observational learning and emotional support, thus enhancing farmers' sense of self-efficacy. Additionally, Luszczynska and Schwarzer's (2005a) research underscored the role of social support in boosting self-efficacy, especially in health behavior change. This is consistent with the findings that bonding social capital positively influences farmers' self-efficacy, as close social ties provide the necessary emotional support and encouragement.

Bonding social capital enhances farmers' confidence and sense of ability to face agricultural challenges by providing emotional support, encouragement, and positive feedback. This support not only helps farmers overcome difficulties but also encourages them to try new agricultural techniques and methods, thus improving their self-efficacy. Close community relationships and intimate connections also provide an environment for observation and learning, where farmers can learn from the success stories of other community members and apply these experiences to their practices. Such vicarious experiences are crucial for strengthening self-efficacy. Furthermore, bonding social capital can alleviate farmers' anxiety and stress when facing agricultural

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production risks and uncertainties, by reducing negative emotional and physiological reactions, indirectly enhancing their sense of self-efficacy.

In summary, bonding social capital significantly positively impacts farmers' self-efficacy through providing emotional support, facilitating learning, and alleviating stress. This finding emphasizes the need to focus on and strengthen bonding social capital within communities in strategies aimed at promoting farmers' development and well-being.

(2) The Impact of Bridging Social Capital on Farmers' Self-efficacy

Research findings demonstrate that bridging social capital significantly positively affects farmers' self-efficacy. Bridging social capital involves connections between different communities, facilitating broader information and resource sharing, which helps enhance individuals' self-efficacy. This study aligns with similar results from previous research (Bandura, 1977; Coleman, 1988; Hudson et al., 2020; Liñán & Santos, 2007; Liu et al., 2014; Luszczynska et al., 2005b; Mohajan, 2020; Ramos et al., 2018; Sprengers et al., 1988). For instance, Granovetter's (1973) 'strength of weak ties' theory highlights the importance of weak social connections in providing access to new information and opportunities. Bridging social capital, through these weak ties, connects diverse social groups, offering farmers pathways to access new agricultural technologies, market information, and other resources, thereby enhancing their capability and confidence to tackle agricultural challenges, i.e., improving their self-efficacy. Furthermore, Putnam (2000) suggested that bridging social capital could promote social cohesion and inclusiveness by fostering connections that cross societal boundaries, enhancing understanding and cooperation. This form of social capital

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provides farmers with opportunities to participate in broader social networks, strengthening their confidence and ability to face challenges.

Bridging social capital, by providing connections to the external world, enables farmers to access new knowledge, technologies, and practices. This influx of new information helps farmers increase agricultural productivity and enhance their problem-solving abilities, thus boosting self-efficacy. Participating in broader social networks allows farmers to learn from the success stories of other groups, receive positive feedback and encouragement, all of which are crucial factors in enhancing self-efficacy. Additionally, the support from such social networks aids farmers in coping with failures and setbacks, enhancing psychological resilience when faced with agricultural risks and uncertainties. Bridging social capital also facilitates access to critical market information and financial support, the availability of which directly impacts farmers' ability to achieve their agricultural goals, thereby positively influencing their self-efficacy.

In summary, bridging social capital, by enhancing farmers' access to information, opportunities to learn new technologies, and the ability to participate in broader social networks, contributes to improving their self-efficacy. This finding emphasizes the importance of recognizing and utilizing the role of bridging social capital in strategies aimed at promoting farmer development and enhancing agricultural

(3) The Impact of Linking Social Capital on Farmers' Self-efficacy

Research results indicate that linking social capital significantly positively impacts farmers' self-efficacy. Linking social capital involves vertical connections with organizations or individuals possessing more resources and power, providing farmers

with crucial resources, information, and support, thereby enhancing their sense of self-efficacy. This study aligns with and extends upon previous research (M. S. Granovetter, 1973; Hudson et al., 2020; Mohajan, 2020; Slijper et al., 2022; Szreter & Woolcock, 2004; Woolcock & Narayan, 2000). For instance, Szreter and Woolcock (2004) discussed the concept of linking social capital in their work, emphasizing its role in facilitating the implementation of public policies and improving accessibility to services. This suggests that linking social capital aids vulnerable groups, including farmers, by improving their conditions through connections with power structures. Moreover, Woolcock (2001b) examined the impact of different types of social capital on economic development, highlighting that linking social capital is particularly important for establishing broader social and economic ties, providing marginalized groups with pathways to access resources and support.

Linking social capital offers farmers the opportunity to establish connections with external organizations (such as government agencies, non-governmental organizations, commercial enterprises, etc.), which can assist farmers in obtaining technical support, financial aid, and market information, thus improving their ability to tackle agricultural challenges and enhancing self-efficacy. Through linking social capital, farmers can participate in broader decision-making processes, strengthening their voice and influence. This sense of participation and recognition can increase farmers' self-efficacy. Linking social capital also facilitates exchanges between farmers and other agricultural practitioners and experts, learning advanced agricultural techniques and management knowledge. Acquiring and applying this knowledge helps improve farmers' problem-solving abilities, thereby enhancing their self-efficacy.

In summary, linking social capital, by providing pathways for farmers to connect with the broader social and economic system, enables them to access important resources and support, thus positively influencing their self-efficacy. This finding emphasizes the need to recognize and leverage the potential of linking social capital in developing strategies and plans aimed at enhancing farmers' well-being and capabilities.

5.2.3 Determining Whether Self-efficacy Acts as a Mediator between Social Capital and Farmers' Well-being.

(1) The Impact of Farmers' Self-efficacy on Farmers' Well-being

Research findings indicate that farmers' self-efficacy has a significant positive impact on farmers' well-being. This discovery aligns with the theory of self-efficacy, proposed by Bandura (1977), which emphasizes the influence of an individual's belief in their capability to execute behaviors in specific situations on their behavioral choices, effort, persistence, and emotional reactions. This study aligns with similar results from previous research. For instance, Bandura (1977) in his theory of self-efficacy noted that individuals with high self-efficacy are more likely to engage in healthy behaviors, overcome challenges, and achieve personal goals. In the agricultural context, farmers with a strong sense of self-efficacy are more likely to try new technologies, adapt to market changes, and effectively manage farm resources. Furthermore, Luszczynska et al. (2005b) research demonstrated that self-efficacy is a key predictor of health behavior change. Applying this concept to farmers' well-being, those with high self-efficacy might manage their health and well-being more effectively, including adapting to environmental stresses and promoting family well-being.

Farmers' sense of self-efficacy affects their ability to acquire and utilize agricultural resources (such as funding, information, and technology). Farmers with high self-efficacy are more likely to actively seek resources and apply them effectively in agricultural production, thereby increasing yield and income, and consequently improving well-being. Additionally, self-efficacy helps farmers cope with challenges and adversities in agricultural production, such as climate change, diseases, and market fluctuations. Farmers who believe in their ability to overcome these difficulties are more likely to take adaptive measures and maintain a positive attitude, thereby sustaining and enhancing their well-being. Moreover, self-efficacy promotes innovation and effective decision-making in agricultural management and practices. Farmers with high self-efficacy are more likely to try new agricultural technologies and methods, which can not only increase agricultural productivity but also enhance their quality of life and satisfaction (Baron-Epel et al., 2008; Makridis & Wu, 2021; Z. Zhang et al., 2023).

In summary, the significant positive impact of farmers' self-efficacy on their well-being reflects the role of self-efficacy in promoting resource utilization, coping with challenges, and encouraging innovation. This finding underscores the importance of enhancing farmers' self-efficacy in strategies for agricultural development and improving farmers' well-being.

(2) The Mediating Role of Farmers' Self-efficacy Between Social Capital and Farmers' Well-being

Research results show that farmers' self-efficacy plays a positive mediating role between social capital and farmers' well-being. This means that social capital enhances farmers' well-being by boosting their sense of self-efficacy. This finding aligns with

the integration of self-efficacy theory and social capital theory, providing a new perspective for understanding the factors influencing farmers' well-being (Bandura, 1982; Coleman, 1988; Hu et al., 2021; Putnam, 2000; Sulistyani & Suhariadi, 2022). This study parallels the outcomes of previous research, such as Bandura's (1982) theory of self-efficacy, which emphasizes that an individual's belief in their ability to perform specific tasks affects their behavior, emotions, and way of thinking. In the agricultural sector, this implies that farmers with a strong sense of self-efficacy are more likely to take proactive measures to improve their production efficiency and quality of life. Moreover, scholars like Putnam (2000) and Coleman (1988) proposed in their theories of social capital that social networks, trust, and community participation positively influence the well-being of individuals and collectives. These forms of social capital provide farmers with the necessary support and resources, contributing to their enhanced sense of self-efficacy.

The social support and resource sharing provided by social capital help farmers to cope with challenges and pressures in agricultural production. This support strengthens their confidence to tackle problems and challenges, thereby increasing their sense of self-efficacy. The social networks and group interactions within social capital offer farmers opportunities for learning and emulation. Through observation and communication, farmers can acquire new agricultural technologies and management knowledge, directly enhancing their sense of self-efficacy. Emotional support and positive feedback within social capital contribute to improving farmers' psychological health and positive emotions. This positive emotional state directly impacts the enhancement of self-efficacy and the promotion of well-being. Hence, farmers' self-efficacy, serving as a mediating variable between social capital and farmers' well-being, underscores the indirect pathway through which social capital influences farmers' well-being. This

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discovery suggests that by enhancing farmers' self-efficacy, the positive effects of social capital can be effectively utilized to improve the overall well-being of farmers. This holds significant implications for designing and implementing policies and programs aimed at improving the quality of life and production efficiency of farmers.

5.2.4 Demographic Variables and Variability in Research Variables

(1) Females generally score higher than males across most sub-constructs.

This study conducted a gender-based comparative analysis of farmers in Guizhou Province, revealing that women generally scored higher than men across multiple research variables. Specifically, women scored significantly higher in dimensions such as well-being, bonding social capital, and bridging social capital. These findings indicate that gender plays a crucial role in social capital and its related dimensions, which has important implications for understanding the well-being of farmers.

The results of the gender-based comparative analysis of farmers in Guizhou Province show that women scored generally higher than men across various research variables, particularly in well-being, bonding social capital, and bridging social capital. Firstly, women are typically more proactive in maintaining and developing social relationships, which leads to higher scores in bonding and bridging social capital. They are likely to establish close family ties and friendships, thereby gaining more emotional support and resource sharing. Secondly, in many rural areas, women often take on more family care and community participation roles. This role distribution results in their more frequent participation in community activities, enhancing their social engagement and bridging social capital. This also explains why they score higher in community support and public affairs participation. Furthermore, women are generally more expressive of

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emotions and more likely to seek psychological support, which contributes to better well-being and mental health outcomes. They tend to use social networks to obtain emotional support, which enhances their overall happiness.

In certain cultural contexts, women are expected to be warmer and more caring in social interactions. These social and cultural expectations may drive them to engage more actively in social activities and establish broader social networks, thereby strengthening their bonding and bridging social capital. Additionally, women may have a stronger ability to acquire information and resources through social networks compared to men. They are more likely to receive useful information and assistance from family, friends, and the community, which improves their scores in information and resource acquisition. Finally, research indicates that women may exhibit higher psychological resilience and adaptability when facing life challenges. This psychological advantage leads to better self-efficacy and happiness, thereby enhancing overall well-being.

In conclusion, women's higher scores in several research variables may be attributed to their advantages in maintaining social relationships, expressing emotions, seeking psychological support, and participating in social activities. These factors collectively contribute to women's more prominent performance in dimensions such as well-being, bonding social capital, and bridging social capital. Understanding these gender differences helps to better comprehend the impact of gender roles on the well-being of farmers in rural areas, providing a basis for developing more inclusive and effective rural development policies settings.

(2) The younger the age group, the higher the average scores across sub-constructs.

This study found significant differences in well-being, linking social capital, and perceived self-efficacy among farmers of different age groups. Specifically, farmers aged 30-49 reported significantly lower well-being compared to both younger and older farmers. In terms of linking social capital, younger farmers perceived higher levels than older farmers. Additionally, farmers aged 40-49 exhibited significantly lower self-efficacy compared to other age groups. The lower well-being observed in the 30-49 age group might be attributed to economic pressures and family burdens. Farmers in this age range often face dual pressures from family and career responsibilities. They may need to raise children, care for elderly parents, and bear the primary economic responsibilities of the household. These multiple burdens can lead to higher levels of stress and anxiety, negatively impacting their well-being. Furthermore, many farmers in this age group have been engaged in agricultural production for many years, possibly facing job burnout and uncertainty about the future, which can adversely affect their mental health and overall well-being. In contrast, younger and older farmers tend to report higher well-being. Younger farmers may just be entering the agricultural field, full of energy and hope, and less affected by family and economic pressures, resulting in higher well-being. Older farmers may have already adapted to agricultural life, with decreasing family responsibilities, as children become independent and reduced economic pressure, leading to improved well-being.

Regarding the age differences in linking social capital, younger farmers perceive higher levels. They are generally more familiar with modern technology and social media, using these tools to access more resources and information and to build broader social networks. Additionally, young people are typically more open and adaptable to

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change, willing to try new things, and actively participate in community and social activities, enhancing their linking social capital.

For self-efficacy, farmers aged 40-49 show significantly lower levels compared to other age groups. They may be experiencing a mid-life crisis, doubting their abilities and future, which can lower their sense of self-efficacy. This age group may also be at a career plateau, facing economic pressures and social challenges without sufficient support and resources, leading to reduced self-efficacy.

These findings indicate significant age-related differences in well-being, linking social capital, and perceived self-efficacy among farmers. These differences reflect the unique challenges and opportunities farmers face at different stages of life. Understanding these differences is crucial for developing policies and interventions targeted at farmers of various age groups, helping to improve the quality of life and mental health for all farmers.

(3) The higher the level of education, the higher the average scores across sub-constructs.

The study reveals that farmers with higher education levels score significantly higher in well-being, bonding social capital, bridging social capital, linking social capital, and self-efficacy. This phenomenon can be further explained through the following aspects:

1) Increase in Knowledge and Skills: Farmers with higher education levels typically have better education, equipping them with a broader range of knowledge and skills. This includes not only agricultural techniques and management methods but also knowledge in economics, environmental protection, and healthcare. These enhanced skills enable them to apply scientific methods more effectively in agricultural

production, improving efficiency, reducing costs, and increasing income, thereby enhancing personal and family well-being.

2) Enhanced Social Capital: Individuals with higher education levels are more likely to establish broad and diverse social networks. They can more effectively build and maintain relationships, including close ties with family members and neighbors (bonding social capital) and connections across different social groups and organizations (bridging and linking social capital). This social capital facilitates the sharing of information and resources, such as new technologies and market information, thereby enhancing individual and community resilience and adaptability.

3) Improved Self-Efficacy: Education can enhance an individual's self-efficacy, or their confidence in successfully completing tasks. Highly educated farmers may have more confidence in solving problems, facing challenges, and achieving goals. This confidence stems from the knowledge and skills acquired during their education and the successful experiences and positive feedback they received. Enhanced self-efficacy encourages proactive and innovative approaches in agricultural production and life, leading to better outcomes.

4) Better Decision-Making Skills: Farmers with higher education levels usually possess better analytical and judgment skills when making decisions related to agricultural production and life. They can more effectively assess risks and opportunities and make wiser decisions. For instance, in choosing crop varieties, managing soil and water resources, using fertilizers and pesticides, and participating in market transactions, they can comprehensively consider various factors and make optimal choices, thus improving productivity and well-being.

5) Access to Resources: Educated farmers are often better at accessing and utilizing various resources, including technical, informational, and financial resources. They may be more adept at using these resources to improve production conditions and increase income, thereby enhancing well-being and self-efficacy. For example, they might more easily obtain technical training and financial support from government and non-governmental organizations and better understand and apply new technologies to improve efficiency and income levels.

6) Innovation and Adaptability: Farmers with higher education levels typically have stronger innovation and adaptability skills. They can quickly learn and apply new knowledge and technologies and adapt to market demands and environmental changes. These abilities enable them to be more flexible and responsive in the face of uncertainty and change, thereby enhancing their self-efficacy and overall well-being.

In summary, farmers with higher education levels perform better in terms of well-being, social capital, and self-efficacy compared to those with lower education levels. This not only reflects the enhancement of individual capabilities and qualities through education but also underscores the crucial role of education in promoting agricultural development and farmers' well-being.

(4) Married farmers tend to have higher average scores across most sub-constructs compared to unmarried farmers.

The study results indicate that married farmers score significantly higher in well-being, bridging social capital, linking social capital, and self-efficacy compared to unmarried farmers. This phenomenon can be further explained through the following aspects:

1) Emotional Support and Stability: Marriage often provides emotional support and stability, which have a significant impact on an individual's mental health and well-being. Married farmers can receive emotional support and comfort from their spouses, helping to reduce stress and anxiety, and enhancing life satisfaction and happiness.

2) Economic Support and Resource Sharing: Married farmers usually benefit from dual income sources, contributing to economic stability and resource accumulation. Economic support and resource sharing not only improve the quality of life but also increase opportunities for family members to engage in community activities and social interactions, thereby enhancing social capital.

3) Expanded Social Networks: Marriage allows individuals to further expand their social networks, including connections with their spouse's family members, friends, and community ties. These extended social networks help increase bridging and linking social capital, facilitating the exchange of information and resources, and promoting social support and mutual cooperation.

4) Enhanced Self-Efficacy: Married farmers are often required to take on more responsibilities in family life, which boosts their confidence and capability in facing problems and challenges. Cooperation and mutual support within the marriage also enhance individual self-efficacy, making them believe in their ability to successfully tackle various difficulties and challenges.

5) Role and Identity Recognition: Marriage grants individuals new social roles and identities, such as spouse and parent, which help enhance self-worth and a sense of belonging. These positive psychological effects contribute to improved well-being and self-efficacy.

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6) Health Behaviors and Lifestyle: Research indicates that married individuals often lead healthier lifestyles than unmarried individuals, including more regular routines, healthier eating habits, and more frequent health check-ups. These health behaviors improve physical health, subsequently affecting mental health and overall well-being.

7) Social Recognition and Support: In many cultures, marriage is considered a sign of social recognition, and married individuals often receive more social support and acknowledgment. This sense of social recognition and support enhances individual confidence and social participation, thereby influencing the formation of bridging and linking social capital.

8) Cooperation and Collaboration: Cooperation and collaboration within marriage often require both partners to face and solve problems together, which enhances problem-solving and collaboration skills. These abilities play a crucial role in agricultural production and community activities, improving individual self-efficacy.

In summary, married farmers outperform unmarried farmers in well-being, bridging social capital, linking social capital, and self-efficacy. This reflects the significant role of marriage in providing emotional and economic support, expanding social networks, and enhancing self-efficacy.

(5) Families whose primary source of income is livestock farming have higher average scores across most sub-constructs compared to those with other sources of income.

The study results indicate that farmers whose primary income comes from livestock farming have significantly higher averages in bonding social capital and self-efficacy compared to farmers with other income sources, especially those whose primary income comes from crop farming. There could be several important reasons for the

higher levels of bonding social capital. Firstly, the demand for cooperation and mutual assistance in livestock farming is usually greater, particularly in large-scale or intensive farming. Farmers might form cooperatives or mutual aid groups with neighbors, friends, and relatives to share resources, technology, and labor, which helps to enhance bonding social capital within the community. Secondly, livestock farming involves higher risks, such as diseases and climate change, compared to crop farming. Therefore, livestock farmers often rely on community support and cooperation to share and manage these risks, promoting close ties and a spirit of mutual help within the community. Lastly, in terms of resource sharing, the frequent sharing and exchange of resources (such as feed, equipment, and technology) and information in livestock farming improve production efficiency and reduce costs. This frequent sharing and exchange strengthen connections and trust among farmers, further promoting the formation of bonding social capital.

Regarding the reasons for higher self-efficacy, several factors can be considered. Firstly, livestock farming typically requires higher levels of technical skills and knowledge, such as animal husbandry, disease prevention and control, and breeding techniques. Farmers engaged in livestock farming usually receive more training and education, which boosts their confidence in their abilities and enhances their self-efficacy. Secondly, success in livestock farming often requires long-term accumulation and management, allowing farmers to accumulate more successful experiences and confidence after overcoming various challenges and difficulties. These experiences help to enhance their self-efficacy, making them believe in their ability to solve future problems successfully. Furthermore, livestock farming tends to offer more stable economic returns compared to crop farming, especially when market demand is stable. Stable economic returns improve farmers' quality of life and sense

of well-being, further enhancing their self-efficacy. Lastly, livestock products may be more valued and recognized by the market and society compared to crop products in some regions. This recognition boosts farmers' self-esteem and self-efficacy, elevating their status in the market and society, and making them more confident in facing various challenges.

Livestock farming also involves significant interaction with external markets and institutions like agricultural banks, suppliers, and government departments. These frequent external interactions may increase farmers' trust in these institutions. Furthermore, as livestock farming often entails extensive market and community activities, farmers engaged in livestock may build connections with people from diverse backgrounds, enhancing their social diversity. Overall, these factors contribute to the strong performance of farmers whose primary income source is livestock farming across multiple social capital and well-being dimensions. These findings offer important insights into how agricultural activities can impact farmers' social and psychological well-being, providing a foundation for developing policies aimed at improving farmers' quality of life.

In conclusion, farmers whose primary income comes from livestock farming outperform those with other income sources in bonding social capital and self-efficacy. This reflects the significant role of livestock farming in promoting community cooperation, resource sharing, risk management, and enhancing individual skills and confidence.

(6) Groups with higher annual per capita family income tend to have higher average scores across most sub-constructs compared to other groups.

The study results indicate that farmers with higher incomes have significantly higher average scores in bonding social capital, bridging social capital, and self-efficacy compared to those with lower incomes.

From the perspective of bonding social capital, the possible reasons are as follows:

1) Economic Foundation and Resource Support: Farmers with higher incomes typically possess more economic resources, allowing them to invest more time and effort in community activities, thereby strengthening connections with neighbors and community members. They are more likely to actively participate in mutual aid groups, cooperatives, and community organizations, enhancing bonding social capital within the community.

2) Frequency and Quality of Social Interactions: Higher-income farmers generally have more opportunities and means to engage in various social activities, such as gatherings, meetings, and cultural events. These activities foster mutual understanding and trust among community members, further consolidating bonding social capital.

From the perspective of bridging social capital, the possible reasons are as follows:

1) Expanded Social Networks: Higher-income farmers usually have broader social networks, including connections with other communities, industries, and government agencies. They can leverage these connections to access more resources and information, enhancing their production efficiency and economic returns.

2) Participation in Social Organizations and Activities: Higher-income farmers are more likely to have the capability and willingness to participate in various social organizations and activities, such as industry associations, agricultural exhibitions, and

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technical training. These activities promote connections and cooperation between different social groups, strengthening bridging social capital.

From the perspective of self-efficacy, the possible reasons are as follows:

1) Access to Resources and Opportunities: Higher-income farmers generally have more resources and opportunities to enhance their knowledge and skills, such as attending training sessions and purchasing equipment and technology. Access to these resources and opportunities boosts their confidence and ability to face challenges, thereby improving their self-efficacy.

2) Economic Stability and Security: Higher-income farmers typically enjoy greater economic stability and security, which helps reduce financial pressure and anxiety, allowing them to focus more on improving their production and quality of life. This economic stability and security also enhance their confidence and self-efficacy.

3) Sense of Achievement and Self-Esteem: Economic success and increased income usually bring a higher sense of achievement and self-esteem. Higher-income farmers are more likely to feel valued and to see their contributions to economic activities, which boosts their self-efficacy and confidence in facing future challenges.

4) Social Status and Recognition: Higher-income farmers often hold higher social status and recognition, which can enhance their self-esteem and confidence. Increased social status makes them more influential in social interactions and economic activities, further boosting their self-efficacy.

In conclusion, farmers with higher incomes outperform those with lower incomes in bonding social capital, bridging social capital, and self-efficacy. This reflects the

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crucial role of economic income in promoting social capital development, enhancing personal capabilities, and building confidence.

(7) Groups with shorter primary occupation engagement generally have higher average scores across multiple sub-constructs compared to other groups.

The study results show that farmers with fewer years of agricultural experience score significantly higher in linking social capital compared to those with more years of experience. This phenomenon can be explained by the following factors:

1) Active Pursuit of Resources and Opportunities: New farmers are generally more proactive in seeking various resources and opportunities to meet the demands of agricultural production. They may frequently attend training sessions, agricultural exhibitions, and technical exchange meetings, which help them establish connections with other farmers, experts, and institutions, thereby enhancing their linking social capital.

2) Innovation Awareness and Enthusiasm for Learning: New farmers often have a strong sense of innovation and enthusiasm for learning. They are more willing to try new technologies and methods. In this process, they need to continuously engage with the outside world to learn advanced agricultural techniques and experiences, which fosters extensive social connections and strengthens linking social capital.

3) External Support and Assistance: Government and non-governmental organizations often provide more support and assistance to new farmers, such as technical guidance, financial support, and market information. This support and assistance are usually delivered through various channels, requiring new farmers to establish connections with these organizations and individuals, thus increasing their linking social capital.

4) Openness and Adaptability: New farmers typically possess strong openness and adaptability, making it easier for them to accept and integrate into new social networks. These traits enable them to quickly establish and maintain connections with the outside world, thereby enhancing their linking social capital.

5) Utilization of Modern Technology and Information: New farmers are likely to be more adept at using modern technology and information tools, such as the internet, social media, and mobile applications, to obtain and share agricultural information. They can use these platforms to connect with experts, scholars, and other farmers, which also helps to strengthen their linking social capital.

6) Market Orientation and Competitive Awareness: New farmers tend to be more market-oriented and competitive, understanding the intense competition in modern agricultural markets. Therefore, they actively establish and maintain various social connections to gain market information and competitive advantages. This competitive awareness drives them to continually expand their social networks.

7) Diverse Backgrounds: Many new farmers may come from different professional backgrounds or regions, bringing diverse perspectives and networks. These diverse backgrounds help them build extensive social connections both within and outside the agricultural sector, enhancing their linking social capital.

Farmers with fewer years of agricultural experience outperform those with more years of experience in terms of linking social capital. This is mainly because new farmers are more proactive in seeking resources and opportunities, have a strong sense of innovation and enthusiasm for learning, and are skilled at using modern technology and information tools to expand their social connections. These factors collectively

contribute to the significantly higher scores of new farmers in linking social capital compared to those with more years of experience.

5.3 Research Implication

Through an in-depth analysis of the relationship between social capital and the well-being of farmers in Guizhou Province, this study reveals the critical role of social capital in enhancing farmers' well-being. These findings not only enrich existing academic theories but also provide empirical evidence for policymakers to design and implement policies and programs that strengthen social capital. The research implications are specifically elaborated from both academic and practical perspectives.

5.3.1 Theoretical and Conceptual Implication

This study, focusing on the farmers in Guizhou Province, China, aims to explore their well-being and the influencing factors and mechanisms, offers several academic contributions to the understanding of well-being among farmers in Guizhou Province:

(1) Deepening Understanding of the Concept of Farmers' Well-being: By systematically studying the well-being of farmers in Guizhou Province, this research enriches the connotation and dimensions of farmers' well-being, providing a more detailed and specific interpretation of the concept. This is significant for the academic community to better understand this complex phenomenon of farmers' well-being.

(2) Revealing the Influencing Factors and Mechanisms of Farmers' Well-being: This study not only explores various factors affecting the well-being of farmers in Guizhou Province, such as social capital and self-efficacy, but also analyzes how these factors influence farmers' well-being through different mechanisms. This systematic analysis

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of influencing factors and mechanisms offers new perspectives and insights for understanding and improving farmers' well-being.

(3) Providing New Perspectives for Agricultural and Rural Development: By analyzing farmers' well-being through social capital theory and the application of conservation of resources theory, this research offers a new perspective on agricultural and rural development. Specifically, it suggests how improving farmers' well-being can be achieved by protecting and increasing their social and psychological resources. This has important implications for designing more effective agricultural development policies and rural intervention measures.

(4) Revealing the Mediating Mechanism of Self-efficacy Between Social Capital and Farmers' Well-being: This study clarifies the mediating role of self-efficacy between social capital and farmers' well-being, revealing the intricate mechanisms of this relationship. It contributes to a deeper understanding within the academic community of the formation process of farmers' well-being, especially how psychological factors act as a bridge in the conversion of social resources into individual well-being. By validating the mediating role of self-efficacy in a specific region and among the farmer population in Guizhou Province, China, this study enriches the empirical research foundation on the impact of social capital and self-efficacy on well-being.

This study makes significant extensions to the theory of social capital. Firstly, it applies the theory of social capital to the study of rural development and farmers' well-being, especially in less developed agricultural societies like China's Guizhou Province. This not only broadens the application scope of social capital theory but also provides a new perspective for understanding and addressing issues in rural development. Secondly, by examining how different dimensions of social capital (bonding, bridging,

and linking social capital) impact farmers' well-being and self-efficacy, this study deepens our understanding of the connotation and mechanisms of social capital. This is crucial for enriching and perfecting social capital theory, particularly in the context of agriculture and rural development. Moreover, through empirical research in the specific socio-economic context of Guizhou Province, this study offers empirical data on the impact of social capital on farmers' well-being, strengthening the empirical foundation of social capital theory and providing new evidence for the integration of theory and practice. Lastly, this research finds that different types of social capital have varying impacts on farmers' well-being, indicating the dual role social capital may play in different socio-economic environments. It can both facilitate access to resources and emotional support, and potentially limit individual development due to over-reliance. This discovery offers new insights into the complexity and dynamics of social capital.

By focusing on the well-being of farmers in Guizhou Province, China, and its influencing factors, this study effectively extends the application and depth of Conservation of Resources (COR) theory. Firstly, COR theory primarily discusses how individuals strive to protect, build, and accumulate resources valuable to them to cope with stress and promote well-being. Applying COR theory to the farmer population, especially in Guizhou Province, a less economically developed area in China, this research explores the impact of social capital and self-efficacy as crucial resources on farmers' well-being, demonstrating the applicability and value of COR theory in a new socio-economic context and specific population. Secondly, by analyzing how social capital and self-efficacy act as resources impacting farmers' well-being, this study expands the dimensions of COR theory, emphasizing the importance of social and psychological resources within the resource system. This is significant for a more comprehensive understanding of COR theory and its application across

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different fields. Moreover, this research not only explores the direct impacts of social capital and self-efficacy on farmers' well-being but also delves into the mediating role of farmers' self-efficacy between social capital and farmers' well-being, revealing the complex process through which resources impact individual well-being via specific psychological mechanisms. This analysis deepens our understanding of the relationship between resources and well-being within COR theory.

The unique insights and contributions of this study include an enhanced understanding of the application model of bridging social capital. Findings indicate that the impact of bridging social capital is limited, suggesting that researchers and practitioners should explore innovative application models. Government and nonprofit organizations could consider establishing cross-community collaboration platforms, such as promoting connections between farmers' cooperatives across different counties or introducing urban market resources. These initiatives would not only expand farmers' social networks but also enhance their economic vitality. Secondly, the study underscores the importance of rural education and skill development.

Given the mediating role of self-efficacy highlighted in this research, it is recommended that the government increase investments in rural education and skills training, particularly in e-commerce, modern agricultural technologies, and financial management for farmers. By enhancing farmers' self-efficacy, their overall well-being can be significantly improved, empowering them to tackle challenges in resource-limited settings and reduce reliance on external assistance. Additionally, this study advocates for the encouragement of localized social capital development. Considering the influence of regional culture, it is suggested that social capital initiatives respect and incorporate local cultural traits. For instance, in multi-ethnic areas, community

activities that respect ethnic customs can foster a culturally respectful atmosphere, enhancing farmers' sense of belonging to their communities. This approach helps to localize social capital, integrating it genuinely into farmers' daily lives.

In summary, by applying Conservation of Resources theory to the study of farmers' well-being in Guizhou Province, China, this research not only extends the application of the theory to new fields but also expands the dimensions of the theory and deepens the understanding of its mechanisms, providing new theoretical foundations and practical guidance for agricultural and rural development policies.

5.3.2 Practical Implication

(1) Individual Farmers

Originating from the perspective of farmers in Guizhou Province, this study explores how social capital and self-efficacy influence farmers' well-being, offering the following practical contributions:

1) Enhancing Farmers' Awareness of Well-being: Through in-depth analysis of the impact of social capital and self-efficacy on farmers' well-being, this study strengthens the recognition of well-being as a critical factor for farmers and promotes broader societal attention to improving their quality of life. Specific approaches include: (a) Strengthening Education and Knowledge Dissemination. By conducting well-being-related seminars and training in rural areas, the importance of aspects like health, financial management, social relationships, and mental health can be introduced. For example, local governments or social organizations might establish dedicated rural well-being classes, enabling farmers to learn about improving quality of life through

health management and effective financial planning. This approach not only raises their awareness of well-being but also provides them with practical methods to improve daily living. (b) Enhancing Social Support Systems: Farmers should be encouraged to participate in mutual aid organizations at the village or community level, where they can receive emotional support and practical assistance. For instance, by establishing rural support groups or farmers' cooperatives, farmers can share resources and exchange experiences, making it easier for them to leverage social capital to navigate life's challenges. Such mutual support fosters a sense of belonging and trust, which contributes to a greater focus on well-being.

2) Promoting Community Development: Findings from this study reveal that bonding, bridging, and linking social capital have a positive impact on farmers' well-being, underscoring the importance of strengthening social networks in rural communities to enhance mutual support, cooperation, and external connections, ultimately fostering holistic community development. From an individual farmer's perspective, promoting community development can include the following approaches:

(a) Active Participation in Community Activities and Decision-Making

Encouraging farmers to participate in community meetings, public consultations, and policy advocacy events can help them understand community development plans and needs while actively sharing their suggestions. This involvement not only empowers farmers within the community but also enhances community cohesion and a shared commitment to development. For example, farmers could join village-level management committees or volunteer groups to participate in the maintenance of public facilities or in organizing events, ensuring that community development aligns with the needs of farmers.

(b) Encouraging Agricultural Resource Sharing and Technical Collaboration

Community development can start with resource and knowledge sharing within the agricultural sector. Farmers can establish cooperative groups to share equipment, seeds, fertilizers, and other resources, as well as organize workshops on cultivation and livestock techniques. For example, farmers could hold monthly exchanges to share efficient cultivation practices or pest control methods, collectively improving productivity and fostering local economic growth.

(c) Developing Community Agricultural Brands or Specialty Industries

Farmers can leverage local natural resources and specialty products to create a community brand, adding value to their offerings. For instance, farmers could establish cooperatives to collectively package and market regional specialties, such as Guizhou's chili peppers or tea, thereby increasing brand recognition. Additionally, promoting rural tourism initiatives, such as agritourism or farm-stay experiences, can attract external resources and enhance community income.

3) Enhancing Farmers' Self-Efficacy: This study underscores the significance of boosting farmers' self-efficacy as a means to improve their well-being, encouraging them to actively engage in community activities and to develop skills and knowledge that strengthen their confidence and control over personal development. Specific actions to enhance self-efficacy include learning new skills and participating in continuous training. By attending agricultural training sessions or online courses, farmers can acquire expertise in crop management, pest and disease control, product packaging, and sales, thereby enhancing their professional knowledge. These learning experiences equip farmers with practical solutions when challenges arise, thereby

reinforcing their sense of self-efficacy. For example, neighboring communities can collaborate to invite experts to give local workshops, allowing farmers to gain practical insights and useful knowledge.

In summary, from the perspective of individual farmers, fostering social capital through enhanced interaction and cooperation within and beyond the community enables farmers to access resources and information more effectively, thereby improving self-efficacy and economic resilience. Specifically, by strengthening education and skills training and encouraging participation in cooperatives and community activities, farmers gain support in areas such as health management, financial planning, and productivity enhancement. Thus, the development and maintenance of social capital play a crucial role in promoting individual well-being.

(2) Community Perspective

From the community perspective, this study suggests that fostering understanding and unity among community members helps build stronger, more harmonious social relationships. It emphasizes the role of social capital in strengthening internal connections and support within rural communities, recommending specific actions that include:

1) Organizing Community Events and Festivities: Communities can host traditional festivals, markets, sports events, and other gatherings to encourage interaction in a relaxed and enjoyable setting. Such events foster neighborly bonds, allowing residents to establish connections and trust. For instance, organizing dumpling-making gatherings during the Lunar New Year or hosting a harvest festival to showcase local agricultural products can enhance community interaction.

2) Establishing Community Mutual Aid Organizations: Community-based mutual aid groups can provide assistance during busy agricultural seasons, for daily needs, or in emergencies. These activities, such as caring for the elderly, helping children with schoolwork, or offering temporary labor support, create a robust support network, helping residents feel less isolated. Examples include forming harvest or moving teams that provide mutual support during peak agricultural times.

3) Setting Up Community Education and Skills Training Programs: The community can offer training to residents in areas such as agricultural techniques, financial management, and healthcare, which both improve residents' knowledge and skills and foster a greater sense of connection to the community. Workshops on farming techniques or financial management seminars led by experts, for instance, not only benefit residents but also enhance community cohesion.

In summary, this study provides a new perspective for understanding and improving farmers' well-being from the perspectives of social capital and self-efficacy. Specifically, through various community activities, mutual assistance, and training at the community level, we aim to promote the construction of social capital among farmers and enhance their personal well-being.

(3) Governmental Perspective

From the government's perspective, enhancing rural community cohesion and promoting rural development are key to improving farmers' well-being in Guizhou Province, as explored in this study on the impacts of social capital and farmers' self-efficacy. The following measures are recommended:

1) Provide Financial Support and Infrastructure Development

The government should invest in improving essential rural infrastructure such as roads, drinking water systems, electricity, and internet access to enhance living conditions for farmers. For example, building roads within villages and expanding internet coverage could make agricultural product transportation more efficient and facilitate closer connections between rural areas and external markets, thereby strengthening community cohesion.

2) Promote Rural Cooperatives and Collective Economies

By offering policy support and financial subsidies, the government can encourage the formation of cooperatives that enhance the value of agricultural products through resource sharing and unified marketing. This approach not only increases farmers' incomes but also fosters stronger economic bonds within the community. For instance, supporting rural cooperatives in establishing local brands can help distinctive local products access larger markets.

3) Provide Rural Skills Training and Educational Resources

Regularly organizing skill development programs in rural areas, covering topics such as modern agricultural technology, e-commerce, and financial management, can enhance farmers' productivity and improve life skills. For example, e-commerce courses can help farmers learn online sales techniques, enabling them to reach wider markets and increase their economic efficiency and self-efficacy.

4) Encourage University Students to Return Home for Entrepreneurship and Community Development

The government can offer returning university students support for entrepreneurship, financial aid, technical training, and infrastructure improvements, ensuring a stable foundation for their ventures in their hometowns. These policy measures not only infuse rural communities with new knowledge and skills but also significantly enhance the effective allocation of resources between urban and rural areas. Returning students bring valuable knowledge, networks, and management experience to their communities, promoting urban-rural integration and reducing development disparities.

5) Directly Connecting Rural Marginalized Groups with Resources through Policy Initiatives

The government can implement innovative measures to establish dedicated community support platforms that directly connect resources to marginalized groups in rural areas. Specific approaches include setting up "Neighborhood Assistance Stations," which would provide regular medical, educational, and skill-training services, alongside tailored microloan and entrepreneurship support programs to meet the unique needs of these groups. Additionally, the government could organize "Resource Connection Days," inviting relevant businesses to engage in face-to-face interactions with marginalized groups, helping them access essential information and resources. This innovative approach, combining "Assistance Stations + Resource Connections," not only enhances the self-efficacy of marginalized individuals but also leverages social capital effectively to improve their overall well-being.

6) Establishing Mental Health Service Institutions in Rural Areas through Policy Initiatives

It is recommended that the government establish dedicated mental health service institutions in rural areas, staffed with sufficient, professionally trained mental health counselors, therapists, and social workers. Through these institutions, farmers can access psychological support and counseling services, effectively helping them alleviate various pressures arising from daily life and work, while also building confidence and enhancing their ability to face challenges. Additionally, offering diverse mental health awareness programs and self-efficacy training courses will further support these aims. Such comprehensive measures aim to improve farmers' self-efficacy and promote mental well-being within rural communities.

In conclusion, by providing funding for infrastructure development, supporting rural cooperatives and collective economies, offering skills training and educational resources, and encouraging university students studying or working outside to return home for entrepreneurship, the government has effectively facilitated the efficient allocation of resources, thus promoting farmers' well-being both directly and indirectly. Additionally, through the innovative "Neighborhood Support Stations + Resource Connection" model, the government directly links marginalized rural groups with social resources, enhancing their self-efficacy and overall well-being. These targeted measures underscore the vital role of government as a formal institution in advancing rural development and improving farmers' well-being.

5.4 Research Limitations and Suggestions for Future Development

This study, based on social capital theory and the Conservation of Resources (COR) theory, focuses on farmers in Guizhou Province. It aims to assess the impact of bonding, bridging, and linking social capital on farmers' well-being in rural Guizhou,

with self-efficacy as a mediating variable. However, there are certain limitations in this study. First, regarding sample representativeness, although the study ensured sample representativeness through reasonable sampling methods, the economic development, cultural background, and social structure differences across various regions in Guizhou may still limit the ability of the sample to fully reflect the diversity of the entire farming population. Second, the online questionnaire used in this study had an issue with unidentified location, as farmers were reluctant to disclose their specific regions or counties. Therefore, after collecting the responses, simple random sampling was used to reallocate the questionnaires across the 18 sample counties in this study to enhance the objectivity of the research. Third, due to the significant differences between local dialects in Guizhou and standard Mandarin, the researchers faced challenges in communicating effectively with the farmers. Fourth, limited funding also restricted the scope of the survey to some extent.

Additionally, during the implementation process, multiple unidentified or inadequately controlled confounding variables, such as infrastructure conditions and social service levels, may have influenced the study results and limited their explanatory power. Lastly, regarding the evaluation of intervention effects, this study mainly relied on descriptive and correlational analysis and was unable to directly assess the effectiveness of specific interventions aimed at enhancing social capital and self-efficacy to improve farmers' well-being.

Future research could design experimental intervention studies to assess whether measures aimed at enhancing community interactions and improving the richness and stability of social support networks can effectively increase farmers' self-efficacy and, in turn, promote their well-being. Moreover, longitudinal tracking methods could be used to observe the sustained effects of these interventions over time. Long-term

monitoring will help in understanding the dynamic changes in social capital and self-efficacy, allowing further exploration of their long-term impact on farmers' well-being. This approach will not only clarify the effectiveness of intervention measures but also provide empirical evidence for policy-making, pointing to strategies with more lasting positive impacts.

5.5 Conclusion

Chapter 5 is the conclusion and discussion section of this study, primarily summarizing and synthesizing the results from Chapter 4. It explores the theoretical and practical implications, research limitations, and suggestions for future research directions. The chapter begins with an overview of the key findings, focusing on how the three dimensions of social capital (bonding, bridging, and linking) and self-efficacy affect farmers' well-being. The results emphasize the crucial role of social capital and self-efficacy in enhancing farmers' quality of life and well-being, particularly in rural areas like Guizhou Province. The chapter then discusses how the findings contribute to existing theories, especially in applying and extending social capital theory and self-efficacy theory. Through empirical research, this study not only supports the relevance of these theories in rural communities but also introduces new perspectives and dimensions, enriching the theoretical content. Furthermore, the chapter explores the practical applications of the study's results in improving farmers' well-being in Guizhou Province and other rural areas in China, providing policy-makers with recommendations for strategies to promote the development of social capital and boost self-efficacy.

Additionally, the chapter acknowledges the study's limitations, including geographic constraints on the sample, data collection method restrictions, and other factors that

may affect the generalizability and interpretability of the results. Based on these limitations, the chapter suggests future research directions, such as expanding the sample scope, adopting a longitudinal study design, and exploring other variables that might impact farmers' well-being. Finally, the chapter summarizes the core ideas and significance of the entire study, highlighting the ongoing need to focus on farmers' well-being. It calls for more practical actions and research to understand and improve farmers' living conditions and well-being comprehensively. This comprehensive discussion and summary in Chapter 5 provide a complete closure to the study, ensuring that its theoretical depth and practical value are fully realized.
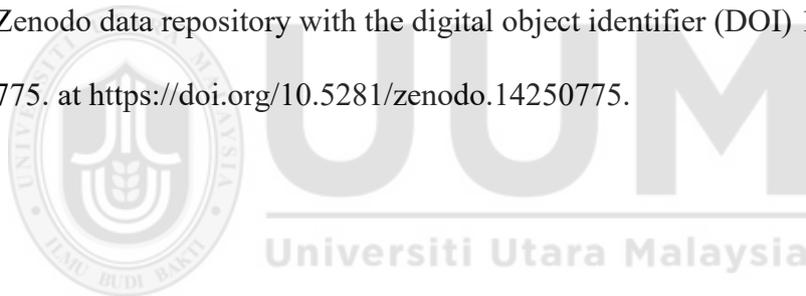
REFERENCES

Adedeji, A., Silva, N., & Bullinger, M. (2021). Cognitive and structural social capital as predictors of quality of life for Sub-Saharan African migrants in Germany. *Applied Research in Quality of Life*, 16, 1003-1017. doi:10.1007/s11482-019-09784-3

Adler, P., & Kwon, S. W. (2002). Social capital: Prospects for a new concept. *Academy of Management review*, 27(1), 17-40. doi:10.5465/amr.2002.5922314

Afandi, E., Kermani, M., & Mammadov, F. (2017). Social capital and entrepreneurial process. *International Entrepreneurship and Management Journal*, 13(3), 685-716. doi:10.1007/s11365-016-0421-8

Ahikiriza, E., Wesana, J., Van Huylenbroeck, G., Kabbiri, R., De Steur, H., Lauwers, L., & Gellynck, X. (2022). Farmer knowledge and the intention to use smartphone-based information management technologies in Uganda. *Computers and Electronics in Agriculture*, 202, 107413. doi:10.1016/j.compag.2022.107413

Ahn, M. Y., & Davis, H. H. (2020). Sense of belonging as an indicator of social capital. *International Journal of Sociology and Social Policy*, 40(7/8), 627-642. doi:10.1108/IJSSP-12-2019-0258

Ahumada, G., Cantillan, R., & Jara, B. (2024). Social capital and individual well-being in the post-disaster period: The case of Hurricane Maria in Puerto Rico. *International Journal of Disaster Risk Reduction*, 104308. doi:10.1016/j.ijdrr.2024.104308

Akhavan, P., & Philsoophian, M. (2023). Improving of supply chain collaboration and performance by using block chain technology as a mediating role and resilience as a moderating variable. *Journal of the Knowledge Economy*, 14(4), 4561-4582. doi:10.1007/s13132-022-01085-9

Aldrich, D. P. (2017). The importance of social capital in building community resilience. *Rethinking resilience, adaptation and transformation in a time of change*, 357-364. doi:10.1007/978-3-319-50171-0_23

Aldrich, D. P., & Meyer, M. A. (2015). Social capital and community resilience. *American Behavioral Scientist*, 59(2), 254-269. doi:10.1177/0002764214550299

Alfano, V. (2022). Does social capital enforce social distancing? The role of bridging and bonding social capital in the evolution of the pandemic. *Economia Politica*, 39(3), 839-859. doi:10.1007/s40888-021-00255-3

Aljuaid, T., & Sasi, S. (2016). Proper imputation techniques for missing values in data sets. In *2016 International Conference on Data Science and Engineering (ICDSE)*. Cochin, India. Retrieved from http://10.1109/ICDSE.2016.7823957

Amato, S., & Patuelli, A. (2023). Firms in Territories: The Local Roots of Family Firms. In *Family Firms and Local Roots: Implications on Economic Performance and Corporate Social Responsibility* (pp. 43-72). Springer, Cham. doi:10.1007/978-3-031-31793-4_4

Amini, M., Nasrabadi, H. B., & Heydari, M. H. (2015). Education and Social Capital. *Education*, 5(3), 98-104.

Anand, S., & Sen, A. (1994). *Human Development Index: Methodology and Measurement.* New York: Human Development Report Office, United Nations.

Andersson, A. B. (2021). Social capital and self-efficacy in the process of youth entry into the labour market: Evidence from a longitudinal study in Sweden. *Research in Social Stratification and Mobility*, 71, 100580. doi:10.1016/j.rssm.2020.100580

Andrade, C. (2020). Sample size and its importance in research. *Indian journal of psychological medicine*, 42(1), 102-103. doi:10.4103/IJPSYM.IJPSYM_504_19

Andretta, J. R., & McKay, M. T. (2020). Self-efficacy and well-being in adolescents: A comparative study using variable and person-centered analyses. *Children and Youth Services Review*, 118, 105374. doi:10.1016/j.childyouth.2020.105374

Andriani, L., & Christoforou, A. (2016). Social capital: a roadmap of theoretical and empirical contributions and limitations. *Journal of Economic Issues*, 50(1), 4-22. doi:10.1080/00213624.2016.1147296

Annamalah, S., Paraman, P., Ahmed, S., Dass, R., Sentosa, I., Pertheban, T. R., . . . Raman, M. (2023). The role of open innovation and a normalizing mechanism of social capital in the tourism industry. *Journal of Open Innovation: Technology, Market, and Complexity*, 9(2), 100056. doi:10.1016/j.joitmc.2023.100056

Antonietti, R., & Boschma, R. (2021). Social capital, resilience, and regional diversification in Italy. *Industrial and Corporate Change*, 30(3), 762-777. doi:10.1093/icc/dtaa052

Anwar, T., Siswantining, T., Sarwinda, D., Soemartojo, S. M., & Bustamam, A. (2019). A study on missing values imputation using K-Harmonic means algorithm: Mixed datasets. In *AIP Conference Proceedings (Vol. 2202, No. 1)*. AIP Publishing. doi:10.1063/1.5141651

Apfeld, B., Coman, E., Gerring, J., & Jessee, S. (2022). Education and social capital. *Journal of Experimental Political Science*, 9(2), 162-188. doi:10.1017/XPS.2021.6

Appau, S., Churchill, S. A., & Farrell, L. (2019). Social integration and subjective wellbeing. *Applied Economics*, 51(16), 1748-1761. doi:10.1080/00036846.2018.1528340

Arnott, D., Chadwick, D. R., Wynne-Jones, S., Dandy, N., & Jones, D. L. (2021). Importance of building bridging and linking social capital in adapting to changes in UK agricultural policy. *Journal of Rural Studies*, 83, 1-10. doi:10.1016/j.jrurstud.2021.02.001

Arsal, A., Karim, I., Salman, D., Fahmid, I., & Amiruddin, A. (2020). Social capital and maize farmers' income. In *IOP Conference Series: Earth and Environmental Science* (Vol. 575, No. 1, p. 012101). IOP Publishing. doi:10.1088/1755-1315/575/1/012101

Arshad, M., & Akram, M. S. (2018). Social media adoption by the academic community: Theoretical insights and empirical evidence from developing countries. *International Review of Research in Open and Distributed Learning*, 19(3), 242-262. doi:10.19173/irrodl.v19i3.3500

Asadullah, M. N., Xiao, S., & Yeoh, E. (2018). Subjective well-being in China, 2005–2010: The role of relative income, gender, and location. *China Economic Review*, 48, 83-101. doi:10.1016/j.chieco.2015.12.010

Asian Development Bank. (2012). People's Republic of China: Provincial Development Strategies for Chongqing Municipality and Guizhou Province. https://www.adb.org/sites/default/files/project-documents//42139-012-prc-tacr-02-zh.pdf

Aspers, P., & Corte, U. (2019). What is qualitative in qualitative research. *Qualitative sociology*, 42, 139-160. doi:10.1007/s11133-019-9413-7

Australian Bureau of Statistics. (2002). SOCIAL CAPITAL AND SOCIAL WELLBEING. https://www.oecd.org/innovation/research/2380806.pdf

Ayenew, W., Lakew, T., & Kristos, E. H. (2020). Agricultural technology adoption and its impact on smallholder farmers welfare in Ethiopia. *African Journal of Agricultural Research*, 15(3), 431-445. doi:10.5897/AJAR2019.14302

Ayinde, O. E., Ibrahim, H. K., Salami, M. F., & Ajibola, L. E. (2017). Effect of vertical integration on multidimensional well-being of fish farmers in lagos state fish-hub, Nigeria. *Agricultura Tropica et Subtropica*, 50(2), 81-87. doi:10.1515/ats-2017-0009

Azad, M. J., & Pritchard, B. (2023). Bonding, bridging, linking social capital as mutually reinforcing elements in adaptive capacity development to flood hazard: Insights from rural Bangladesh. *Climate Risk Management*, 40, 100498. doi:10.1016/j.crm.2023.100498

Bachke, M. E. (2019). Do farmers' organizations enhance the welfare of smallholders? Findings from the Mozambican national agricultural survey. *Food Policy*, 89, 101792. doi:10.1016/j.foodpol.2019.101792

Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological review*, 84(2), 191. doi:10.1037/0033-295X.84.2.191

Bandura, A. (1982). Self-efficacy mechanism in human agency. *American psychologist*, 37(2), 122. doi:10.1037/0003-066X.37.2.122

Bandura, A. (1990). Perceived self-efficacy in the exercise of personal agency. *Journal of applied sport psychology*, 2(2), 128-163. doi:10.1080/10413209008406426

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman

Bandura, A. (2000). Self-efficacy: The foundation of agency. In *W. J. Perrig & A. Grob (Eds.), Control of human behavior, mental processes, and consciousness: Essays in honor of the 60th birthday of August Flammer* (pp. 17–33). Lawrence Erlbaum Associates Publishers.

Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual review of psychology*, 52(1), 1-26. doi:10.1146/annurev.psych.52.1.1

Bandura, A. (2006). Toward a psychology of human agency. *Perspectives on psychological science*, 1(2), 164-180. doi:10.1111/j.1745-6916.2006.00011.x

Bandura, A. (2013). Self-Efficacy: The Foundation of Agency1. In Walter, J. P., & Alexander, G. (Ed.), *Control of Human Behavior, Mental Processes, and Consciousness* (pp. 16-30). Psychology Press.

Bandura, A. (2023). Cultivate self-efficacy for personal and organizational effectiveness. In Edwin, L., & Craig, P. (Ed.), *Principles of Organizational Behavior: The Handbook of Evidence-Based Management 3rd Edition* (pp.113-135), WILEY.

Bandura, A., & Locke, E. A. (2003). Negative self-efficacy and goal effects revisited. *Journal of applied psychology*, 88(1), 87. doi:10.1037/0021-9010.88.1.87

Bandura, A., Freeman, W. H., & Lightsey, R. (1999). Self-efficacy: The exercise of control. *Journal of Cognitive Psychotherapy*, 13(2). doi:10.1891/0889-8391.13.2.158

Bardoel, E. A., & Drago, R. (2021). Acceptance and strategic resilience: An application of conservation of resources theory. *Group Organization Management*, 46(4), 657-691. doi:10.1177/10596011211022488

Barker, J., & Thomson, L. (2015). Helpful relationships with service users: Linking social capital. *Australian Social Work*, 68(1), 130-145. doi:10.1080/0312407X.2014.905795

Baron-Epel, O., Weinstein, R., Haviv-Mesika, A., Garty-Sandalon, N., & Green, M. S. (2008). Individual-level analysis of social capital and health: a comparison of Arab and Jewish Israelis. *Social Science Medicine*, 66(4), 900-910. doi:10.1016/j.socscimed.2007.10.025

Bartolini, S., & Sarracino, F. (2015). The dark side of Chinese growth: Declining social capital and well-being in times of economic boom. *World Development*, 74, 333-351. doi:10.1016/j.worlddev.2015.05.010

Bartolini, S., Bilancini, E., & Sarracino, F. (2013). Predicting the trend of well-being in Germany: How much do comparisons, adaptation and sociability matter? *Social Indicators Research*, 114, 169-191. doi:10.1007/s11205-012-0142-5

Baylis, K., Gong, Y., & Wang, S. (2018). Bridging versus bonding social capital and the management of common pool resources. *Land Economics*, 94(4), 614-631. doi:10.3368/le.94.4.614

Beausaert, S., Froehlich, D. E., Riley, P., & Gallant, A. (2023). What about school principals' well-being? The role of social capital. *Educational Management Administration & Leadership*, 51(2), 405-421. doi:10.1177/1741143221991853

Becchetti, L., Lubicz, C., & Salustri, F. (2023). Climate change, eco-anxiety, altitude, and subjective well-being: An investigation on agricultural farmers in poor or emerging countries. *Available at SSRN 4628244*. 1-36. doi:10.2139/ssrn.4628244

Beekman, G., van der Heide, M., Heijman, W. J., & Schouten, M. A. (2009). *Social capital and resilience in rural areas: responses to change*. Mansholt Graduate School of Social Sciences. https://library.wur.nl/WebQuery/wurpubs/reports/384199

Bell, S. T., Villado, A. J., Lukasik, M. A., Belau, L., & Briggs, A. L. (2011). Getting specific about demographic diversity variable and team performance relationships: A meta-analysis. *Journal of management,* 37(3), 709-743. doi:10.1177/0149206310365001

Berraies, S., Lajili, R., & Chtioui, R. (2020). Social capital, employees' well-being and knowledge sharing: does enterprise social networks use matter? Case of Tunisian knowledge-intensive firms. *Journal of Intellectual Capital*, 21(6), 1153-1183. doi:10.1108/JIC-01-2020-0012

Bertotti, M., Harden, A., Renton, A., & Sheridan, K. (2012). The contribution of a social enterprise to the building of social capital in a disadvantaged urban area of London. *Community Development Journal*, 47(2), 168-183. doi:10.1093/cdj/bsr020

Bethge, S., Wendt, J. F., & Lakner, S. (2021). The economic well-being of farm households in Germany. *German Journal of Agricultural Economics*, 07(4). doi:10.30430/gjae.2021.0090

Beugelsduk, S., & Smolders, S. (2003). Bridging and bonding social capital: which type is good for economic growth? In Wil, A., Jacques, H., & Loek, H. (Ed.), *The cultural diversity of European unity* (pp. 147-184). Brill.

Bhandari, H., & Yasunobu, K. (2009). What is social capital? A comprehensive review of the concept. *Asian Journal of Social Science*, 37(3), 480-510.

Birasnav, M., Gantasala, S. B., Gantasala, V. P., & Singh, A. (2023). Total quality leadership and organizational innovativeness: the role of social capital

development in American schools. *Benchmarking: An International Journal*, 30(3), 811-833. doi:10.1108/BIJ-08-2021-0470

Bjørnskov, C. (2006). The multiple facets of social capital. *European journal of political economy*, 22(1), 22-40. doi:10.1016/j.ejpoleco.2005.05.006

Blakeslee, J. E., Kothari, B. H., & Miller, R. A. (2023). Intervention development to improve foster youth mental health by targeting coping self-efficacy and help-seeking. *Children youth services review*, 144, 106753. doi:10.1016/j.childyouth.2022.106753

Bornmann, L., & technology. (2013). What is societal impact of research and how can it be assessed? A literature survey. *Journal of the American Society for information science*, 64(2), 217-233. doi:10.1002/asi.22803

Bourdieu, P. (1986). The force of law: Toward a sociology of the juridical field. *Hastings LJ*, 38(5), 805.

Bowling, A. (2005). Mode of questionnaire administration can have serious effects on data quality. *Journal of public health*, 27(3), 281-291.

Brailovskaia, J., Lin, M., Scholten, S., Zhu, M., Fu, Y., Shao, M., . . . Cai, D. (2022). A qualitative cross-cultural comparison of well-being constructs: The meaning of happiness, life satisfaction, and social support for German and Chinese students. *Journal of Happiness Studies*, 1-24. doi:10.1007/s10902-021-00454-6

Brew, B., Inder, K., Allen, J., Thomas, M., & Kelly, B. (2016). The health and wellbeing of Australian farmers: a longitudinal cohort study. *BMC public health*, 16, 1-11. doi:10.1186/s12889-016-3664-y

Brislin, R. (1993). *Understanding culture's influence on behavior*. Harcourt Brace Jovanovich.

Brisson, D. S., & Usher, C. L. (2005). Bonding social capital in low‐income neighborhoods. *Family Relations*, 54(5), 644-653. doi:10.1111/j.1741-3729.2005.00348.x

Brown, K., Schirmer, J., & Upton, P. (2022). Can regenerative agriculture support successful adaptation to climate change and improved landscape health through building farmer self-efficacy and wellbeing? *Current Research in Environmental Sustainability*, 4, 100170. doi:10.1016/j.crsust.2022.100170

Bruce, N., Pope, D., & Stanistreet, D. (2018). *Quantitative methods for health research: a practical interactive guide to epidemiology and statistics*. John Wiley & Sons.

Bruno, J. E., Fernandez-Gimenez, M. E., & Balgopal, M. M. (2021). An integrated livelihoods and well-being framework to understand northeastern Colorado ranchers' adaptive strategies. *Ecology Society*, 26(4). doi:10.5751/ ES-12754-260427

Buck‑McFadyen, E., Akhtar‑Danesh, N., Isaacs, S., Leipert, B., Strachan, P., & Valaitis, R. (2019). Social capital and self‑rated health: A cross‑sectional study of the general social survey data comparing rural and urban adults in Ontario. *Health Social Care in the Community*, 27(2), 424-436. doi:10.1111/hsc.12662

Burnham, M., & Ma, Z. (2017). Climate change adaptation: factors influencing Chinese smallholder farmers' perceived self-efficacy and adaptation intent. *Regional environmental change*, 17, 171-186. doi:10.1007/s10113-016-0975-6

Burt, R. S. (2000). The network structure of social capital. *Research in organizational behavior*, 22, 345-423. doi:10.1016/S0191-3085(00)22009-1

Burt, R. S. (2018). Structural holes. In David, B. G. (Ed.), *Social stratification* (pp. 659-663). Routledge.

Burton, R. J. (2014). The influence of farmer demographic characteristics on environmental behaviour: A review. *Journal of environmental management*, 135, 19-26. doi:10.1016/S0191-3085(00)22009-1

Bussey, K., Luo, A., Fitzpatrick, S., & Allison, K. (2020). Defending victims of cyberbullying: The role of self-efficacy and moral disengagement. *Journal of school psychology,* 78, 1-12. doi:10.1016/j.jsp.2019.11.006

Byun, S. y., Meece, J. L., Irvin, M. J., & Hutchins, B. C. (2012). The role of social capital in educational aspirations of rural youth. *Rural sociology*, 77(3), 355-379. doi:10.1111/j.1549-0831.2012.00086.x

Cabrera-Aguilar, E., Zevallos-Francia, M., Morales-García, M., Ramírez-Coronel, A. A., Morales-García, S. B., Sairitupa-Sanchez, L. Z., & Morales-García, W. C. (2023). Resilience and stress as predictors of work engagement: the mediating role of self-efficacy in nurses. *Frontiers in Psychiatry*, 14, 1202048. doi:10.3389/fpsyt.2023.1202048

Castro, I., & Roldán, J. L. (2013). A mediation model between dimensions of social capital. *International Business Review*, 22(6), 1034-1050. doi:10.1016/j.ibusrev.2013.02.004

Ceci, F., Masciarelli, F., & Poledrini, S. (2020). How social capital affects innovation in a cultural network: Exploring the role of bonding and bridging social capital. *European Journal of Innovation Management*, 23(5), 895-918. doi:10.1108/EJIM-06-2018-0114

Cepeda, G., & Vera, D. (2007). Dynamic capabilities and operational capabilities: A knowledge management perspective. *Journal of business research*, 60(5), 426-437. doi:10.1016/j.jbusres.2007.01.013

CGTN. (2019). Why China can feed its 1.4 billion people. https://news.cgtn.com/news/2019-09-23/Why-China-can-feed-its-1-4-billion-people-Ke0zkqhd2U/index.html

Chakrabarti, A., Handa, S., Angeles, G., & Seidenfeld, D. (2020). A cash plus program reduces youth exposure to physical violence in Zimbabwe. *World Development*, 134, 105037. doi:10.1016/j.worlddev.2020.105037

Chavas, J. P., & Nauges, C. (2020). Uncertainty, learning, and technology adoption in agriculture. *Applied Economic Perspectives and Policy*, 42(1), 42-53. doi:10.1002/aepp.13003

Chazdon, S., Scheffert, D. R., Allen, R., & Horntvedt, J. (2013). Developing and validating University of Minnesota Extension's social capital model and survey. https://conservancy.umn.edu/server/api/core/bitstreams/cf964008-bd98-4cb7-b96d-3dac80473575/content

Cheevapattananuwong, P., Baldwin, C., Lathouras, A., & Ike, N. (2020). Social capital in community organizing for land protection and food security. *Land*, 9(3), 69. doi:10.3390/land9030069

Chen, H., & Meng, T. (2015). Bonding, bridging, and linking social capital and self-rated health among Chinese adults: Use of the anchoring vignettes technique. *PloS one*, 10(11), e0142300. doi:10.1371/journal.pone.0142300

Chen, J., Li, J., Cao, B., Wang, F., Luo, L., & Xu, J. (2020). Mediating effects of self-efficacy, coping, burnout, and social support between job stress and mental health among young Chinese nurses. *Journal of advanced nursing*, 76(1), 163-173. doi:10.1111/jan.14208

Chen, L., Yang, Y., Luo, M., Hu, B., Yin, S., Mao, Z., & Health, P. (2020). The impacts of national centralized drug procurement policy on drug utilization and drug expenditures: the case of Shenzhen, China. *International Journal of Environmental Research*, 17(24), 9415. doi:10.3390/ijerph17249415

Chen, M., Li, Y., Tang, F., Xu, Q., Yu, M., Zhang, H., & Li, X. (2023). Transformation of Paddy Field Use in Intermountain-Type Basins Using Evidence from the Structure and Function Perspective of Karst Mountain Areas in Southwest China. *Agronomy*, 13(6), 1552. doi:10.3390/agronomy13061552

Chen, Q., Cai, Y., Liu, F., Zhou, Q., & Zhang, H. (2013). Farmers' perception to farmland conversion: A questionnaire survey in Xining City, Qinghai Province, China. *Chinese geographical science,* 23, 634-646. doi:10.1007/s11769-013-0624-7

Chen, Z., & Barcus, H. R. (2024). The rise of home-returning women's entrepreneurship in China's rural development: Producing the enterprising self through empowerment, cooperation, and networking. *Journal of Rural Studies*, 105, 103156. doi:10.1016/j.jrurstud.2023.103156

Cheng, Z. (2020). Path selection to solve the deep poverty problem in rural areas of western ethnic minority areas from the perspective of social capital. *Southwest Finance*, 9(470), 38-48.

Cheung, F., & Lucas, R. E. (2014). Assessing the validity of single-item life satisfaction measures: Results from three large samples. *Quality of Life research*, 23, 2809-2818. doi:10.1007/s11136-014-0726-4

Chien, M.-L. (2022). Personal Narratives and Labor Migration: A Retired Guojia Ganbu in Southeastern Guizhou. *Southeast Asian Studies*, 11(1), 3-22. doi:10.20495/seas.11.1_3

Chin, W. W. (1998). Commentary: Issues and opinion on structural equation modeling. *MIS quarterly*, vii-xvi.

Chiputwa, B., Blundo-Canto, G., Steward, P., Andrieu, N., & Ndiaye, O. (2022). Co-production, uptake of weather and climate services, and welfare impacts on farmers in Senegal: A panel data approach. *Agricultural Systems*, 195, 103309. doi:10.1016/j.agsy.2021.103309

Chittaranjan, A. (2020). Sample size and its importance in research. *Indian journal of psychological medicine*, 42(1), 102-103. doi:10.4103/IJPSYM.IJPSYM_504_19

Christensen, S., Malberg Dyg, P., & Allenberg, K. (2019). Urban community gardening, social capital, and" integration"–a mixed method exploration of urban" integration-gardening" in Copenhagen, Denmark. *Local Environment*, 24(3), 231-248. doi:10.1080/13549839.2018.1561655

Claridge, T. (2018). Functions of social capital–bonding, bridging, linking. *Social capital research*, 20(1), 1-7. doi:10.5281/zenodo.7993853

Clark, W. A., Yi, D., & Huang, Y. (2019). Subjective well-being in China's changing society. *Proceedings of the National Academy of Sciences*, 116(34), 16799-16804. doi:10.1073/pnas.1902926116

Cobb, C. L., & Xie, D. (2015). Structure of the multidimensional scale of perceived social support for undocumented Hispanic immigrants. *Hispanic Journal of Behavioral Sciences*, 37(2), 274-281. doi:10.1177/0739986315577894

Cocks, K., & Torgerson, D. J. (2013). Sample size calculations for pilot randomized trials: a confidence interval approach. *Journal of clinical epidemiology*, 66(2), 197-201. doi:10.1177/0739986315577894

Cofré-Bravo, G., Klerkx, L., & Engler, A. (2019). Combinations of bonding, bridging, and linking social capital for farm innovation: How farmers configure different support networks. *Journal of Rural Studies*, 69, 53-64. doi:10.1016/j.jrurstud.2019.04.004

Cohen, J. (2013). *Statistical power analysis for the behavioral sciences*. Routledge.

Coleman, J. S. (1988). Social capital in the creation of human capital. *American journal of sociology*, 94, S95-S120.

Collett, K., & Gale, C. (2009). Training for rural development: Agricultural and enterprise skills for women smallholders. https://www.fao.org/sustainable-food-value-chains/training-and-learning-center/details-materials/en/c/265660/

Cooksey, R. W. (2020). *Illustrating statistical procedures: Finding meaning in quantitative data*. Springer.

Cooper, D. R., & Schindler, P. (2014). *Business research methods*. Mcgraw-hill.

Cope, J., Jack, S., & Rose, M. B. (2007). Social capital and entrepreneurship: An introduction. *International small business journal*, 25(3), 213-219. doi:10.1177/0266242607076523

Cortinovis, N., Xiao, J., Boschma, R., & van Oort, F. G. (2017). Quality of government and social capital as drivers of regional diversification in Europe. *Journal of Economic Geography*, 17(6), 1179-1208. doi:10.1093/jeg/lbx001

Crescenzi, R., Gagliardi, L., & Percoco, M. (2015). Social capital and the innovative performance of Italian provinces. In Francesco, C., & Francesco, Q. (Ed.), *The economics of knowledge, innovation and systemic technology policy* (pp. 170-199). Routledge.

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.

Crowe, T. V. (2021). Factors associated with help-seeking and self-efficacy among a sample of deaf adults. *Journal of Developmental Physical Disabilities*, 33(1), 51-63. doi:10.1007/s10882-020-09739-9

Daghagh Yazd, S., Wheeler, S. A., & Zuo, A. (2019). Key risk factors affecting farmers' mental health: A systematic review. *International Journal of Environmental Research and Public Health*, 16(23), 4849. doi:10.3390/ijerph16234849

Dakua, M., Karmakar, R., & Lhungdim, H. (2023). Social capital and well-being of the elderly 'left-behind' by their migrant children in India. *BMC public health*, 23(1), 2212. doi:10.1186/s12889-023-17012-9

Dan, Y., Zhang, H. W., Liu, Z. M., & Qiao, Z. (2021). Do cooperatives participation and technology adoption improve farmers' welfare in China? A joint analysis accounting for selection bias. *Journal of Integrative Agriculture, 20*(6), 1716-1726. doi:10.1016/S2095-3119(20)63325-1

David, L., Dambrun, M., Harrington, R., Streith, M., & Michaud, A. (2021). Psychological and physical health of organic and conventional farmers: A review. *Sustainability*, 13(20), 11384. doi:10.3390/su132011384

Davidson, T., & Sanyal, P. (2017). Associational participation and network expansion: Microcredit self-help groups and poor women's social ties in rural India. *Social Forces*, 95(4), 1695-1724. doi:10.1093/sf/sox021

De Roest, K., Ferrari, P., & Knickel, K. (2018). Specialisation and economies of scale or diversification and economies of scope? Assessing different agricultural development pathways. *Journal of Rural Studies*, 59, 222-231. doi:10.1016/j.jrurstud.2017.04.013

Deng, S., Zhang, C., Guo, X., Lv, H., Fan, Y., Wang, Z., . . . Wang, F. (2022). Gaps in the Utilization of Community Health Services for the Elderly Population in Rural Areas of Mainland China: A Systematic Review Based on Cross-Sectional Investigations. *Health Services Insights*, 15, 11786329221134352. doi:10.1177/1178632922113435

Deng, W., Hendrikse, G., & Liang, Q. (2021). Internal social capital and the life cycle of agricultural cooperatives. *Journal of Evolutionary Economics*, 31(1), 301-323. doi:10.1007/s00191-020-00690-8

Derose, K. P., & Varda, D. M. (2009). Social capital and health care access: a systematic review. Medical care research and review: *MCRR,* 66(3), 272. doi:10.1177/1077558708330428

DeSimone, J. A., Harms, P. D., & DeSimone, A. J. (2015). Best practice recommendations for data screening. *Journal of Organizational Behavior,* 36(2), 171-181. doi:10.1002/job.1962

d'Hombres, B., Rocco, L., Suhrcke, M., & McKee, M. (2010). Does social capital determine health? Evidence from eight transition countries. *Health economics*, 19(1), 56-74. doi:10.1002/hec.1445

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of personality assessment*, 49(1), 71-75. doi:10.1207/s15327752jpa4901_13

Diener, E., Inglehart, R., & Tay, L. (2013). Theory and validity of life satisfaction scales. *Social Indicators Research*, 112, 497-527. doi:10.1007/s11205-012-0076-y

Ding, J., Salinas-Jiménez, J., & Salinas-Jiménez, M. d. M. (2021). The impact of income inequality on subjective well-being: The case of China. *Journal of Happiness Studies*, 22(2), 845-866. doi:10.1007/s11205-012-0076-y

Ding, X., Lu, Q., Li, L., Sarkar, A., & Li, H. (2022). Evaluating the Impact of Institutional Performance and Government Trust on Farmers' Subjective Well-Being: A Case of Urban–Rural Welfare Gap Perception and Family Economic Status in Shaanxi, Sichuan and Anhui, China. *International Journal of Environmental Research and Public Health*, 20(1), 710. doi:10.3390/ijerph20010710

Dirzyte, A., Perminas, A., & Biliuniene, E. (2021). Psychometric properties of satisfaction with life scale (Swls) and psychological capital questionnaire (pcq-24) in the lithuanian population. *International Journal of Environmental Research and Public Health*, 18(5), 2608. doi:10.3390/ijerph18052608

Djourova, N. P., Rodríguez Molina, I., Tordera Santamatilde, N., & Abate, G. (2020). Self-efficacy and resilience: mediating mechanisms in the relationship between the transformational leadership dimensions and well-being. *Journal of Leadership & Organizational Studies,* 27(3), 256-270. doi:10.1177/1548051819849002

Dodge, R., Daly, A., Huyton, J., & Sanders, L. (2012). The challenge of defining wellbeing. *International Journal of Wellbeing*, 2(3), 222-235. doi:10.5502/ijw.v2i3.4

Dong, R., & Ni, S. G. (2020). Openness to experience, extraversion, and subjective well-being among Chinese college students: The mediating role of dispositional awe. *Psychological Reports*, 123(3), 903-928. doi:10.1177/003329411982688

Doornbosch-Akse, L., van Vuuren, M. (2019). Building Bridges Through Talk: Exploring the Role of Dialogue in Developing Bridging Social Capital. In: Van Zyl, L., Rothmann Sr., S. (Ed.), *Theoretical Approaches to Multi-Cultural Positive Psychological Interventions* (pp. 477-503). Springer, Cham.

Du, F., Okazaki, K., & Ochiai, C. (2017). Disaster coping capacity of a fire-prone historical dong village in China: A case study in Dali Village, Guizhou. *International Journal of Disaster Risk Reduction*, 21, 85-98. doi:10.1016/j.ijdrr.2016.10.016

Ehsan, A., Klaas, H. S., Bastianen, A., & Spini, D. (2019). Social capital and health: A systematic review of systematic reviews. *SSM-population health*, 8, 100425. doi:10.1016/j.ssmph.2019.100425

Elgar, F. J., Davis, C. G., Wohl, M. J., Trites, S. J., Zelenski, J. M., & Martin, M. S. (2011). Social capital, health and life satisfaction in 50 countries. *Health place*, 17(5), 1044-1053. doi:10.1016/j.healthplace.2011.06.010

Ellis, N. R., & Albrecht, G. A. (2017). Climate change threats to family farmers' sense of place and mental wellbeing: A case study from the Western Australian Wheatbelt. *Social Science Medicine*, 175, 161-168. doi:10.1016/j.socscimed.2017.01.009

Eloire, F. (2018, October). The Bourdieusian conception of social capital: a methodological reflection and application. In *Forum for Social Economics* (Vol. 47, No. 3-4, pp. 322-341). Routledge.

Espejo, B., Martín-Carbonell, M., Checa, I., Paternina, Y., Fernández-Daza, M., Higuita, J. D., . . . Cerquera, A. (2022). Psychometric properties of the Diener satisfaction with Life Scale with five response options applied to the Colombian population. *Frontiers in public health*, 9, 767534. doi:10.3389/fpubh.2021.767534

Fan, C. (2023). Empowering Excluded Groups: a Multi-dimensional Analysis of China's Anti-poverty Policies Through the Lens of Amartya Sen's Capability Perspective. *Journal of the Knowledge Economy*, 1-29. doi:10.1007/s13132-023-01687-x

Faroukhi, A. Z., El Alaoui, I., Gahi, Y., & Amine, A. (2020). Big data monetization throughout Big Data Value Chain: a comprehensive review. *Journal of Big Data*, 7(1), 1-22. doi:10.1186/s40537-019-0281-5

Fatoki, P. O., & Ajibola, B. O. (2020). Determinants of well-being status of rice farmers in Nasarawa State, Nigeria. *Journal of Agricultural Extension*, 24(3), 41-48. doi:10.4314/jae.v24i3.4

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G* Power 3.1: Tests for correlation and regression analyses, *Behavior research methods*, 41(4), 1149-1160. doi:10.3758/BRM.41.4.1149

Feder, G., Just, R. E., & Zilberman, D. (1985). Adoption of agricultural innovations in developing countries: A survey. *Economic development cultural change*, 33(2), 255-298. doi:10.1086/451461

Ferreira, B., & Morais, D. B. (2022). Self-efficacy mechanism in farm tourism microentrepreneurship. *Frontiers in Psychology*, 13, 875096. doi:10.1177/0001699307077654

Finger, R., & El Benni, N. (2021). Farm income in European agriculture: new perspectives on measurement and implications for policy evaluation. *European Review of Agricultural Economics*, 48(2), 253-265. doi:10.1093/erae/jbab011

Firth, C., Maye, D., & Pearson, D. (2011). Developing "community" in community gardens. *Local Environment*, 16(6), 555-568. doi:10.1080/13549839.2011.586025

Fornell, C., & Larcker, D. F. (1981). *Structural equation models with unobservable variables and measurement error: Algebra and statistics*. Sage Publications Sage CA: Los Angeles, CA.

Fornell, C., & Larcker, D. F. (1981a). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, 18(1), 39-50. doi:10.1177/0022243781018001

Fukuyama, F. (2001). Social capital, civil society and development. *Third world quarterly*, 22(1), 7-20. doi:10.1080/713701144

Fung, K. C., Iizaka, H., & Alan, S. (2003). Japanese direct investment in China. *China Economic Review*, 14(3), 304-315. doi:10.1080/713701144

Gale, H. F., Hansen, J., & Jewison, M. (2016). China's growing demand for agricultural imports. *USDA-ERS Economic Information Bulletin*, (136). 10.22004/ag.econ.198800

Gan, W. (2024). Exploration and thinking on rural land system reform under the background of rural revitalization strategy. *Journal of Western China*, (02), 18-21.

Ganiron Jr, T. U. (2013). Social capital and career success of civil engineers towards designing career paths. *Procedia-Social Behavioral Sciences*, 102, 611-621. doi:10.1016/j.sbspro.2013.10.778

Gannon, B., & Roberts, J. (2020). Social capital: exploring the theory and empirical divide. *Empirical Economics*, 58(3), 899-919. doi:0.1007/s00181-018-1556-y

Gao, L., & Arbuckle, J. (2022). Examining farmers' adoption of nutrient management best management practices: A social cognitive framework. *Agriculture and Human Values*, 39(2), 535-553. doi:10.1007/s10460-021-10266-2

Gao, Q., Yang, S., Zhang, Y., & Li, S. (2018). The divided Chinese welfare system: do health and education change the picture? *Social Policy Society*, 17(2), 227-244. doi:10.1017/S1474746417000100

Garrett, R. D., Gardner, T. A., Morello, T. F., Marchand, S., Barlow, J., de Blas, D. E., . . . Parry, L. (2017). Explaining the persistence of low income and environmentally degrading land uses in the Brazilian Amazon. *Ecology Society*, 22(3). doi:10.5751/ES-09364-220327

Gay, L. R., Mills, G. E., & Airasian, P. W. (2012). *Educational research: Competencies for analysis and applications*. Pearson.

Gebrehiwot, T., & Van Der Veen, A. (2015). Farmers prone to drought risk: why some farmers undertake farm-level risk-reduction measures while others not?. *Environmental management,* 55, 588-602. doi:10.1007/s00267-014-0415-7

Gebrehiwot, T., & van der Veen, A. (2021). Farmers' drought experience, risk perceptions, and behavioural intentions for adaptation: Evidence from Ethiopia. *Climate and Development,* 13(6), 493-502. doi:10.1080/17565529.2020.1806776

Ghorbani, M., Javadi, S. A., Rasekhi, S., Yazdanparast, M., & Azadi, H. (2022). Bonding social capital of rural women in Southwest Iran: Application of social network analysis. *Rural sociology*, 87(2), 547-572. doi:10.1111/ruso.12430

Gong, Y., Li, H., Parks, M., Pang, J., & de Fraiture, C. (2018). The role of social capital for farmers' climate change adaptation in Lancang River basin in China. *Climatic change*, 149, 75-89. doi:10.1007/s10584-017-2057-2

Google. (n.d.). Google Map Directions for Guizhou Province, China. https://www.google.com/maps/@26.8951749,103.9537212,7z?entry=ttu

Gosnell, H. (2022). Regenerating soil, regenerating soul: an integral approach to understanding agricultural transformation. *Sustainability Science*, 17(2), 603-620. doi:10.1007/s11625-021-00993-0

Granovetter, M. S. (1973). The strength of weak ties. *American journal of sociology*, 78(6), 1360-1380. doi:10.1086/225469

Granovetter, M., Action, E., & Structure, S. (1985). The problem of embeddedness. *American journal of sociology*, 91(3), 481-510.

Gravetter, F. J., & Wallnau, L. B. (2014). Introduction to the t statistic. *Essentials of statistics for the behavioral sciences*, 8(252). doi:10.1086/225469

Guizhou Local Chronicles Compilation Committee. (2017). *Guizhou Local Chronicles Compilation*. Fangzhi Publishing House.

Guizhou Provincial Bureau of Statistics, & National Bureau of Statistics Survey Office in Guizhou. (2005, 2010, 2015, 2020-2022). *Guizhou Statistical Yearbook*. China Statistics Press.

Guizhou Provincial Bureau of Statistics. (2016). Analysis of the current situation of poverty in Guizhou Province. https://stjj.guizhou.gov.cn/zfxxgk/fdzdgknr/qtfdxx/jd_5627077/201610/t20161024_23132125.html

Guizhou Provincial Department of Agriculture and Rural Affairs. (2022). *Guizhou Province Rural Revitalization Regulations*.

Guizhou Provincial People's Government. (2021). Millennium changes, great leaps. https://www.guizhou.gov.cn/home/tt/202109/t20210913_70070897.html

Guribye, E. (2018). Co-creation of linking social capital in 'municipality 3.0'. *Journal of civil society*, 14(1), 77-93. doi:10.1080/17448689.2017.1402857

Hair , J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2010). *Multivariate data analysis: a global perspective*. Pearson Education.

Hair Jr, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). *Partial least squares structural equation modeling (PLS-SEM) using R: A workbook*. Springer Nature.

Hair, J. F. (2009). *Multivariate data analysis (7th Edition)*. Pearson.

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing theory Practice*, 19(2), 139-152. doi:10.2753/MTP1069-6679190202

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2013). Partial least squares structural equation modeling: Rigorous applications, better results and higher acceptance. *Long range planning*, 46(1-2), 1-12.

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European business review*, 31(1), 2-24. doi:10.1108/EBR-11-2018-0203

Hair, J., Sarstedt, M., Ringle, C. M., & Gudergan, S. P. (2023). *Advanced issues in partial least squares structural equation modeling*. SAGE publications.

Halbesleben, J. R., Neveu, J. P., Paustian-Underdahl, S. C., & Westman, M. (2014). Getting to the "COR" understanding the role of resources in conservation of resources theory. Journal of management, 40(5), 1334-1364. doi:10.1177/0149206314527130

Halliru, S. L., Bichi, A. A., & Muhammad, A. S. a. (2021). Effects of Demographic Characteristics for Farmers' to Climate Change in Bunkure, Nigeria. In Ram, S. M. (Ed.), *Agrometeorology*. IntechOpen. https://www.intechopen.com/chapters/75793

Halstead, J. M., Deller, S. C., & Leyden, K. M. (2022). Social capital and community development: Where do we go from here?. *Community Development*, 53(1), 92-108. doi:10.1080/15575330.2021.1943696

Hammersley, C., Richardson, N., Meredith, D., Carroll, P., & McNamara, J. G. (2023). Supporting farmer wellbeing: exploring a potential role for advisors. *The Journal of Agricultural Education Extension*, 29(4), 511-538. doi:10.1080/1389224X.2022.2082498

Hammersley, C., Richardson, N., Meredith, D., Carroll, P., & McNamara, J. (2021). "That's me I am the farmer of the land": exploring identities, masculinities, and health among male farmers' in Ireland. *American Journal of Men's Health,* 15(4), 15579883211035241. doi:10.1177/15579883211035241

Han, M., Diwan, S., Cole, T., Hay, K., & Paturzo, M. (2022). Service utilization, self-efficacy, positive attitude and well-being among Asian American family caregivers of persons with serious mental illnesses. *Community Mental Health Journal*, 58(6), 1038-1048. doi:10.1007/s10597-021-00912-8

Hankin, D., Mohr, M. S., & Newman, K. B. (2019). *Sampling theory: For the ecological and natural resource sciences*. Oxford University Press, USA.

Hansen, B. G. (2022). Stay in dairy? Exploring the relationship between farmer wellbeing and farm exit intentions. *Journal of Rural Studies*, 92, 306-315. doi:10.1016/j.jrurstud.2022.04.004

Hansen, B. G., & Østerås, O. (2019). Farmer welfare and animal welfare-Exploring the relationship between farmer's occupational well-being and stress, farm expansion and animal welfare. *Preventive veterinary medicine*, 170, 104741. doi:10.1016/j.prevetmed.2019.104741

Hanson, K. L., Meng, X., Volpe, L. C., Jilcott Pitts, S., Bravo, Y., Tiffany, J., & Seguin-Fowler, R. A. (2022). Farmers' market nutrition program educational events are broadly accepted and may increase knowledge, self-efficacy and behavioral intentions. *Nutrients,* 14(3), 436. doi:10.3390/nu14030436

Harpham, T., Grant, E., & Thomas, E. (2002). Measuring social capital within health surveys: key issues. *Health policy planning*, 17(1), 106-111. doi:10.1093/heapol/17.1.106

Healey-Ogden, M. J., & Austin, W. J. (2011). Uncovering the lived experience of well-being. *Qualitative Health Research*, 21(1), 85-96. doi:10.1177/1049732310379113

Helliwell, J. F. (2014). Understanding and improving the social context of well-being. In Timo J. H., & Juliet, M. (Ed.), *Well-being and beyond* (pp. 125-143). Edward Elgar Publishing.

Helliwell, J. F., & Barrington‑Leigh, C. P. (2010). Measuring and understanding subjective well‑being. *Canadian Journal of Economics/Revue canadienne d'économique*, 43(3), 729-753. doi:10.1111/j.1540-5982.2010.01592.x

Helliwell, J. F., & Putnam, R. D. (2005). The social context of well-being. *Philosophical Transactions of the Royal Society B*, 359, 1435-1446. doi.org/10.1098/rstb.2004.1522

Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. In Rudolf, R. S. & Pervez, N. G. (Ed.), *New challenges to international marketing* (pp. 277-319). Emerald Group Publishing Limited.

Herrero, I. (2018). How familial is family social capital? Analyzing bonding social capital in family and nonfamily firms. *Family Business Review*, 31(4), 441-459. doi:10.1177/089448651878447

Hidalgo, G., Monticelli, J. M., & Vargas Bortolaso, I. (2024). Social capital as a driver of social entrepreneurship. *Journal of Social Entrepreneurship*, 15(1), 182-205. doi:10.1080/19420676.2021.1951819

Hobfoll, S. E. (1989). Conservation of resources: a new attempt at conceptualizing stress. *American psychologist*, 44(3), 513. doi:10.1037/0003-066X.44.3.513

Hobfoll, S. E. (2001). The influence of culture, community, and the nested‑self in the stress process: Advancing conservation of resources theory. *Applied psychology*, 50(3), 337-421. doi:10.1111/1464-0597.00062

Hobfoll, S., Tirone, V., Holmgreen, L., & Gerhart, J. (2016). Conservation of resources theory applied to major stress. In George, F. (Ed.), *Stress: Concepts, cognition, emotion, and behavior* (pp. 65-71). Elsevier.

Holmgreen, L., Tirone, V., Gerhart, J., & Hobfoll, S. E. (2017). Conservation of resources theory: Resource caravans and passageways in health contexts. *The handbook of stress health: A guide to research*, 443-457. doi:10.1002/9781118993811.ch27

Hu, B., Zheng, Q., Wu, J., Tang, Z., Zhu, J., Wu, S., & Ling, Y. (2021). Role of education and mentorship in entrepreneurial behavior: mediating role of self-efficacy. *Frontiers in Psychology*, 12, 775227. doi:10.3389/fpsyg.2021.775227

Huang, L., Liang, X., Li, L., Xiao, H., & Xie, F. (2023). The Impact of Internet Use on the Well-Being of Rural Residents. *Agriculture*, 13(7), 1462. doi:10.3390/agriculture13071462

Huang, Y., & Zhang, J. (2020). Social media use and entrepreneurial intention: The mediating role of self-efficacy. *Social Behavior and Personality: an international journal*, 48(11), 1-8. doi:10.2224/sbp.9451

Hudson, P., Hagedoorn, L., & Bubeck, P. (2020). Potential linkages between social capital, flood risk perceptions, and self-efficacy. *International Journal of Disaster Risk Science*, 11(3), 251-262. doi:10.1007/s13753-020-00259-w

Hull, D. M., Ferguson, S. L., Fagan, M. A., & Brown, E. A. (2021). Positive youth development in Jamaica: Latent growth of self-efficacy and youth assets. *Handbook of Positive Youth Development: Advancing Research, Policy, and Practice in Global Contexts*, 299-313. doi:10.1007/978-3-030-70262-5_20

In, J. (2017). Introduction of a pilot study. *Korean journal of anesthesiology*, 70(6), 601-605. doi:10.4097/kjae.2017.70.6.601

Iqbal, M. M. A., Hussain, G., & Siddique, K. (2022). Social capital and social well-being: A systematic Review. *Pakistan Journal of Humanities and Social Sciences,* 10(3), 1043-1050. doi:10.52131/pjhss.2022.1003.0267

Ivlevs, A., Nikolova, M., & Graham, C. (2019). Emigration, remittances, and the subjective well-being of those staying behind. *Journal of Population Economics*, 32, 113-151. doi:10.1007/s00148-018-0718-8

İZMEN, Ü. (2018). Exploring linking social capital in economic development. *Optimum Ekonomi ve Yönetim Bilimleri Dergisi*, 6(1), 133-152. doi:10.17541/optimum.486865

İzmen, Ü., & Üçdoğruk Gürel, Y. (2020). The importance of linking social capital in unequal and fragmented societies: an analysis of perceived economic well-being in Turkish rural and urban households. *The Annals of Regional Science*, 1-19. doi:10.1007/s00168-019-00964-5

Jack, B., & Clarke, A. M. (1998). The purpose and use of questionnaires in research. *Professional nurse (London, England)*, 14(3), 176-179.

Jain, A., Leka, S., & Zwetsloot, G. I. (2018). *Managing health, safety and well-being*: *Ethics, Responsibility and Sustainability*. Springer.

Järlström, M., Brandt, T., & Rajala, A. (2020). The relationship between career capital and career success among Finnish knowledge workers. *Baltic Journal of Management*, 15(5), 687-706. doi:10.1108/BJM-10-2019-0357

Jeong, S. W., Ha, S., & Lee, K.-H. (2021). How to measure social capital in an online brand community? A comparison of three social capital scales. *Journal of business research*, 131, 652-663. doi:10.1016/j.jbusres.2020.07.051

Jerusalem, M., & Schwarzer, R. (2014). Self-efficacy as a resource factor in stress appraisal processes. In Ralf, S. (Ed.), *Self-efficacy* (pp. 195-214). Taylor & Francis.

Ji, D. (2013). A brief analysis of the supply structure of rural public goods in Guizhou. *Modern Economic Information*, 478.

Ji, X., Chen, J., & Zhang, H. (2023). Agricultural Specialization Threatens Sustainable Mental Health: Implications for Chinese Farmers' Subjective Well-Being. *Sustainability*, 15(20), 14806. doi:10.3390/su152014806

Jiang, L., Chen, Y., Liang, W., & Zhang, B. (2023). Convergence analysis of Cross-Province human well-being in China: A spatiotemporal perspective. International Journal of Environmental Research and Public Health, 20(3), 1858. doi:10.3390/ijerph20031858

Jiang, P. (2019). Analysis of differences in the supply of rural public goods in southwest ethnic areas—taking the Wuling Mountain area of Guizhou as an example. *Journal of Guiyang Municipal Party School*, 27–31. doi:10.3969/j.issn.1008-780X.2019.01.006

Jin, J. Y., Kanagaretnam, K., Lobo, G. J., & Mathieu, R. (2017). Social capital and bank stability. *Journal of Financial Stability*, 32, 99-114. doi:10.1016/j.jfs.2017.08.001

Johansson, R., Effland, A., & Coble, K. (2017). Falling response rates to USDA crop surveys: Why it matters. *farmdoc daily,* 7(9).

Jovanović, V., Lazić, M., & Gavrilov-Jerković, V. (2020). Measuring life satisfaction among psychiatric patients: Measurement invariance and validity of the Satisfaction with Life Scale. *Clinical Psychology & Psychotherapy,* 27(3), 378-383. doi:10.1002/cpp.2434

Jyoti, J., Singh, S., & Malik, M. A. (2023). Social capital and health outcomes among older adults in India: a multilevel analysis. *Working with Older People*, 27(2), 149-163. doi:10.1108/WWOP-05-2022-0019

Kaasa, A. (2009). Effects of different dimensions of social capital on innovative activity: Evidence from Europe at the regional level. *Technovation*, 29(3), 218-233. doi:10.1016/j.technovation.2008.01.003

Kaminska, M. E. (2010). Bonding social capital in a postcommunist region. *American Behavioral Scientist*, 53(5), 758-777. doi:10.1177/0002764209350836

Kamphuis, C. B., Oude Groeniger, J., Poelman, M. P., Beenackers, M. A., & van Lenthe, F. J. (2019). How does bridging social capital relate to health-behavior, overweight and obesity among low and high educated groups? A cross-sectional analysis of GLOBE-2014. *BMC public health*, 19, 1-11. doi:10.1186/s12889-019-8007-3

Kang, H. (2021). Sample size determination and power analysis using the G* Power software. *Journal of educational evaluation for health professions*, 18. doi:10.3352/jeehp.2021.18.17

Karademas, E. C. (2006). Self-efficacy, social support and well-being: The mediating role of optimism. *Personality and individual differences*, 40(6), 1281-1290. doi:10.1016/j.paid.2005.10.019

Kaur, P., Stoltzfus, J., & Yellapu, V. (2018). Descriptive statistics. *International Journal of Academic Medicine,* 4(1), doi:60-63. 0.4103/IJAM.IJAM_7_18

Kawamoto, K., & Kim, K. (2019). Efficiencies of bonding, bridging and linking social capital: Cleaning up after disasters in Japan. *International Journal of Disaster Risk Reduction*, *33*, 64-73. doi:10.1016/j.ijdrr.2018.09.010

Khalil, M. B., Jacobs, B. C., & McKenna, K. (2021). Linking social capital and gender relationships in adaptation to a post-cyclone recovery context. *International Journal of Disaster Risk Reduction*, 66, 102601. doi:10.1016/j.ijdrr.2021.102601

Khatri, D. K. (2023). Research Paradigms in English Education: A Brief Overview. *Surkhet Journal*, 2(1), 21-29.

Kilpatrick, S., Field, J., & Falk, I. (2003). Social capital: An analytical tool for exploring lifelong learning and community development. *British educational research journal,* 29(3), 417-433. doi:10.1080/01411920301859

Kim, C.O., & Cho, B.-H. (2016). Can geographic bridging social capital improve the health of people who live in deprived urban neighborhoods? *International Journal of Health Services,* 46(4), 767-789. doi:10.1177/002073141561530

Kim, M. H., & Karr, J. E. (2023). Examining associations between intelligence mindset, mental health symptom severity, and academic self-efficacy and performance. *Current Psychology*, 1-14. doi:10.1007/s12144-023-04399-2

Klassen, R. M., & Klassen, J. R. (2018). Self-efficacy beliefs of medical students: a critical review. *Perspectives on medical education*, 7, 76-82. doi:10.1007/s40037-018-0411-3

Kline, R. B. (2023). *Principles and practice of structural equation modeling*. Guilford Publications.

Knack, S., & Keefer, P. (1997). Does social capital have an economic payoff? A cross-country investigation. *The Quarterly journal of economics*, 112(4), 1251-1288. doi:10.1162/003355300555475

Knight, J., Lina, S., & Gunatilaka, R. (2009). Subjective well-being and its determinants in rural China. *China Economic Review*, 20(4), 635-649. doi:10.1016/j.chieco.2008.09.003

Kong, F., Yang, K., Yan, W., & Li, X. (2021). How does trait gratitude relate to subjective well-being in Chinese adolescents? The mediating role of resilience and social support. *Journal of Happiness Studies*, 22, 1611-1622. doi:10.1007/s10902-020-00286-w

Kopsov, I. (2019). A new model of subjective well-being. *The Open Psychology Journal*, 12(1). doi:10.2174/1874350101912010102

Korthagen, F., & Vasalos, A. (2005). Levels in reflection: Core reflection as a means to enhance professional growth. *Teachers teaching*, 11(1), 47-71. doi:10.1080/1354060042000337093

Kreuter, F., Presser, S., & Tourangeau, R. (2008). Social desirability bias in CATI, IVR, and web surveys: The effects of mode and question sensitivity. *Public opinion quarterly*, 72(5), 847-865. doi:10.1093/poq/nfn063

Kreuter, M. W., Thompson, T., McQueen, A., & Garg, R. (2021). Addressing social needs in health care settings: evidence, challenges, and opportunities for public health. 42(2021), 329-344. doi:10.1146/annurev-publhealth-090419-102204

Krueger, A. B., & Schkade, D. A. (2008). The reliability of subjective well-being measures. *Journal of public economics*, 92(8-9), 1833-1845. doi:10.1016/j.jpubeco.2007.12.015

Kubiszewski, I., Mulder, K., Jarvis, D., & Costanza, R. (2022). Toward better measurement of sustainable development and wellbeing: A small number of SDG indicators reliably predict life satisfaction. *Sustainable Development*, 30(1), 139-148. doi:10.1002/sd.2234

Kumar Pradhan, R., Prasad Panigrahy, N., & Kesari Jena, L. (2021). Self-efficacy and workplace well-being: understanding the role of resilience in manufacturing organizations. *Business Perspectives and Research,* 9(1), 62-76. doi:10.1177/2278533720923484

Kunitz, S. J. (2004). Social capital and health. *British medical bulletin*, 69(1), 61-73. doi:10.1093/bmb/ldh015

Lachmann, B., Sariyska, R., Kannen, C., Błaszkiewicz, K., Trendafilov, B., Andone, I., . . . Kendrick, K. M. (2017). Contributing to overall life satisfaction: personality traits versus life satisfaction variables revisited—is replication impossible? *Behavioral sciences*, 8(1), 1. doi:10.3390/bs8010001

Lakens, D. (2022). Sample size justification. *Collabra: Psychology*, 8(1), 33267. doi:10.1525/collabra.33267

Lakhan, G. R., Channa, S. A., Magsi, H., Koondher, M. A., Wang, J., & Channa, N. A. (2020). Credit constraints and rural farmers' welfare in an agrarian economy. *Heliyon*, 6(10).

Le Dang, H., Li, E., Nuberg, I., & Bruwer, J. (2014). Farmers' assessments of private adaptive measures to climate change and influential factors: a study in the Mekong Delta, Vietnam. *Natural hazards*, 71, 385-401. doi:10.1007/s11069-013-0931-4

Leonard, M. (2004). Bonding and bridging social capital: Reflections from Belfast. *Sociology*, 38(5), 927-944. doi:10.1177/00380385040471

Levin, R., & Kanza, Y. (2014, June). Stratified-sampling over social networks using mapreduce. In *Proceedings of the 2014 ACM SIGMOD international*

conference on Management of data (pp. 863-874). doi:10.1145/2588555.2588577

Li, W., Dong, S., Lin, H., Li, Y., Li, Z., Jin, Z., & Xia, B. (2022). Influence of rural social capital and production mode on the subjective well-being of farmers and herdsmen: empirical discovery on farmers and Herdsmen in Inner Mongolia. *International Journal of Environmental Research and Public Health*, 19(2), 695. doi:10.3390/ijerph19020695

Li, Y., Zhang, Z., Liu, S., Cao, Z., Ke, Q., Chen, L., & Wang, G. (2023). Long-term responses in different karst agricultural production systems to farm management and climate change: A comparative prefecture-scale study in Southwest China. *Agriculture, Ecosystems Environment*, 352, 108504. doi:10.1016/j.agee.2023.108504

Liang, C., & Chen, C. C. (2021). Empowering entrepreneurial intention through entrepreneurial self-efficacy: comparison of farmers with and without entrepreneurial experience in Taiwan. *Asia Pacific Business Review*, 27(4), 595-611. doi:10.1080/13602381.2020.1857069

Liang, F., Wang, Z., & Lin, S. H. (2022). Can land policy promote farmers' subjective well-being? A study on withdrawal from rural homesteads in Jinjiang, China. *International Journal of Environmental Research Public Health*, 19(12), 7414. doi:10.3390/ijerph19127414

Liang, H., Yue, Z., Liu, E., & Xiang, N. (2020). How does social capital affect individual health among the elderly in rural China?—Mediating effect analysis of physical exercise and positive attitude. *PloS one*, 15(7), e0231318. doi:10.1371/journal.pone.0231318

Liang, Q., Huang, Z., Lu, H., & Wang, X. (2015). Social capital, member participation, and cooperative performance: Evidence from China's Zhejiang. *International Food Agribusiness Management Review*, 18(1), 49-77. doi:10.22004/ag.econ.197768

Lin, T., Wu, D., Yang, M., Ma, P., Liu, Y., Liu, F., & Gan, Z. (2022). Evolution and simulation of terrestrial ecosystem carbon storage and sustainability assessment in Karst Areas: A case study of Guizhou Province. *International Journal of Environmental Research Public Health*, 19(23), 16219. doi:10.3390/ijerph192316219

Liñán, F., & Santos, F. J. (2007). Does social capital affect entrepreneurial intentions? *International Advances in Economic Research*, 13, 443-453. doi:10.1007/s11294-007-9109-8

Liu, C., Cao, J., Zhang, P., & Wu, G. (2020). Investigating the relationship between work-to-family conflict, job burnout, job outcomes, and affective commitment in the construction industry. *International journal of environmental research and public health,* 17(16), 5995. doi:10.3390/ijerph17165995

272

Liu, D., Ainsworth, S. E., & Baumeister, R. F. (2016). A meta-analysis of social networking online and social capital. *Review of General Psychology*, 20(4), 369-391. doi:10.1037/gpr0000091

Liu, H., Zhang, J., Liu, R., & Li, G. (2014). A model for consumer knowledge contribution behavior: the roles of host firm management practices, technology effectiveness, and social capital. *Information Technology Management*, 15, 255-270. doi:10.1007/s10799-014-0199-8

Liu, Y. (2021). Household livelihood choices under the different eco-environment in the karst area: A case study of Anshun City, southwest of China. *Environmental Research*, 197, 111171. doi:10.1016/j.envres.2021.111171

Liu, Y., & Ngai, S. y. (2019). The impact of social capital, self-efficacy, and resilience on the prosocial involvement of adolescents from families with and without economic disadvantages. *Child Indicators Research*, 12, 1735-1757. doi:10.1007/s12187-018-9607-7

Liu, Y., & Zhou, Y. (2021). Reflections on China's food security and land use policy under rapid urbanization. *Land Use Policy*, 109, 105699. doi:10.1016/j.landusepol.2021.105699

Liu, Y., Qian, Z., Kong, H., Wu, R., Zheng, P., & Qin, W. (2023). Impacts of Eco-Poverty Alleviation Policies on Farmer Livelihood Changes and Response Mechanisms in a Karst Area of China from a Sustainable Perspective. *Sustainability*, 15(3), 2618. doi:10.3390/su15032618

Liu, Y., Ye, W., Chen, J., Yuan, Y., Li, C., Xue, Y., Lai, Q. (2022). The impact of social capital on farmers' subjective well-being: a survey based on Jiangxi. *Shanxi Agricultural Economics*, 22, 72-78. doi:10.16675/j.cnki.cn14-1065/f.2022.22.022

Liu, Z. j., & Cheng, X. m. (2022). Offspring Education, Regional Differences and Farmers' Subjective Well-Being. *Emerging Markets Finance Trade*, 58(8), 2109-2124. doi:10.1080/1540496X.2021.1960818

Livinţi, R., Gunnesch-Luca, G., & Iliescu, D. (2021). Research self-efficacy: A meta-analysis. *Educational Psychologist,* 56(3), 215-242. doi:10.1080/00461520.2021.1886103

Lo, M. C., & Fan, Y. (2020). Brightening the dark side of "linking social capital"? Negotiating conflicting visions of post-Morakot reconstruction in Taiwan. *Theory Society*, 49(1), 23-48. doi:10.1007/s11186-020-09376-3

Locke, E. A., & Latham, G. P. (2002). Building a practically useful theory of goal setting and task motivation: A 35-year odyssey. *American psychologist*, 57(9), 705. doi:10.1037/0003-066X.57.9.705

Long, H., Feng, H., Yang, L., Zhu, J., & Meng, X. (2021). Subjective well-being and its influencing factors among the elderly people of Dong ethnic group in rural Guizhou. *Chinese Journal of Gerontology*, 14, 2876–2879.

Longo, Y., Coyne, I., Joseph, S., & Gustavsson, P. (2016). Support for a general factor of well-being. *Personality and individual differences*, 100, 68-72. doi:10.1016/j.paid.2016.03.082

Lu, G. (2019). A comparative study on the sense of gain of Guizhou farmers in targeted poverty alleviation. In Y. Zheng (Ed.), *Guizhou Poverty Alleviation Strategy Development Report (2019)* (pp. 86-101). Social Sciences Academic Press.

Lu, H., Zhao, X., Hou, C., Zhang, F., & Zhang, L. (2014). The influence mechanism of social capital on farmer's income: a case of Zhangye City. *Gansu.[In Chinese.] J Arid Land Res Environ*, 28(10), 14-19.

Lu, X. (2012). *Social structure of contemporary China* (Vol. 31). World Scientific.

Lum, T. Y. (2022). Social capital and geriatric depression in the Asian context. *International Psychogeriatrics*, 34(8), 671-673. doi:10.1017/S1041610222000576

Lunner Kolstrup, C., Kallioniemi, M., Lundqvist, P., Kymäläinen, H.-R., Stallones, L., & Brumby, S. (2013). International perspectives on psychosocial working conditions, mental health, and stress of dairy farm operators. *Journal of agromedicine*, 18(3), 244-255. doi:10.1080/1059924X.2013.796903

Luo, F., Wang, Q., Sun, F. M., Xu, D., & Sun, C. H. (2018). Farmers' Willingness to Participate in the Management of Small-Scale Irrigation in China from a Social Capital Perspective. *Irrigation drainage*, 67(4), 594-604. doi:10.1002/ird.2208

Luo, Y. (2022). The Domestic Life of Buyi Videos: The 'Home Mode' in Ethnic Rural Southwest China. *Ethnos*, 1-23. doi:10.1080/00141844.2022.2081237

Luoma-Aho, V. (2018). On Putnam: 195Bowling Together–Applying Robert Putnam's Theories of Community and Social Capital to Public Relations. In Øyvind, I. & Magnus, F. (Ed.), *Public relations and social theory* (pp. 194-214). Routledge.

Luszczynska, A., Gutiérrez-Doña, B., & Schwarzer, R. (2005). General self-efficacy in various domains of human functioning: Evidence from five countries. *International journal of Psychology*, 40(2), 80-89. doi:10.1080/00207590444000041

Luszczynska, A., Scholz, U., & Schwarzer, R. (2005). The general self-efficacy scale: multicultural validation studies. *The Journal of psychology,* 139(5), 439-457. doi:10.3200/JRLP.139.5.439-457

Lutz, W., Crespo Cuaresma, J., Kebede, E., Prskawetz, A., Sanderson, W. C., & Striessnig, E. (2019). Education rather than age structure brings demographic dividend. *Proceedings of the National Academy of Sciences*, 116(26), 12798-12803. doi:10.1073/pnas.1820362116

Ma, L., Qin, Y., Zhang, H., Zheng, J., Hou, Y., & Wen, Y. (2021). Improving well-being of farmers using ecological awareness around protected areas: Evidence

from Qinling region, China. *International Journal of Environmental Research Public Health*, 18(18), 9792. doi:10.3390/ijerph18189792

Ma, X., Wang, J., Zhao, L., & Han, J. (2020). The effects of social capital on farmers' wellbeing in China's undeveloped poverty-stricken areas. *China Agricultural Economic Review*, 12(1), 108-121. doi:10.1108/CAER-06-2016-0087

Makridis, C. A., & Wu, C. (2021). How social capital helps communities weather the COVID-19 pandemic. *PloS one*, 16(1), e0245135. doi:10.1371/journal.pone.0258021

Malhotra, N. K. (2020). *Marketing research: an applied prientation*. Pearson.

Mao, Q., Hu, C., Guo, Q., Li, Y., & Liu, M. (2023). How Does Vegetation Landscape Structure of Urban Green Spaces Affect Cultural Ecosystem Services at Multiscale: Based on PLS-SEM Model. *Forests*, *14*(7), 1401. doi:10.3390/f14071401

Maran, T. K., Liegl, S., Davila, A., Moder, S., Kraus, S., & Mahto, R. V. (2022). Who fits into the digital workplace? Mapping digital self-efficacy and agility onto psychological traits. *Technological Forecasting and Social Change*, 175, 121352. doi:10.1016/j.techfore.2021.121352

Markussen, T., Fibæk, M., Tarp, F., & Tuan, N. D. A. (2018). The happy farmer: self-employment and subjective well-being in rural Vietnam. *Journal of Happiness Studies*, 19, 1613-1636. doi:10.1007/s10902-017-9858-x

Marshall, D. R., Meek, W. R., Swab, R. G., & Markin, E. (2020). Access to resources and entrepreneurial well-being: A self-efficacy approach. *Journal of business research*, 120, 203-212. doi:10.1016/j.jbusres.2020.08.015

Marshall, G. (2005). The purpose, design and administration of a questionnaire for data collection. *Radiography*, 11(2), 131-136. doi:10.1016/j.radi.2004.09.002

Masta, K., Janjhua, Y., & Sociology. (2023). Impact Assessment of Farmers' Self-Efficacy on Successful Training: Evidence from Himachal Pradesh, India. *Asian Journal of Agricultural Extension, Economics*, 41(10), 484-489. doi:10.9734/ajaees/2023/v41i102193

McCarthy, R. V., McCarthy, M. M., Ceccucci, W., McCarthy, R. V., McCarthy, M. M., & Ceccucci, W. (2022). What do descriptive statistics tell us. *Applying predictive analytics: Finding value in data*, 55-85. doi:10.1007/978-3-030-83070-0_3

McNaught, A. (2011). Defining wellbeing. In Anneyce, K., Allan, M. (Ed.), *Understanding wellbeing: An introduction for students and practitioners of health and social care* (pp.7-23). Lantern Publishing Limited

McPherson, M., Smith-Lovin, L., & Cook, J. M. (2001). Birds of a feather: Homophily in social networks. *Annual review of sociology*, 27(1), 415-444. doi:10.1146/annurev.soc.27.1.415

Menzies, J., Orr, S., & Paul, J. (2020). SME internationalisation: The relationship between social capital and entry mode. *Management International Review*, 60(4), 623-650. doi:10.1007/s11575-020-00423-w

Mgaiwa, S. J. (2023). Job satisfaction among university academics: Do academic rank and age make a difference?. *Cogent Education,* 10(2), 2230395. doi:10.1080/2331186X.2023.2230395

Ministry of Agriculture and Rural Affairs of the People's Republic of China. (2021). Guizhou's ecological specialty food industry gathers new potential for high-quality development. http://www.moa.gov.cn/xw/qg/202112/t20211213_6384677.htm

Ministry of Agriculture and Rural Affairs of the People's Republic of China. (2022). Solidly promote the common prosperity of farmers and rural areas. http://www.moa.gov.cn/ztzl/ymksn/jjrbbd/202206/t20220608_6401875.htm

Mishra, P., Pandey, C. M., Singh, U., Gupta, A., Sahu, C., & Keshri, A. (2019). Descriptive statistics and normality tests for statistical data. *Annals of cardiac anaesthesia,* 22(1), 67- doi:72. 10.4103/aca.ACA_157_18

Mizushima, A. (2021). Child labor, social capital, and economic development. *Review of Development Economics*, 25(3), 1648-1667. doi:10.1111/rode.12785

Moghadam, S. H., Abdolmaleki, E. Y., Alijani, F., Afrakoti, N. B., & Ganji, J. (2020). The relationship between social capital and self-efficacy in women with gestational diabetes mellitus: a cross sectional study. *Ethiopian Journal Of Health*, 30(4). doi:10.4314/ejhs.v30i4.9

Moghfeli, Z., Ghorbani, M., Rezvani, M. R., Khorasani, M. A., Azadi, H., & Scheffran, J. (2023). Social capital and farmers' leadership in Iranian rural communities: Application of social network analysis. Journal of Environmental Planning and Management, 66(5), 977-1001. doi:10.1080/09640568.2021.2008329

Mohajan, H. K. (2020). Quantitative research: A successful investigation in natural and social sciences. *Journal of Economic Development, Environment People*, 9(4), 50-79.

Mohnen, S. M., Völker, B., Flap, H., & Groenewegen, P. P. (2012). Health-related behavior as a mechanism behind the relationship between neighborhood social capital and individual health-a multilevel analysis. *BMC public health*, 12, 1-12. doi:10.1186/1471-2458-12-116

Moore, C. B., Payne, G. T., Autry, C. W., & Griffis, S. E. (2018). Project complexity and bonding social capital in network organizations. *Group Organization Management*, 43(6), 936-970. doi:10.1177/105960111665055

Moore, S., & Kawachi, I. (2017). Twenty years of social capital and health research: a glossary. *Epidemiol Community Health*, 71(5), 513-517. doi:10.1136/jech-2016-208313

Morgan, D. L. (2014). Pragmatism as a paradigm for social research. *Qualitative inquiry*, 20(8), 1045-1053. doi:10.1177/10778004135137

Morita, L. (2015). English, language shift and values shift in Japan and Singapore. *Globalisation, Societies Education*, 13(4), 508-527. doi:10.1080/14767724.2014.967184

Morse, G. A., & Dell, N. A. (2021). The well-being and perspectives of community-based behavioral health staff during the COVID-19 pandemic. *Social Work in Health Care*, 60(2), 117-130. doi:10.1080/00981389.2021.1904315

Munasib, A. B., & Jordan, J. L. (2011). The effect of social capital on the choice to use sustainable agricultural practices. *Journal of Agricultural and Applied Economics*, 43(2), 213-227. doi:10.1017/S107407080000417X

Muringani, J., Fitjar, R. D., Rodríguez-Pose, A., & Space. (2021). Social capital and economic growth in the regions of Europe. *Environment Planning A: Economy Space*, 53(6), 1412-1434. doi:10.1177/0308518X21100005

Murphy, K. R. (2021). In praise of Table 1: The importance of making better use of descriptive statistics. *Industrial and Organizational Psychology,* 14(4), 461-477. doi:10.1017/iop.2021.90

Mustapa, M. A. C., Batcha, M. F. N., Amin, L., Arham, A. F., Mahadi, Z., Yusoff, N. A. M., . . . Hussain, W. H. W. (2021). Farmers' attitudes towards GM crops and their predictors. *Journal of the Science of Food Agriculture*, 101(13), 5457-5468. doi:10.1002/jsfa.11194

Nakagawa, Y., & Shaw, R. (2004). Social capital: A missing link to disaster recovery. *International Journal of Mass Emergencies Disasters*, 22(1), 5-34. doi:10.1177/0280727004022001

National Bureau of Statistics. (2023). Announcement from the National Bureau of Statistics on grain production data in 2023. https://www.stats.gov.cn/sj/zxfb/202312/t20231211_1945417.html

National Development and Reform Commission. (2023). Ensuring food security under the new situation requires improving three capabilities. https://www.ndrc.gov.cn/wsdwhfz/202302/t20230220_1348979.html

Nazuri, N. S., Rosnon, M. R., Salim, S. S. M., Ahmad, M. F., & Suhaimi, S. S. A. (2023). Promoting Economic Empowerment Through Effective Implementation and Linking Social Capital in Urban Agriculture Programs. *Journal of Law Sustainable Development*, 11(11), e726-e726. doi:10.55908/sdgs.v11i11.726

Nelson, K. S., Nguyen, T. D., Brownstein, N. A., Garcia, D., Walker, H. C., Watson, J. T., & Xin, A. (2021). Definitions, measures, and uses of rurality: A systematic review of the empirical and quantitative literature. *Journal of Rural Studies*, 82, 351-365. doi:10.1016/j.jrurstud.2021.01.035

Newman, A., Mole, K. F., Ucbasaran, D., Subramanian, N., & Lockett, A. (2018). Can your network make you happy? Entrepreneurs' business network utilization and subjective well-being. *British Journal of Management*, 29(4), 613-633. doi:10.1111/1467-8551.12270

Nguyen-Trung, K., Forbes-Mewett, H., & Arunachalam, D. (2020). Social support from bonding and bridging relationships in disaster recovery: Findings from a slow-onset disaster. *International Journal of Disaster Risk Reduction*, 46, 101501. doi:10.1016/j.ijdrr.2020.101501

Nie, P., Ma, W., & Sousa-Poza, A. (2021). The relationship between smartphone use and subjective well-being in rural China. *Electronic Commerce Research*, 21(4), 983-1009. doi:10.1007/s10660-020-09397-1

Nitzl, C., Roldan, J. L., & Cepeda, G. (2016). Mediation analysis in partial least squares path modeling: Helping researchers discuss more sophisticated models. *Industrial management data systems*, 116(9), 1849-1864. doi:10.1108/IMDS-07-2015-0302

Niu, L., Lu, C., & Sun, R. (2023). The impact of livelihood capital on subjective well-being of new professional farmers: Evidence from China. *Sustainability*, 15(14), 11305. doi:10.3390/su151411305

Niu, R. (2021). Structural defects and reconstruction paths of social capital in underdeveloped rural areas in the post-poverty alleviation era. *Shanxi Agricultural Economics*, 13, 4-7.

Nunez, R. M. (2016). Linking social capital: a forgotten component of social capital. *Epidemiol Community Health*, 70(5), 526-526. doi:10.1136/jech-2015-207100

Nurlaela, S., Hariadi, S. S., & Raya, A. B. (2020). Self-Efficacy and Entrepreneurial Behavior of Horticultural Young Farmers in the Special Region of Yogyakarta Indonesia. *International Journal of Psychosocial Rehabilitation*, 24(06), 14029-14035.

O'BRIEN, D., Phillips, J., & Patsiorkovsky, V. (2005). Linking indigenous bonding and bridging social capital. *Regional Studies*, 39(8), 1041-1051. doi:10.1080/00343400500327984

OECD. (2020). How's Life? 2020. https://www.oecd.org/wise/how-s-life-23089679.htm

Ogden, J., & Lo, J. (2012). How meaningful are data from Likert scales? An evaluation of how ratings are made and the role of the response shift in the socially disadvantaged. *Journal of health psychology*, 17(3), 350-361. doi:10.1177/1359105311417

Olowogbon, T. S., Yoder, A. M., Fakayode, S. B., & Falola, A. O. (2020). Taming occupational stress among farmers in developing nations. In H. Çakmur (Ed.), *Effects of Stress on Human Health* (pp. 17). Intechopen.

Panday, S., Rushton, S., Karki, J., Balen, J., & Barnes, A. (2021). The role of social capital in disaster resilience in remote communities after the 2015 Nepal earthquake. *International Journal of Disaster Risk Reduction*, 55, 102112. doi:10.1016/j.ijdrr.2021.102112

Pant, S. C., Kumar, S., & Joshi, S. K. (2022). Social capital and performance of farmers' groups in producer organizations in India: examining the mediating role of self-efficacy. *Journal of Agribusiness in Developing and Emerging Economies*, 14(3), 519-535. doi:10.1108/JADEE-07-2022-0155

Park, Y. S., Konge, L., & Artino Jr, A. R. (2020). The positivism paradigm of research. *Academic medicine,* 95(5), 690-694. doi:10.1097/ACM.0000000000003093

Peng, L., Tan, J., Deng, W., & Liu, Y. (2020). Farmers' participation in community-based disaster management: The role of trust, place attachment and self-efficacy. *International Journal of Disaster Risk Reduction*, 51, 101895. doi:10.1016/j.ijdrr.2020.101895

Peng, S., Zhao, Y., Wang, Y. (2021). Social capital, resource acquisition and entrepreneurial performance of returning migrant workers—an empirical study based on the Yangtze River Delta region. *Statistics and Decision Making*, 22, 81-84.

Penny, K. I., & Jolliffe, I. T. (1999). Multivariate outlier detection applied to multiply imputed laboratory data. *Statistics in medicine*, 18(14), 1879-1895.

Perry, V., & Davenport, M. A. (2020). An inductive framework of self-efficacy to understand and support farmers in conservation agriculture. *Journal of Soil and Water Conservation,* 75(2), 198-208. doi:10.2489/jswc.75.2.198

Peters, K. E., Gupta, S., Stoller, N., & Mueller, B. (2008). Implications of the aging process: opportunities for prevention in the farming community. *Journal of agromedicine*, 13(2), 111-118. doi:10.1080/10599240802202497

Poortinga, W. (2006). Social relations or social capital? Individual and community health effects of bonding social capital. *Social science & medicine*, 63(1), 255-270. doi:10.1016/j.socscimed.2005.11.039

Portes, A. (2000). Social capital: Its origins and applications in modern sociology. In E. Lesser (Ed.), *Knowledge and Social Capital (1st edition)* (pp. 43-67). Routledge.

Priyadarshini, P., & Abhilash, P. C. (2020). Policy recommendations for enabling transition towards sustainable agriculture in India. *Land Use Policy*, 96, 104718. doi:10.1016/j.landusepol.2020.104718

Puozzo, I. C., & Audrin, C. (2021). Improving self-efficacy and creative self-efficacy to foster creativity and learning in schools. *Thinking Skills Creativity*, 42, 100966. doi:10.1016/j.tsc.2021.100966

Putnam, R. (1995). Tuning in, tuning out: The strange disappearance of social capital in America. *PS: Political Science & Politics*, 28(4), 664-683. doi:10.2307/420517

Putnam, R. D. (1993). The prosperous community. *The american prospect*, 4(13), 35-42.

Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American community*. Simon and Schuster.

Qi, W., Liu, F., Zhang, T., & Qi, X. (2022). Can China's new rural cooperative medical system improve farmers' subjective well-being? *Frontiers in public health*, 10, 848539. doi:10.3389/fpubh.2022.848539

Qiao, H., & Lei, X. (2015). Research report on the age structure and development status of immigrant villages in Ningxia. *Advances in Social Sciences*, 4, 372.

Qiu, X., Fang, Y., Xueting, Y., & Xu, Y. (2022). Research progress and prospects of Chinese farmers' welfare. *Journal of Mountain and Land Science,* (03), 434-449. doi:10.16089/j.cnki.1008-2786.000683

Qiu, Z., Wei, S., Wang, S. (2020). Main constraints and path choices for the sustainable development of rural cooperatives in Guizhou. *Theory and Contemporary,* (07), 12-15.

Quaye, E. S., Ameyibor, L. E. K., Mokgethi, K., & Kabeya Saini, Y. (2024). Healthy lifestyle and behavioural intentions: the role of self-identity, self-efficacy, subjective norms, and attitudes. *International Journal of Spa and Wellness,* 7(2), 176-196. doi:10.1080/24721735.2024.2374588

Quiroga, S., Suárez, C., Santos-Arteaga, F. J., & Rodrigo, J. M. (2024). Do common agricultural policy subsidies matter for the market-environment trade off? An evaluation of R&D objectives and decisions across farmers. *Journal of Agriculture Food Research*, 15, 101047. doi:10.1016/j.jafr.2024.101047

Rahayu, M. J., Mukaromah, H., & Mulyanto, M. (2024). Social capital-based strategy of sustainable village-owned enterprises (BUMDes) development. *International Journal of Social Economics*, 51(3), 297-312. doi:10.1108/IJSE-10-2022-0700

Rahman, M. M. (2023). Sample size determination for survey research and non-probability sampling techniques: A review and set of recommendations. *Journal of Entrepreneurship, Business Economics*, 11(1), 42-62. http://orcid.org/0000-0002-7414-8281

Ramos, A. K., Su, D., Correa, A., & Trinidad, N. (2018). Association between social capital and self-efficacy among Latinas in Nebraska. *Social work in public health*, 33(1), 31-42. doi:10.1080/19371918.2017.1391149

Ratnam, C., Keel, C., & Wickes, R. (2024). Linking with migrants: The potential of digitally mediated connections to build social capital during crisis. *Journal of Sociology*, 60(1), 265-284. doi:10.1177/144078332211455

Rayamajhee, V., & Bohara, A. K. (2021). Social capital, trust, and collective action in post-earthquake Nepal. *Natural hazards*, 105(2), 1491-1519. doi:10.1007/s11069-020-04363-4

Ren, C., Liu, S., Van Grinsven, H., Reis, S., Jin, S., Liu, H., & Gu, B. (2019). The impact of farm size on agricultural sustainability. *Journal of Cleaner Production*, 220, 357-367. doi:10.1016/j.jclepro.2019.02.151

Ren, C., Zhou, X., Wang, C., Guo, Y., Diao, Y., Shen, S., . . . Gu, B. (2023). Ageing threatens sustainability of smallholder farming in China. *Nature*, 616(7955), 96-103. doi:10.1038/s41586-023-05738-w

Rendón-Macías, M. E., Villasís-Keever, M. Á., & Miranda-Novales, M. G. (2016). Descriptive statistics. *Revista Alergia de Mexico,* 63(4), 397-407.

Rezakhani Moghaddam, H., Habibi, A., Fezollahi, E., Mohammadi, A., Pourhamzeh, S., & Aziz, K. (2014). An Investigation of Mental Health and Its Relationship with Social Capital among the Students of Islamic Azad University-Khalkhal, Iran. *Archives of Hygiene Sciences*, 3(4), 177-183.

Richardson, J., Jogulu, U., & Rentschler, R. (2017). Passion or people? Social capital and career sustainability in arts management. *Personnel Review*, 46(8), 1835-1851. doi:10.1108/PR-02-2016-0023

Rippon, D., Shepherd, J., Wakefield, S., Lee, A., & Pollet, T. V. (2022). The role of self-efficacy and self-esteem in mediating positive associations between functional social support and psychological wellbeing in people with a mental health diagnosis. *Journal of Mental Health*, 1-10. doi:10.1080/09638237.2022.2069695

Rodriguez-Alcalá, M. E., Qin, H., & Jeanetta, S. (2019). The role of acculturation and social capital in access to health care: a meta-study on Hispanics in the US. *Journal of community health*, 44(6), 1224-1252. doi:10.1007/s10900-019-00692-z

Rose, D. C., & Chilvers, J. (2018). Agriculture 4.0: Broadening responsible innovation in an era of smart farming. *Frontiers in Sustainable Food Systems*, 2, 87. doi:10.3389/fsufs.2018.00087

Rowley, J. (2014). Designing and using research questionnaires. *Management Research Review*, 37(3), 308-330.

Roy, P. (2021). *Literature Review on "Items Related to Farmer's Self-efficacy scale"* Indian Statistical Institute. Indian, 2.

Rusmawati, E., Hartono, D., & Aritenang, A. F. (2023). Food security in Indonesia: the role of social capital. *Development Studies Research*, 10(1), 2169732. doi:10.1080/21665095.2023.2169732

Rust, N. A., Ptak, E. N., Graversgaard, M., Iversen, S., Reed, M. S., de Vries, J. R., . . . Kjeldsen, C. (2023). Social capital factors affecting uptake of sustainable soil

management practices: a literature review. *Emerald Open Research*, 1(10). doi:10.1108/EOR-10-2023-0002

Sabet, N. S., & Khaksar, S. (2020). The performance of local government, social capital and participation of villagers in sustainable rural development. *The Social Science Journal*, 1-29. doi:10.1080/03623319.2020.1782649

Saccenti, E., & Timmerman, M. E. (2016). Approaches to sample size determination for multivariate data: Applications to PCA and PLS-DA of omics data. *Journal of proteome research*, 15(8), 2379-2393. doi:10.1021/acs.jproteome.5b01029

Sambas, K., & Lawang, R. M. Z. (2023). Development Of Social Capital In Urban Farming-Based Farmer Groups In Rw 03, Cempaka Putih Timur Village, Central Jakarta. *Journal of Social Science*, 2(11), 991-1007. doi:10.57185/joss.v2i11.159

Saroj, A., & Pal, S. (2020). Use of social media in crisis management: A survey. *International Journal of Disaster Risk Reduction*, 48, 101584. doi:10.1016/j.ijdrr.2020.101584

Saxby, H., Gkartzios, M., & Scott, K. (2018). 'Farming on the edge': wellbeing and participation in agri‑environmental schemes. *Sociologia Ruralis*, 58(2), 392-411. doi:10.1111/soru.12180

Schirmer, J., Mylek, M., Peel, D., & Yabsley, B. (2015). People and communities: The 2014 regional wellbeing survey (University of Canberra: Canberra, Issue. https://www.researchgate.net/profile/Brigitta-Yabsley/publication/304541310_People_and_Communities_The_2014_Regional_Wellbeing_Survey_University_of_Canberra_Canberra/links/5774eb6208aead7ba06fbb09/People-and-Communities-The-2014-Regional-Wellbeing-Survey-University-of-Canberra-Canberra.pdf

Schneider, J. A. (2006). Social capital, community, and economic development. The J. McDonald Williams Institute. https://chrysaliscollaborations.com/wp-content/uploads/2016/04/Social-Capital_Schneider-3-7-06.pdf

Schönbrodt, F. D., & Perugini, M. (2013). At what sample size do correlations stabilize? *Journal of Research in Personality*, 47(5), 609-612. doi:10.1016/j.jrp.2013.05.009

Schulte, P. A., Guerin, R. J., Schill, A. L., Bhattacharya, A., Cunningham, T. R., Pandalai, S. P., . . . Stephenson, C. M. (2015). Considerations for incorporating "well-being" in public policy for workers and workplaces. *American journal of public health*, 105(8), e31-e44.

Schumacker, R. E., & Lomax, R. G. (2010). *A Beginner's Guide to Structural Equation Modeling (3rd Edition), New York:* Taylor & Francis Group.

Schunk, D. H., & DiBenedetto, M. K. (2021). Self-efficacy and human motivation. In *Advances in motivation science* (Vol. 8, pp. 153-179). Elsevier.

Seibert, S. E., Kraimer, M. L., & Liden, R. C. (2001). A social capital theory of career success. *Academy of management journal*, 44(2), 219-237. doi:10.5465/3069452

Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill building approach*. John Wiley & Sons..

Sendhil, R., Ramasundaram, P., & Balaji, S. (2017). Transforming Indian agriculture: is doubling farmers' income by 2022 in the realm of reality? *Current Science*, 13(5), 848-850.

Sheer, V. C., & Rice, R. E. (2017). Mobile instant messaging use and social capital: Direct and indirect associations with employee outcomes. *Information & Management,* 54(1), 90-102. doi:10.1016/j.im.2016.04.001

Sherren, K., Tourangeau, W., Lamarque, M., & Greenland‐Smith, S. (2020). Exploring motivation crowding around farmer incentives for riparian management in Nova Scotia. *The Canadian Geographer/Le Géographe canadien*, 64(2), 250-265. doi:10.1111/cag.12572

Shlomo, N., Skinner, C., & Schouten, B. (2012). Estimation of an indicator of the representativeness of survey response. *Journal of Statistical Planning and Inference,* 142(1), 201-211. doi:10.1016/j.jspi.2011.07.008

Silvert, C. J., Ochieng, W., Perez Orozco, J., & Asanzi, A. (2022). Dissecting the Roles of Social Capital in Farmer-to-Farmer Extension: A Review. *Journal of International Agricultural and Extension Education*, 29(4), 7-26. doi:10.4148/2831-5960.1058

Sim, J., & Lewis, M. (2012). The size of a pilot study for a clinical trial should be calculated in relation to considerations of precision and efficiency. *Journal of clinical epidemiology*, 65(3), 301-308. doi:10.1016/j.jclinepi.2011.07.011

Simons, M., Lataster, J., Reijnders, J., Peeters, S., Janssens, M., & Jacobs, N. (2020). Bonding personal social capital as an ingredient for positive aging and mental well-being. A study among a sample of Dutch elderly. *Aging Mental Health*, 24(12), 2034-2042. doi:10.1080/13607863.2019.1650887

Simons, M., Reijnders, J., Janssens, M., Lataster, J., Jacobs, N. J. A., & health, m. (2023). Staying connected in old age: Associations between bonding social capital, loneliness and well-being and the value of digital media. *Aging Mental Health*, 27(1), 147-155. doi:10.1080/13607863.2022.2036947

Singh, A. S., Masuku, M. B., & management. (2014). Sampling techniques & determination of sample size in applied statistics research: An overview. *International Journal of economics, commerce management*, 2(11), 1-22.

Sivo, S. A., Saunders, C., Chang, Q., & Jiang, J. (2006). How low should you go? Low response rates and the validity of inference in IS questionnaire research. 7(1), 17.

Slijper, T., Urquhart, J., Poortvliet, P. M., Soriano, B., & Meuwissen, M. P. (2022). Exploring how social capital and learning are related to the resilience of Dutch arable farmers. *Agricultural Systems*, 198, 103385. doi:10.1016/j.agsy.2022.103385

Solomon, P. (2023). Can cooperatives be a tool for poverty reduction? Social capital perspectives of fisher's cooperatives in India. *Marine Policy*, 147, 105373. doi:10.1016/j.marpol.2022.105373

Sonnentag, S. (2015). Dynamics of well-being. *Annu. Rev. Organ. Psychol. Organ. Behav*, 2(1), 261-293. doi:10.1146/annurev-orgpsych-032414-111347

Sørensen, J. F. (2016). Rural–urban differences in bonding and bridging social capital. *Regional Studies*, 50(3), 391-410. doi:10.1080/00343404.2014.918945

Sprengers, M., Tazelaar, F., & Flap, H. D. (1988). Social resources, situational constraints, and re-employment. *Netherlands Journal of Sociology*, 24(2), 98-115.

Spriestersbach, A., Röhrig, B., Du Prel, J. B., Gerhold-Ay, A., & Blettner, M. (2009). Descriptive statistics: the specification of statistical measures and their presentation in tables and graphs. *Part 7 of a series on evaluation of scientific publications. Deutsches Ärzteblatt International*, 106(36), 578–583. doi: 10.3238/arztebl.2009.0578

Stasa, M., & Machek, O. (2023). Family firms' innovation: The indirect effects of socioemotional wealth and the role of social capital. *The Journal of High Technology Management Research*, 34(1), 100454. doi:10.1016/j.hitech.2023.100454

Steckermeier, L. C. (2021). The value of autonomy for the good life. An empirical investigation of autonomy and life satisfaction in Europe. *Social Indicators Research*, 154(2), 693-723. doi:10.1007/s11205-020-02565-8

Stoverink, A. C., Kirkman, B. L., Mistry, S., & Rosen, B. (2020). Bouncing back together: Toward a theoretical model of work team resilience. *Academy of management review*, 45(2), 395-422. doi:10.5465/amr.2017.0005

Stringer, L. C., Fraser, E. D., Harris, D., Lyon, C., Pereira, L., Ward, C. F., & Simelton, E. (2020). Adaptation and development pathways for different types of farmers. *Environmental science policy*, 104, 174-189. doi:10.1016/j.envsci.2019.10.007

Sujatmiko, T., & Ihsaniyati, H. (2018, November). Implication of climate change on coffee farmers' welfare in Indonesia. In *IOP Conference Series: Earth and Environmental Science* (Vol. 200, No. 1, p. 012054). IOP Publishing. doi:10.1088/1755-1315/200/1/012054

Sulistyani, N. W., & Suhariadi, F. (2022). Self-efficacy as a mediator of the impact of social capital on entrepreneurial orientation: A case of dayak ethnic entrepreneurship. *Sustainability*, 14(9), 5620. doi:10.3390/su14095620

Sun, W., Lin, X., Liang, Y., & Li, L. (2016). Regional inequality in underdeveloped areas: A case study of Guizhou province in China. *Sustainability*, 8(11), 1141. doi:10.3390/su8111141

Sundquist, K., Yang, M. J. H., & place. (2007). Linking social capital and self-rated health: a multilevel analysis of 11,175 men and women in Sweden. *Health place*, 13(2), 324-334. doi:10.1016/j.healthplace.2006.02.002

Surucu-Balci, E., & Balci, G. (2023). Building social capital in cruise travel via social network sites. *Current Issues in Tourism*, 26(7), 1096-1111. doi:10.1080/13683500.2022.2047904

Syan, A. S., Kumar, V., Sandhu, V., Hundal, B. S., & Innovation. (2019). Empirical analysis of farmers' intention to adopt sustainable agricultural practices. *Asia-Pacific Journal of Management Research*, 15(1-2), 39-52. doi:10.1177/2319510X19848857

Szreter, S., & Woolcock, M. (2004). Health by association? Social capital, social theory, and the political economy of public health. *International journal of epidemiology*, 33(4), 650-667. doi:10.1093/ije/dyh013

Talukder, B., van Loon, G. W., Hipel, K. W., Chiotha, S., & Orbinski, J. (2021). Health impacts of climate change on smallholder farmers. *One Health*, 13, 100258. doi:10.1016/j.onehlt.2021.100258

Tambo, J. A., & Wünscher, T. (2017). Farmer-led innovations and rural household welfare: evidence from Ghana. *Journal of Rural Studies*, 55, 263-274. doi:10.1016/j.jrurstud.2017.08.018

Tan, Y., Wang, C., Chen, M., Hai, X., & Yao, H. (2022). Measurement of the common prosperity level of Chinese farmers and its spatial and temporal differentiation evolution. *ECONOMIC GEOGRAPHY*, 8(42), 11–21. doi:10.15957/j.cnki.jjdl.2022.08.002

Tang, J., Gong, J., Ma, W., & Policy. (2022). Narrowing urban–rural income gap in China: The role of the targeted poverty alleviation program. *Economic Analysis*, 75, 74-90. doi:10.1016/j.eap.2022.05.004

Taruvinga, B., Ndou, P., Hlerema, I. N., Maraganedzha, T. L., Du Plooy, C. P., & Venter, S. (2017). Fostering linking social capital for successful agricultural development projects in South Africa. *Agrekon,* 56(1), 28-39.

Termeer, E. E., Soma, K., Motovska, N., Ayuya, O. I., Kunz, M., & Koster, T. (2022). Sustainable Development Ensued by Social Capital Impacts on Food Insecurity: The Case of Kibera, Nairobi. *Sustainability*, 14(9), 5504. doi:10.3390/su14095504

Tetteh, B. K., Donkoh, S. A., & Ansah, I. G. (2023). Climate change coping and adaptation and its effect on livestock herd size and farmers' welfare in the Upper West Region of Ghana. *Environment, Development Sustainability*, 1-23. doi:10.1007/s10668-023-03880-z

The Central People's Government of the People's Republic of China. (2007). Build "Happy Jiangyin" and strive to win public recognition and share people's satisfaction. https://www.gov.cn/jrzg/2007-03/18/content_553438.htm

Thomas, E., Riley, M., & Spees, J. (2020). Knowledge flows: Farmers' social relations and knowledge sharing practices in 'Catchment Sensitive Farming'. *Land Use Policy*, 90, 104254. doi:10.1016/j.landusepol.2019.104254

Thompson, M. (2018). Social capital, innovation and economic growth. *Journal of behavioral experimental economics*, 73, 46-52. doi:10.1016/j.socec.2018.01.005

Titeca, K., & Vervisch, T. (2008). The dynamics of social capital and community associations in Uganda: linking capital and its consequences. *World Development*, 36(11), 2205-2222. doi:10.1016/j.worlddev.2007.10.021

Trieu, P., Bayer, J. B., Ellison, N. B., Schoenebeck, S., Falk, E., & society. (2019). Who likes to be reachable? Availability preferences, weak ties, and bridging social capital. *Information, communication*, 22(8), 1096-1111. doi:10.1080/1369118X.2017.1405060

Truchot, D., & Andela, M. (2018). Burnout and hopelessness among farmers: the farmers stressors inventory. *Social Psychiatry Psychiatric Epidemiology*, 53, 859-867. doi:10.1007/s00127-018-1528-8

Tuominen, M., Kilpi-Jakonen, E., García Velázquez, R., Castaneda, A., & Kuusio, H. (2023). Building social capital in a new home country. A closer look into the predictors of bonding and bridging relationships of migrant populations at different education levels. *Migration Studies*, 11(4), 598-630. doi:10.1093/migration/mnad022

Tyrer, S., & Heyman, B. (2016). Sampling in epidemiological research: issues, hazards and pitfalls. *BJPsych bulletin*, 40(2), 57-60. doi:10.1192/pb.bp.114.050203

United Nations Development Programme (UNDP). (2019). China National Human Development Report Special Edition. https://www.undp.org/zh/china/publications/zhongguorenleifazhanbaogaotebieban

Usta, M., Özbay, Y., & Toker, M. (2021). Development of a Systemic Family Functionality Scale (SFFS). *Marriage & Family Review*, 57(2), 126-142. doi:10.1080/01494929.2020.1757556

van den Berg, H., Phillips, S., Dicke, M., & Fredrix, M. (2020). Impacts of farmer field schools in the human, social, natural and financial domain: a qualitative review. *Food Security*, 12(6), 1443-1459. doi:10.1007/s12571-020-01046-7

Van Gelder, M. M., Bretveld, R. W., & Roeleveld, N. (2010). Web-based questionnaires: the future in epidemiology? *American journal of epidemiology*, 172(11), 1292-1298. doi:10.1093/aje/kwq291

Vasudevan, S. (2016). Role of questionnaires in medical research and patient management. *Kerala Medical Journal*, 9(1), 1-2. doi:10.52314/kmj.2016.v9i1.390

Veenhoven, R. (2024). Quality of Life (QOL), an Overview. *Encyclopedia of Quality of Life Well-Being Research*, 5668-5671. doi:10.1007/978-3-031-17299-1_2353

Venkatesh, V., & Bala, H. (2008). Technology acceptance model 3 and a research agenda on interventions. *Decision sciences*, 39(2), 273-315. doi:10.1111/j.1540-5915.2008.00192.x

Vetter, T. R. (2017). Descriptive statistics: reporting the answers to the 5 basic questions of who, what, why, when, where, and a sixth, so what?. *Anesthesia & Analgesia,* 125(5), 1797-1802. doi:10.1213/ANE.0000000000002471

Vinzi, V. E., Trinchera, L., & Amato, S. (2010). PLS path modeling: from foundations to recent developments and open issues for model assessment and improvement. *Handbook of partial least squares: Concepts, methods applications*, 47-82. doi:10.1007/978-3-540-32827-8_3

Voukelatou, V., Gabrielli, L., Miliou, I., Cresci, S., Sharma, R., Tesconi, M., & Pappalardo, L. (2021). Measuring objective and subjective well-being: dimensions and data sources. *International Journal of Data Science Analytics*, 11, 279-309. doi:10.1007/s41060-020-00224-2

Wakita, T., Ueshima, N., & Noguchi, H. (2012). Psychological distance between categories in the Likert scale: Comparing different numbers of options. *Educational psychological measurement*, 72(4), 533-546. doi:10.1177/00131644114311

Waldron, S. (2010). *Measuring subjective wellbeing in the UK*. Newport: Office for National Statistics.

Walker, M. H. (2015). The contingent value of embeddedness: Self-affirming social environments, network density, and well-being. *Society Mental Health*, 5(2), 128-144. doi:10.1177/21568693155746

Wang, B., Zhang, Q., & Cui, F. (2021). Scientific research on ecosystem services and human well-being: A bibliometric analysis. *Ecological Indicators*, 125, 107449. doi:10.1016/j.ecolind.2021.107449

Wang, S. (2022). The economic-social policy of resilient development and common prosperity in the construction of new development paradigm and Rural Revitalisation. *China Journal of Social Work*, 15(3), 310-320. doi:10.1080/17525098.2022.2088052

Wang, W., Zhao, X., Li, H., & Zhang, Q. (2021). Will social capital affect farmers' choices of climate change adaptation strategies? Evidences from rural households in the Qinghai-Tibetan Plateau, China. *ournal of Rural Studies*, 83, 127-137. doi:10.1016/j.jrurstud.2021.02.006

Wang, X., Shao, S., & Li, L. (2019). Agricultural inputs, urbanization, and urban-rural income disparity: Evidence from China. *China Economic Review*, 55, 67-84. doi:10.1016/j.chieco.2019.03.009

Wang, Z., & Sohail, M. T. (2022). Short-and long-run influence of education on subjective well-being: the role of information and communication technology in China. *Frontiers in Psychology*, 13, 927562. doi:10.3389/fpsyg.2022.927562

Wassell, E., & Dodge, R. (2015). A multidisciplinary framework for measuring and improving wellbeing. *Sciences: Basic and Applied Research*, 21(1), 97-107.

Weaver, R. D., McMurphy, S. M., & Habibov, N. N. (2013). Analyzing the impact of bonding and bridging social capital on economic well-being: Results from Canada's General Social Survey. *Sociological Spectrum*, 33(6), 566-583. doi:10.1080/02732173.2013.836149

Wen, Y., Cai, H., & Han, D. (2024). Driving factors analysis of spatial–temporal evolution of vegetation ecosystem in rocky desertification restoration area of Guizhou Province, China. *Environmental Science Pollution Research*, 1-19. doi:10.1007/s11356-024-31934-w

Whitley, R. (2008). Social capital and public health: Qualitative and ethnographic approaches. In Ichiro, K., Subramanian, S.V., & Daniel, K. (Ed.), *Social capital and health* (pp. 95-115). Springer.

Widmalm, S. (2005). The utility of bonding social capital. *Journal of civil society*, 1(1), 75-95. doi:10.1080/17448680500210680

Williams, D. (2006). On and off the'Net: Scales for social capital in an online era. *Journal of computer-mediated communication*, 11(2), 593-628. doi:10.1111/j.1083-6101.2006.00029.x

Williams, J. R. (2019). The use of online social networking sites to nurture and cultivate bonding social capital: A systematic review of the literature from 1997 to 2018. *New Media & Society*, 21(11-12), 2710-2729. doi:10.1177/14614448198587

Woolcock, M. (1998). Social capital and economic development: Toward a theoretical synthesis and policy framework. *Theory and Society*, 27(2), 151-208.

Woolcock, M. (2001). The place of social capital in understanding social and economic outcomes. *Canadian journal of policy research,* 2(1), 11-17.

Woolcock, M. (2010). The rise and routinization of social capital, 1988–2008. Annual review of political science, 13(1), 469-487. doi:10.1146/annurev.polisci.031108.094151

Woolcock, M., & Narayan, D. (2000). Social capital: Implications for development theory, research, and policy. *The World Bank Research Observer*, 15(2), 225-249.

World Bank Group. (2018). China Systematic Country Diagnosis. https://documents1.worldbank.org/curated/en/190251521729552166/pdf/113092-CHINESE-SCD-P156470-PUBLIC.pdf

World Bank Group. (2019). Innovate China – Cultivate new drivers of China's economic growth. https://documents1.worldbank.org/curated/en/720491585668929282/pdf/Innovative-China-New-Drivers-of-Growth.pdf

Wu, B., & Liu, L. (2020). Social capital for rural revitalization in China: A critical evaluation on the government's new countryside programme in Chengdu. *Land Use Policy*, 91, 104268. doi:10.1016/j.landusepol.2019.104268

Wu, G., Cheng, J., & Yang, F. (2022). The influence of the peer effect on farmers' agricultural insurance decision: evidence from the survey data of the karst region in China. *Sustainability*, 14(19), 11922. doi:10.3390/su141911922

Wuepper, D., & Sauer, J. (2016). Explaining the performance of contract farming in Ghana: The role of self-efficacy and social capital. *Food Policy*, 62, 11-27. doi:10.1016/j.foodpol.2016.05.003

Xia, M. (2011). Social capital and rural grassroots governance in China. *Journal of Current Chinese Affairs*, 40(2), 135-163. doi:10.1177/186810261104000

Xia, M. (2014). Social Capital and Socioeconomic Development in Rural China. *Fudan Journal of the Humanities and Social Sciences*, 7, 563-581. doi:10.1007/s40647-014-0044-9

Xie, H., & Wang, B. (2017). An empirical analysis of the impact of agricultural product price fluctuations on China's grain yield. *Sustainability*, 9(6), 906. doi:10.3390/su9060906

Xie, J., Liu, F., Jia, X., Zhao, Y., Liu, X., Luo, M., . . . Wu, F. (2022). Ethnobotanical study of the wild edible and healthy functional plant resources of the Gelao people in northern Guizhou, China. *Journal of Ethnobiology Ethnomedicine*, 18(1), 72. doi:10.1186/s13002-022-00572-2

Xinhuanet. (2024). Ministry of Agriculture and Rural Affairs: my country's agricultural exports will reach US$98.93 billion in 2023. http://www.news.cn/info/20240124/1584c7aff1ff4f519914cd42d0e7d840/c.html

Xu, H., Zhang, C., & Huang, Y. (2023). Social trust, social capital, and subjective well-being of rural residents: micro-empirical evidence based on the Chinese general social survey (CGSS). *Humanities Social Sciences Communications*, 10(1), 1-13. doi:10.1057/s41599-023-01532-1

Xu, Y., Liang, Q., & Huang, Z. (2018). Benefits and pitfalls of social capital for farmer cooperatives: Evidence from China. *International Food and Agribusiness Management Review*, 21(8), 1137-1152. doi:10.22434/IFAMR2018.0024

Xue, X., Reed, W. R., & Menclova, A. (2020). Social capital and health: a meta-analysis. *Journal of health economics*, 72, 102317. doi:10.1016/j.jhealeco.2020.102317

Yang, L., Zhao, C., Jiao, S., Li, S., Wang, L., & Li, Y. (2022). Reconstructing spatial pattern of historical cropland in karst areas of Guizhou, Southwest China. *Scientific Reports*, 12(1), 22391. doi:10.1038/s41598-022-26793-9

Yang, R., Zhong, C., Yang, Z., & Wu, Q. (2022). Analysis on the effect of the targeted poverty alleviation policy on narrowing the urban-rural income gap: An empirical test based on 124 counties in Yunnan province. *Sustainability*, 14(19), 12560. doi:10.3390/su141912560

Yang, S., Zou, K., Lei, T., Ni, Z., & Yang, J. (2022). Climate Change and Farmers' Household Financial Vulnerability: Evidence From China. *Frontiers in Environmental Science*, 10, 908428. doi:10.3389/fenvs.2022.908428

Yao, Y., & Jiang, L. (2021). Urbanization forces driving rural urban income disparity: Evidence from metropolitan areas in China. *Journal of Cleaner Production*, 312, 127748. doi:10.1016/j.jclepro.2021.127748

Yao, Y., Qin, S., & Gao, Y. (2022). Research on the impact of digital literacy on the overall income of rural households: A case study of 410 questionnaires in Pucheng County, Shaanxi Province. *Highlights in Business, Economics and Management*, 1, 285-292. doi:10.54097/hbem.v1i.2589

Yardley, L., & Bishop, F. L. (2017). Mixing qualitative and quantitative methods: A pragmatic approach. In Carla, W. & Wendy, S. R. (Ed.), *The Sage handbook of qualitative research in psychology* (pp. 398-413). Sage Publications.

Yen, Y. S., Chen, M. C., & Su, C. H. (2020). Social capital affects job performance through social media. *Industrial Management & Data Systems,* 120(5), 903-922. doi:10.1108/IMDS-09-2019-0473

Yip, W., Subramanian, S. V., Mitchell, A. D., Lee, D. T., Wang, J., & Kawachi, I. (2007). Does social capital enhance health and well-being? Evidence from rural China. *Social Science Medicine*, 64(1), 35-49. doi:10.1016/j.socscimed.2006.08.027

Yueh, H. P., & Liu, Y. L. (2010). Effects of farmers computer abilities and self-efficacy on their learning performance and adoption intention of the farming management information system. *Journal of Agricultural Extension and Rural Development,* 2(9), 191-197.

Zhai, X., & Huang, X. (2023). *China's social credit: Theoretical, empirical research, and countermeasures*. Taylor & Francis.

Zhang, C. B., Li, N., Han, S. H., Zhang, Y. D., & Hou, R. J. (2021). How to alleviate social loafing in online brand communities: The roles of community support and commitment. *Electronic Commerce Research and Applications*, 47, 101051. doi:10.1016/j.elerap.2021.101051

Zhang, D., Li, X., & Xue, J. (2015). Education inequality between rural and urban areas of the People's Republic of China, migrants' children education, and some implications. *Asian development review*, 32(1), 196-224. doi:10.1162/ADEV_a_00042

Zhang, J., Xie, J., Zhang, X., & Yang, J. (2022). Income, social capital, and subjective well-being of residents in western China. *Sustainability*, 14(15), 9141. doi:10.3390/su14159141

Zhang, S., Xie, X., Liu, X., & Zhao, M. (2023). Effects of land recuperation on farmers' social capital: a Chinese field analysis. *International Journal of Agricultural Sustainability*, 21(1), 2210990. doi:10.1080/14735903.2023.2210990

Zhang, T., He, D., Kuang, T., & Chen, K. (2022). Effect of rural human settlement environment around nature reserves on farmers' well-being: A field survey based on 1002 farmer households around six nature reserves in China. *International Journal of Environmental Research Public Health*, 19(11), 6447. doi:10.3390/ijerph19116447

Zhang, X. D. (2010). Strictly standardized mean difference, standardized mean difference and classical t-test for the comparison of two groups. *Statistics in Biopharmaceutical Research*, 2(2), 292-299. doi:10.1198/sbr.2009.0074

Zhang, X., Zhang, L., & Nie, T. (2023). Study on the impact of social capital on farmers' decision-making behavior of adopting trusteeship services. *Sustainability*, 15(6), 5343. doi:10.3390/su15065343

Zhang, Y., & Jiang, J. (2019). Social capital and health in China: Evidence from the Chinese general social survey 2010. *Social Indicators Research*, 142, 411-430. doi:10.1007/s11205-018-1907-2

Zhang, Y., Xu, Y., Ling, W. (2024). The impact of social capital on farmers' subjective well-being: an empirical analysis based on CGSS2017. *Statistical Theory and Practice*, 1(537), 55-61. doi:10.13999/j.cnki.tjllysj.2024.01.009

Zhang, Z., Yu, J., & Tian, J. (2023). Community Participation, Social Capital Cultivation and Sustainable Community Renewal: A Case Study from Xi'an's Southern Suburbs, China. *Journal of the Knowledge Economy*, 1-34. doi:10.1007/s13132-023-01536-x

Zhao, C., Geng, R., Chi, T., Khiewngamdee, C., & Liu, J. (2024). Agricultural Technology Innovation and Food Security in China: An Empirical Study on Coupling Coordination and Its Influencing Factors. *Agronomy*, 14(1), 123. doi:10.3390/agronomy14010123

Zhao, P., & Yu, Z. (2021). Rural poverty and mobility in China: A national-level survey. *Journal of transport geography*, 93, 103083. doi:10.1016/j.jtrangeo.2021.103083

Zhao, X., Sun, H., Chen, B., Xia, X., & Li, P. (2019). China's rural human settlements: Qualitative evaluation, quantitative analysis and policy implications. *Ecological Indicators*, 105, 398-405. doi:10.1016/j.ecolind.2018.01.006

Zheng, W. (2011). Thoughts on countermeasures to improve the supply level of rural public goods in Guizhou. *Strengthening Administrative Management Research and Promoting Government System Reform*. Proceedings of the 2011 Annual Meeting of the Chinese Society of Administrative Management and the Seminar.

Zheng, Y. Y., Zhu, T. H., & Wei, J. I. A. (2022). Does Internet use promote the adoption of agricultural technology? Evidence from 1 449 farm households in 14 Chinese provinces. *Journal of Integrative Agriculture,* 21(1), 282-292. doi:10.1016/S2095-3119(21)63750-4

Zhou, Y., Guo, Y., & Liu, Y. (2020). Health, income and poverty: Evidence from China's rural household survey. *International journal for equity in health*, 19, 1-12. doi:10.1186/s12939-020-1121-0

Ziersch, A., Walsh, M., & Due, C. (2023). 'Having a good friend, a good neighbour, can help you find yourself': social capital and integration for people from refugee and asylum-seeking backgrounds in Australia. *Journal of Ethnic Migration Studies*, 1-23. doi:10.1080/1369183X.2023.2177628

Zikmund, W. G. (2009). *Business research methods (8th edition)*. South-Western College Pub.

Zink, R. C. (2012). Sampling methodology: Implications for drawing conclusions from clinical research findings. In Phyllis, G. S., & Jeffrey, S. B. (Ed.), *Principles of Research Methodology: A Guide for Clinical Investigators* (pp. 197-205). Springer.

Zou, H., Luan, F., Xi, H., Yang, B., & Cities, I. (2020). Comprehensive management for better rural infrastructure and service delivery: lessons from the implementation of China's Six Point Rural Action Plan in Guizhou Province. In Bharat, D., & Ashok, D. (Ed.), *New Urban Agenda in Asia-Pacific* (pp. 279-300). Springer.

APPENDICES

Appendix A

Guizhou Province Farmers' Social Capital Survey Questionnaire

Hello:

Thank you for taking the time to participate in this survey. This questionnaire aims to study the impact of different types of social capital (social relationships) on the farmers' well-beingin Guizhou Province. The researcher are committed to strictly protecting your rights and privacy. All data collected will be used solely for academic research and will not be used for any commercial or non-academic purposes. All data will be anonymized to ensure the security and confidentiality of the information provided. The results of the study will be presented in aggregated form, and no personal information will be disclosed. The final findings may be published in relevant academic journals or presented at conferences. You may withdraw from the study at any time and request that any data you provided be deleted.

Please note that this survey is only intended for farmers aged 16 and above in Guizhou Province. If you do not meet these criteria, please do not complete the questionnaire. Thank you for your understanding and support.

Family Support (FAS)

Please tick the appropriate box based on your personal experience.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. When I have distress my family supports me to overcome it.	□	□	□	□	□
2. I feel my family by my side when I have a problem.	□	□	□	□	□
3. I'm sure that my family will always be with me anyway.	□	□	□	□	□
4. My family knows how to help me when I am not feeling well.	□	□	□	□	□
5. My family is by my side.	□	□	□	□	□

Friends Support (FRS)

Please tick the appropriate box based on your personal experience.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I have friends with whom I can share my joys and sorrows.	□	□	□	□	□
2. I can count on my friends when things go wrong.	□	□	□	□	□
3. I can talk about my problems with my friends.	□	□	□	□	□
4. My friends really try to help me.	□	□	□	□	□

Community Support (COS)

Please tick the appropriate box based on your personal experience.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. The community members provided advice to help me solve the problem.	□	□	□	□	□
2. The community members sided with me when I was in trouble.	□	□	□	□	□
3. There are some members in the community with whom I share common values or interests.	□	□	□	□	□

Social Diversity (SOD)

Please tick the appropriate box based on your personal experience.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. Interacting with people online/offline makes me interested in things that happen outside of my village.	□	□	□	□	□
2. Talking with people online/offline makes me curious about other places in the world.	□	□	□	□	□
3. Interacting with people online/offline gives me new people to talk to.	□	□	□	□	□
4. Online/Offline, I come in contact with new people all the time.	□	□	□	□	□

Access Information and Resource (AIR)

Please tick the appropriate box based on your personal experience.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. Interacting with people online/offline makes me want to try new things.	□	□	□	□	□
2. Interacting with people online/offline makes me interested in what people unlike me are thinking.	□	□	□	□	□
3. Interacting with people online/offline is always beneficial.	□	□	□	□	□
4. Interacting with people online/offline is always an enjoyable experience.	□	□	□	□	□
5. Interacting with people online/offline is always a wise move.	□	□	□	□	□

Social Participation (SOP)

Please tick the appropriate box based on your personal experience.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. Interacting with people online/offline makes me feel like part of a larger community.	□	□	□	□	□
2. Interacting with people online/offline makes me feel connected to the bigger picture.	□	□	□	□	□
3. Interacting with people online/offline reminds me that everyone in the world is connected.	□	□	□	□	□
4. I am willing to spend time to support general online/offline community activities.	□	□	□	□	□

Trust

Please tick the appropriate box based on your personal experience.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I trust village committee.	□	□	□	□	□
2. I trust educational organizations in my community.	□	□	□	□	□
3. I trust health care organizations in my community.	□	□	□	□	□
4. I trust social service organizations in my community.	□	□	□	□	□
5. I trust people in law enforcement.	□	□	□	□	□

Engagement

Please tick the appropriate box based on your personal experience.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I often attend meetings organized by the village committee.	□	□	□	□	□
2. I frequently visit the homes of village officials.	□	□	□	□	□
3. I regularly work with other community members to address public affairs issues.	□	□	□	□	□
4. I often provide feedback to official institutions (village committee, educational institutions, healthcare organizations, social service agencies, etc.) on relevant matters.	□	□	□	□	□
5. I frequently organize community activities.	□	□	□	□	□

Farmers' Self-efficacy (FSE)

Please tick the appropriate box based on your personal experience.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I can always manage to solve difficult problems if I try hard enough.	☐	☐	☐	☐	☐
2. If someone opposes me, I can find means and ways to get what I want.	☐	☐	☐	☐	☐
3. It is easy for me to stick to my aims and accomplish my goals.	☐	☐	☐	☐	☐
4. I am confident that I could deal efficiently with unexpected events.	☐	☐	☐	☐	☐
5. Thanks to my resourcefulness, I know how to handle unforeseen situations.	☐	☐	☐	☐	☐
6. I can solve most problems if I invest the necessary effort.	☐	☐	☐	☐	☐
7. I can remain calm when facing difficulties because I can rely on my coping abilities.	☐	☐	☐	☐	☐
8. When I am confronted with a problem, I can usually find several solutions.	☐	☐	☐	☐	☐
9. If I am in trouble, I can usually think of something to do.	☐	☐	☐	☐	☐
10. No matter what comes my way, I am usually able to handle it.	☐	☐	☐	☐	☐

Farmers' Well-being (FWB)

Please tick the appropriate box based on your personal experience.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. In most ways my life is close to ideal.	☐	☐	☐	☐	☐
2. The conditions of my life are excellent.	☐	☐	☐	☐	☐
3. I am satisfied with my life.	☐	☐	☐	☐	☐
4. So far I have gotten the important things I want in life.	☐	☐	☐	☐	☐
5. If I could live my life over, I would change almost nothing.	☐	☐	☐	☐	☐
6. I feel positive about my future.	☐	☐	☐	☐	☐
7. I generally feel happy.	☐	☐	☐	☐	☐

Demographic Information

1. Gender

   □ Male   □ Female

2. Age

   □ 16-29   □ 30-39   □ 40-49

   □ 50-59   □ 60 and above

3. Education Level

   □ Middle School and Below   □ High School   □ College and Above

4. Marital Status

   □ Married   □ Unmarried   □ Others

5. The main source of income for your family is

   □ Going out to Work   □ Planting (Crops, Fruits, etc.)

   □ Livestock breeding   □ Self-employed (Setting up Stalls, Driving Taxis, Agritourism, etc.)

   □ Others

6. The average annual income per household member is

   □ 7000-9999   □ 10000-14999

   □ 15000-19999   □ 20000 及以上

7. Duration of the main occupation

   □ 3 years below   □ 3-5 years

   □ 6-10 years   □ 11-20 years

   □ Above 20 years

【The questionnaire concludes here. Please double-check for any unanswered items. Thank you again!】

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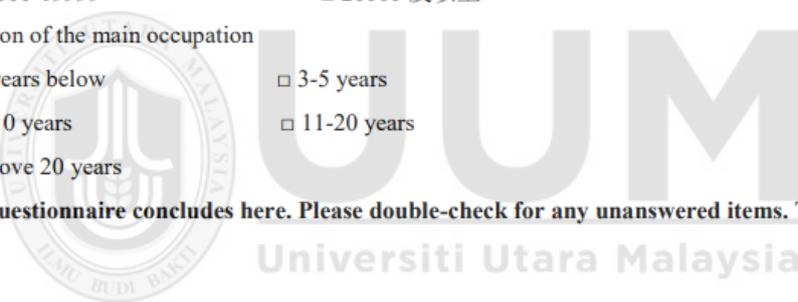
Appendix B

Guizhou Province Farmers' Social Capital Survey Questionnaire

(Chinese Version)

贵州省社会资本对农民福祉（幸福感）的影响研究调查问卷

您好：

感谢您抽出宝贵时间参与本问卷调查。本问卷旨在研究不同类型的社会资本（社会关系）对贵州省农民福祉（幸福感）的影响。研究者承诺严格保护您的权益和隐私，所有数据仅用于学术研究，绝不会用于任何商业或非学术用途。本研究将对所有收集的数据进行匿名处理，确保信息的安全与保密。研究结果将以汇总形式呈现，绝不会透露任何个人信息。最终研究成果可能发表在相关学术期刊或会议中。您可以随时选择退出，并要求删除您提供的任何数据。

请注意，此问卷仅面向贵州省 16 岁及以上的农民。如果您不符合该条件，请勿填写。感谢您的理解与支持。

敬上

家庭支持 Family Support (FAS)

请依照您个人的实际感受在适当的□打勾。	非常不同意	不同意	说不准	同意	非常同意
1. 当我遇到困难时，我的家人会支持我克服困难。	□	□	□	□	□
2. 在我遇到问题时，我感到我的家人一直在我身边。	□	□	□	□	□
3. 我确信无论何时，我的家人都会陪伴着我。	□	□	□	□	□
4. 当我感到不舒服时，我的家人知道如何帮助我。	□	□	□	□	□
5. 我的家人一直在我身边。	□	□	□	□	□

朋友支持 Friends Support (FRS)

请依照您个人的实际感受在适当的□打勾。	非常不同意	不同意	说不准	同意	非常同意
1. 我有一些朋友，可以与他们分享我的喜悦和悲伤。	□	□	□	□	□
2. 在事情出错时，我可以依靠我的朋友。	□	□	□	□	□
3. 我可以和我的朋友谈论我的问题。	□	□	□	□	□
4. 我的朋友会尽力帮助我。	□	□	□	□	□

社区支持 Community Support (COS)

请依照您个人的实际感受在适当的□打勾。	非常不同意	不同意	说不准	同意	非常同意
1. 当我遇到问题时，社区成员会提供建议，帮助我解决问题。	□	□	□	□	□
2. 当我有困难时，社区成员支持着我。	□	□	□	□	□
3. 在社区里有一些成员，我们有着共同的价值观或兴趣。	□	□	□	□	□

社交多样性 Social Diversity (SOD)

请依照您个人的实际感受在适当的□打勾。	非常不同意	不同意	说不准	同意	非常同意
1. 与线上/线下的人互动让我对发生在社区外的事情感到有兴趣。	□	□	□	□	□
2. 与线上/线下的人交流让我对世界其他地方产生好奇心。	□	□	□	□	□
3. 与线上/线下的人互动让我有了新的交流对象。	□	□	□	□	□
4. 线上/线下，我一直在接触新的人。	□	□	□	□	□

获取信息与资源 Access Information and Resource (AIR)

请依照您个人的实际感受在适当的□打勾。	非常不同意	不同意	说不准	同意	非常同意
1. 与线上/线下的人互动让我想尝试新事物。	□	□	□	□	□
2. 与线上/线下的人互动让我对与我不同的人在想什么感到兴趣。	□	□	□	□	□
3. 与线上/线下的人互动总是有益的。	□	□	□	□	□
4. 与线上/线下的人互动总是一种愉快的经历。	□	□	□	□	□
5. 与线上/线下的人互动总是一个明智的做法。	□	□	□	□	□

社会参与 Social Participation (SOP)

请依照您个人的实际感受在适当的□打勾。	非常不同意	不同意	说不准	同意	非常同意
1. 与线上/线下的人互动让我感觉自己是一个更大社群的一部分。	□	□	□	□	□
2. 与线上/线下的人互动让我感到与更大的时空相连接。	□	□	□	□	□
3. 与线上/线下的人互动让我感到世界上的每个人都是相互联系的。	□	□	□	□	□
4. 我愿意花时间支持线上/线下社群活动。	□	□	□	□	□

机构信任 Trust (TRU)

请依照您个人的实际感受在适当的□打勾。	非常不同意	不同意	说不准	同意	非常同意
1. 我信任村（居）委会。	□	□	□	□	□
2. 我信任我社区的教育机构。	□	□	□	□	□
3. 我信任我社区的医疗机构。	□	□	□	□	□
4. 我信任我社区的社会服务机构。	□	□	□	□	□
5. 我信任执法人员。	□	□	□	□	□

公共事务参与 Engagement (ENG)

请依照您个人的实际感受在适当的□打勾。	非常不同意	不同意	说不准	同意	非常同意
1. 我经常参加村（居）委员会举办的会议。	□	□	□	□	□
2. 我经常去村干部家。	□	□	□	□	□
3. 我经常与社区其他人一起解决公共事务的问题。	□	□	□	□	□
4. 我经常向正式机构（村委会、教育单位、健康医疗机构、社会服务机构等）反映相关问题。	□	□	□	□	□
5. 我经常组织社区活动。	□	□	□	□	□

农民自我效能感 Farmers' Self-efficacy (FSE)

请依照您个人的实际感受在适当的□打勾。	非常不同意	不同意	说不准	同意	非常同意
1. 只要我努力，我总能解决困难问题。	□	□	□	□	□
2. 如果有人反对我，我能找到方法得到我想要的。	□	□	□	□	□
3. 我能轻松坚持我的目标并实现我的目标。	□	□	□	□	□
4. 我有信心能有效处理意外事件。	□	□	□	□	□
5. 凭借我的足智多谋，我知道如何处理意外情况。	□	□	□	□	□
6. 如果我付出必要的努力，我可以解决大多数问题。	□	□	□	□	□
7. 面对困难时，我能保持镇定，因为我能依靠自己的能力应对。	□	□	□	□	□
8. 当我遇到问题时，我通常能找到几种解决方案。	□	□	□	□	□
9. 如果我遇到麻烦，我通常能想到该怎么做。	□	□	□	□	□
10. 无论遇到什么困难，我通常能够应对。	□	□	□	□	□

农民幸福感 Farmers' Well-being (FWB)

请依照您个人的实际感受在适当的□打勾。	非常不同意	不同意	说不准	同意	非常同意
1. 从大多数方面看，我的生活接近理想状态。	□	□	□	□	□
2. 我生活的条件非常好。	□	□	□	□	□
3. 我对我的生活感到满意。	□	□	□	□	□
4. 到目前为止，我在生活中得到了我想要的重要事物。	□	□	□	□	□
5. 如果我能重新过一遍我的生活，我几乎什么都不会改变。	□	□	□	□	□
6. 我对我的未来感到积极向上。	□	□	□	□	□
7. 总体上，我感到很幸福。	□	□	□	□	□

基本资料

1. 性别（Gender）

   □ 男　　　　　　　□ 女

2. 年龄（Age）

   □ 16-29　　　　□ 30-39　　　　□ 40-49
   □ 50-59　　　　□ 60 及以上

3. 文化程度（EDL）

   □ 初中及以下　　　□ 高中　　　　□ 大专及以上

4. 婚姻状况（MAS）

   □ 已婚　　　　□ 未婚　　　　□ 其他

5. 家庭的主要收入来源是（MSI）

   □ 外出打工　　　　　□ 种植（农作物、水果等）
   □ 养殖　　　　　　　□ 自家经营 （摆摊，开出租车，农家乐等）
   □ 其他

6. 家庭年人均收入（AIM）

   □ 7000-9999　　　　□ 10000-14999
   □ 15000-19999　　　□ 20000 及以上

7. 从事主业（主要收入来源的行业）的时长（DMO）

   □ 3 年以下　　　　□ 3-5 年
   □ 6-10 年　　　　□ 11-20 年
   □ 20 年以上

【问卷到此结束，请您检查是否有漏答的条目，再次表示感谢！】

Appendix C

Results of Simple Random Sampling of 146 Online Questionnaires

Sample County	Simple Random Sampling of Numbers in Online Questionnaire								
Xifeng (4)	5	39	127	51					
Kaiyang (5)	62	44	109	4	14				
Meitang (6)	36	74	112	129	48	145			
Daozhen (4)	123	9	115	52					
Panzhou (22)	37	27	132	15	16	33	141	21	77	68
	125	11	41	120	70	95	35	6	20	25
	105	57								
Liuzhi (11)	55	100	76	98	53	102	117	29	142	87
	122									
Pingba (6)	56	128	31	45	118	146			
Ziyun (7)	24	50	130	126	72	3	85		
Dafang (18)	121	58	79	110	143	135	13	22	75	83
	61	90	103	46	28	59	63	43		
Weining (28)	66	64	113	101	38	12	65	67	81	60
	71	2	133	138	80	91	89	40	119	84
	114	86	107	134	10	54	49	94		
Jiangkou (4)	17	116	32	23					
Yuping (3)	104	106	69						
Taijiang (3)	108	7	93						
Huangping (5)	8	96	42	137	136				
Pingtang (5)	1	140	30	92	78				
Luodian (4)	99	139	144	111					
Zhenfeng (6)	47	34	131	26	18	97			
Wangmo (5)	88	19	124	82	73				

Appendix D

Results of Smart PLS Data Operation

D.1 Convergent Validity Analysis Summary

Outer loadings - List

	Outer loadings
AIR1 <- Bridging Social Capital	0.793
AIR1 <- Access information and Resource	0.836
AIR2 <- Access information and Resource	0.866
AIR2 <- Bridging Social Capital	0.836
AIR3 <- Access information and Resource	0.871
AIR3 <- Bridging Social Capital	0.831
AIR4 <- Bridging Social Capital	0.820
AIR4 <- Access information and Resource	0.835
AIR5 <- Access information and Resource	0.885
AIR5 <- Bridging Social Capital	0.843
COS1 <- Bonding Social Capital	0.774
COS1 <- Community support	0.941
COS2 <- Community support	0.927
COS2 <- Bonding Social Capital	0.773
COS3 <- Bonding Social Capital	0.639
COS3 <- Community support	0.782
ENG1 <- Engagement	0.837
ENG1 <- Linking Social Capital	0.806
ENG2 <- Engagement	0.846
ENG2 <- Linking Social Capital	0.763
ENG3 <- Engagement	0.899
ENG3 <- Linking Social Capital	0.837
ENG4 <- Linking Social Capital	0.804
ENG4 <- Engagement	0.889
ENG5 <- Engagement	0.853

D.1 Continued

Outer loadings - List

	Outer loadings
ENG5 <- Engagement	0.853
ENG5 <- Linking Social Capital	0.803
FAS1 <- Family support	0.715
FAS1 <- Bonding Social Capital	0.630
FAS2 <- Bonding Social Capital	0.712
FAS2 <- Family support	0.850
FAS3 <- Family support	0.887
FAS3 <- Bonding Social Capital	0.754
FAS4 <- Family support	0.838
FAS4 <- Bonding Social Capital	0.726
FAS5 <- Family support	0.799
FAS5 <- Bonding Social Capital	0.672
FES10 <- Farmers' Self-efficacy	0.856
FRS1 <- Friends support	0.849
FRS1 <- Bonding Social Capital	0.792
FRS2 <- Bonding Social Capital	0.752
FRS2 <- Friends support	0.893
FRS3 <- Bonding Social Capital	0.706
FRS3 <- Friends support	0.828
FRS4 <- Friends support	0.886
FRS4 <- Bonding Social Capital	0.745
FSE1 <- Farmers' Self-efficacy	0.703
FSE2 <- Farmers' Self-efficacy	0.768
FSE3 <- Farmers' Self-efficacy	0.774
FSE4 <- Farmers' Self-efficacy	0.836

D.1 Continued

Outer loadings - List

	Outer loadings
FSE5 <- Farmers' Self-efficacy	0.854
FSE6 <- Farmers' Self-efficacy	0.761
FSE7 <- Farmers' Self-efficacy	0.754
FSE8 <- Farmers' Self-efficacy	0.804
FSE9 <- Farmers' Self-efficacy	0.832
FWB1 <- Farmer s' well-being	0.820
FWB2 <- Farmer s' well-being	0.861
FWB3 <- Farmer s' well-being	0.839
FWB4 <- Farmer s' well-being	0.841
FWB5 <- Farmer s' well-being	0.724
FWB6 <- Farmer s' well-being	0.706
FWB7 <- Farmer s' well-being	0.777
SOD1 <- Bridging Social Capital	0.760
SOD1 <- Social Diversity	0.859
SOD2 <- Bridging Social Capital	0.782
SOD2 <- Social Diversity	0.874
SOD3 <- Bridging Social Capital	0.836
SOD3 <- Social Diversity	0.854
SOD4 <- Bridging Social Capital	0.765
SOD4 <- Social Diversity	0.792
SOP1 <- Bridging Social Capital	0.873
SOP1 <- Social Participation	0.905
SOP2 <- Social Participation	0.911
SOP2 <- Bridging Social Capital	0.856
SOP3 <- Social Participation	0.889

D.1 continued

SOP3 <- Social Participation	0.889
SOP3 <- Bridging Social Capital	0.842
SOP4 <- Social Participation	0.858
SOP4 <- Bridging Social Capital	0.816
TRU1 <- Linking Social Capital	0.795
TRU1 <- Trust	0.850
TRU2 <- Linking Social Capital	0.804
TRU2 <- Trust	0.896
TRU3 <- Trust	0.889
TRU3 <- Linking Social Capital	0.823
TRU4 <- Linking Social Capital	0.865
TRU4 <- Trust	0.912
TRU5 <- Trust	0.788
TRU5 <- Linking Social Capital	0.718
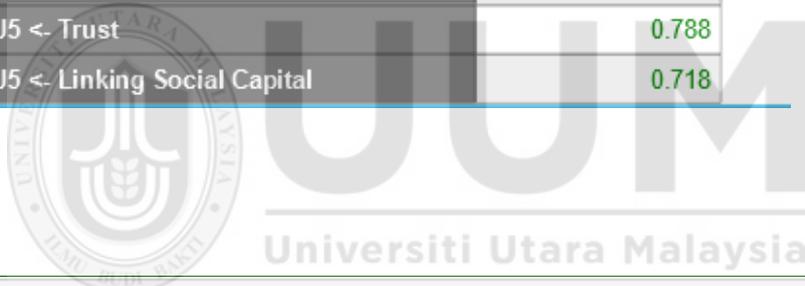
Construct reliability and validity - Overview   Zoom (70%)   Copy to Excel   Copy to R

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Access information and Resource	0.911	0.912	0.934	0.738
Bonding Social Capital	0.917	0.920	0.930	0.525
Bridging Social Capital	0.959	0.960	0.964	0.673
Community support	0.860	0.876	0.916	0.786
Engagement	0.916	0.917	0.937	0.748
Family support	0.877	0.881	0.911	0.672
Farmer s' well-being	0.904	0.908	0.924	0.636
Farmers' Self-efficacy	0.935	0.942	0.945	0.633
Friends support	0.887	0.888	0.922	0.747
Linking Social Capital	0.938	0.940	0.948	0.644
Social Diversity	0.866	0.868	0.909	0.715
Social Participation	0.913	0.914	0.939	0.794
Trust	0.918	0.921	0.939	0.754

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D.2 AVE Method

Discriminant validity - Fornell-Larcker criterion   Zoom (72%)   Copy to Excel   Copy to R

	Access information and Resource	Bonding Social Capital	Bridging Social Capital	Community support	Engagement	Family support	Farmer s' well-being
Access information and Resource	0.859						
Bonding Social Capital	0.564	0.725					
Bridging Social Capital	0.960	0.632	0.820				
Community support	0.648	0.825	0.707	0.886			
Engagement	0.599	0.512	0.605	0.593	0.865		
Family support	0.339	0.854	0.386	0.549	0.366	0.820	
Farmer s' well-being	0.517	0.600	0.563	0.567	0.619	0.454	0.798
Farmers' Self-efficacy	0.653	0.620	0.628	0.603	0.573	0.473	0.653
Friends support	0.495	0.868	0.565	0.625	0.383	0.578	0.523
Linking Social Capital	0.687	0.627	0.711	0.701	0.928	0.459	0.630
Social Diversity	0.837	0.640	0.931	0.713	0.546	0.397	0.548
Social Participation	0.870	0.604	0.951	0.656	0.567	0.369	0.540
Trust	0.675	0.650	0.713	0.707	0.717	0.485	0.546

Discriminant validity - Fornell-Larcker criterion   Zoom (72%)   Copy to Excel   Copy to R

	Engagement	Family support	Farmer s' well-being	Farmers' Self-efficacy	Friends support	Linking Social Capital	Social Diversity	Social Participation	Trust
Access information and Resource									
Bonding Social Capital									
Bridging Social Capital									
Community support									
Engagement	0.865								
Family support	0.366	0.820							
Farmer s' well-being	0.619	0.454	0.798						
Farmers' Self-efficacy	0.573	0.473	0.653	0.795					
Friends support	0.383	0.578	0.523	0.523	0.864				
Linking Social Capital	0.928	0.459	0.630	0.596	0.476	0.803			
Social Diversity	0.546	0.397	0.548	0.553	0.566	0.663	0.845		
Social Participation	0.567	0.369	0.540	0.565	0.555	0.668	0.833	0.891	
Trust	0.717	0.485	0.546	0.530	0.500	0.925	0.684	0.671	0.868

D.3 HTMT Method

Discriminant validity - Heterotrait-monotrait ratio (HTMT) - Matrix   Zoom (72%)   Copy to Excel   Copy to R

	Access information and Resource	Bonding Social Capital	Bridging Social Capital	Community support	Engagement	Family support	Farmer s' well-being
Access information and Resource							
Bonding Social Capital	0.606						
Bridging Social Capital	1.026	0.665					
Community support	0.733	0.913	0.782				
Engagement	0.655	0.552	0.645	0.671			
Family support	0.377	0.968	0.420	0.629	0.407		
Farmer s' well-being	0.565	0.655	0.601	0.647	0.678	0.513	
Farmers' Self-efficacy	0.706	0.662	0.658	0.677	0.620	0.521	0.694
Friends support	0.550	0.955	0.612	0.714	0.425	0.655	0.581
Linking Social Capital	0.743	0.670	0.750	0.783	0.999	0.506	0.683
Social Diversity	0.941	0.709	1.023	0.833	0.612	0.456	0.617
Social Participation	0.953	0.652	1.014	0.744	0.620	0.412	0.593
Trust	0.737	0.703	0.760	0.797	0.780	0.542	0.602

Discriminant validity - Heterotrait-monotrait ratio (HTMT) - Matrix   Zoom (75%)   Copy to Excel   Copy to R

	Engagement	Family support	Farmer s' well-being	Farmers' Self-efficacy	Friends support	Linking Social Capital	Social Diversity	Social Participation	Trust
Access information and Resource									
Bonding Social Capital									
Bridging Social Capital									
Community support									
Engagement									
Family support	07								
Farmer s' well-being	78	0.513							
Farmers' Self-efficacy	20	0.521	0.694						
Friends support	25	0.655	0.581	0.567					
Linking Social Capital	99	0.506	0.683	0.634	0.524				
Social Diversity	12	0.456	0.617	0.606	0.645	0.736			
Social Participation	20	0.412	0.593	0.607	0.618	0.723	0.935		
Trust	80	0.542	0.602	0.568	0.557	0.998	0.767	0.734	

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D.4 Cross Loading

	Access information and Resource	Bonding Social Capital	Bridging Social Capital	Community support	Engagement	Family support	Farmer s' well-being	Farmers' Self-efficacy	Friends support	Linking Social Capital	Social Diversity	Social Participation	Trust
AIR1	0.836	0.382	0.793	0.523	0.507	0.226	0.396	0.532	0.270	0.548	0.724	0.679	0.508
AIR1	0.836	0.382	0.793	0.523	0.507	0.226	0.396	0.532	0.270	0.548	0.724	0.679	0.508
AIR2	0.866	0.522	0.836	0.598	0.506	0.316	0.437	0.569	0.468	0.586	0.737	0.759	0.579
AIR2	0.866	0.522	0.836	0.598	0.506	0.316	0.437	0.569	0.468	0.586	0.737	0.759	0.579
AIR3	0.871	0.518	0.831	0.545	0.531	0.332	0.448	0.597	0.472	0.621	0.709	0.759	0.620
AIR3	0.871	0.518	0.831	0.545	0.531	0.332	0.448	0.597	0.472	0.621	0.709	0.759	0.620
AIR4	0.835	0.500	0.820	0.518	0.472	0.310	0.450	0.491	0.473	0.573	0.735	0.746	0.591
AIR4	0.835	0.500	0.820	0.518	0.472	0.310	0.450	0.491	0.473	0.573	0.735	0.746	0.591
AIR5	0.885	0.499	0.843	0.597	0.557	0.271	0.487	0.613	0.448	0.623	0.693	0.791	0.598
AIR5	0.885	0.499	0.843	0.597	0.557	0.271	0.487	0.613	0.448	0.623	0.693	0.791	0.598
COS1	0.614	0.774	0.655	0.941	0.525	0.508	0.466	0.523	0.592	0.624	0.649	0.603	0.831
COS1	0.614	0.774	0.655	0.941	0.525	0.508	0.466	0.523	0.592	0.624	0.649	0.603	0.831
COS2	0.578	0.773	0.625	0.927	0.548	0.531	0.546	0.551	0.578	0.650	0.606	0.598	0.657
COS2	0.578	0.773	0.625	0.927	0.548	0.531	0.546	0.551	0.578	0.650	0.606	0.598	0.657
COS3	0.530	0.639	0.602	0.782	0.505	0.414	0.500	0.536	0.465	0.591	0.651	0.546	0.592
COS3	0.530	0.639	0.602	0.782	0.505	0.414	0.500	0.536	0.465	0.591	0.651	0.546	0.592
ENG1	0.480	0.425	0.500	0.507	0.837	0.323	0.497	0.398	0.283	0.806	0.491	0.453	0.658
ENG1	0.480	0.425	0.500	0.507	0.837	0.323	0.497	0.398	0.283	0.806	0.491	0.453	0.658
ENG2	0.473	0.435	0.477	0.539	0.846	0.246	0.478	0.498	0.354	0.763	0.419	0.459	0.564
ENG2	0.473	0.435	0.477	0.539	0.846	0.246	0.478	0.498	0.354	0.763	0.419	0.459	0.564
ENG3	0.556	0.459	0.558	0.536	0.899	0.347	0.557	0.551	0.321	0.837	0.514	0.511	0.649
ENG3	0.556	0.459	0.558	0.536	0.899	0.347	0.557	0.551	0.321	0.837	0.514	0.511	0.649
ENG4	0.509	0.418	0.503	0.484	0.889	0.318	0.536	0.484	0.291	0.804	0.426	0.494	0.597
ENG4	0.509	0.418	0.503	0.484	0.889	0.318	0.536	0.484	0.291	0.804	0.426	0.494	0.597
ENG5	0.571	0.479	0.574	0.500	0.853	0.346	0.608	0.544	0.397	0.803	0.509	0.544	0.629
ENG5	0.571	0.479	0.574	0.500	0.853	0.346	0.608	0.544	0.397	0.803	0.509	0.544	0.629
FAS1	0.229	0.630	0.267	0.356	0.217	0.715	0.334	0.372	0.491	0.289	0.271	0.266	0.319
FAS1	0.229	0.630	0.267	0.356	0.217	0.715	0.334	0.372	0.491	0.289	0.271	0.266	0.319
FAS2	0.285	0.712	0.328	0.421	0.301	0.850	0.321	0.381	0.496	0.351	0.323	0.331	0.350
FAS2	0.285	0.712	0.328	0.421	0.301	0.850	0.321	0.381	0.496	0.351	0.323	0.331	0.350
FAS3	0.346	0.754	0.381	0.493	0.282	0.887	0.384	0.397	0.502	0.387	0.390	0.354	0.436
FAS3	0.346	0.754	0.381	0.493	0.282	0.887	0.384	0.397	0.502	0.387	0.390	0.354	0.436
FAS4	0.293	0.728	0.325	0.522	0.369	0.838	0.446	0.432	0.458	0.451	0.336	0.300	0.467
FAS4	0.293	0.728	0.325	0.522	0.369	0.838	0.446	0.432	0.458	0.451	0.336	0.300	0.467
FAS5	0.228	0.672	0.271	0.450	0.328	0.799	0.372	0.353	0.427	0.396	0.298	0.254	0.408
FAS5	0.228	0.672	0.271	0.450	0.328	0.799	0.372	0.353	0.427	0.396	0.298	0.254	0.408
FES10	0.513	0.575	0.507	0.503	0.456	0.441	0.657	0.856	0.527	0.496	0.458	0.461	0.463
FRS1	0.421	0.792	0.466	0.521	0.352	0.624	0.504	0.473	0.849	0.439	0.491	0.480	0.461

	Access information and Resource	Bonding Social Capital	Bridging Social Capital	Community support	Engagement	Family support	Farmer s' well-being	Farmers' Self-efficacy	Friends support	Linking Social Capital	Social Diversity	Social Participation	Trust
FRS1	0.421	0.792	0.466	0.521	0.352	0.624	0.504	0.473	0.849	0.439	0.491	0.480	0.461
FRS2	0.433	0.752	0.488	0.577	0.313	0.449	0.464	0.450	0.893	0.387	0.489	0.474	0.405
FRS2	0.433	0.752	0.488	0.577	0.313	0.449	0.464	0.450	0.893	0.387	0.489	0.474	0.405
FRS3	0.427	0.708	0.488	0.500	0.309	0.466	0.373	0.396	0.828	0.391	0.477	0.491	0.415
FRS3	0.427	0.708	0.488	0.500	0.309	0.466	0.373	0.396	0.828	0.391	0.477	0.491	0.415
FRS4	0.432	0.746	0.490	0.560	0.346	0.451	0.458	0.486	0.866	0.426	0.497	0.474	0.443
FRS4	0.432	0.746	0.490	0.560	0.346	0.451	0.458	0.486	0.866	0.426	0.497	0.474	0.443
FSE1	0.558	0.459	0.504	0.440	0.400	0.385	0.329	0.703	0.354	0.450	0.417	0.436	0.402
FSE2	0.470	0.459	0.424	0.459	0.432	0.317	0.480	0.788	0.405	0.419	0.352	0.384	0.342
FSE3	0.544	0.411	0.464	0.440	0.463	0.304	0.425	0.774	0.326	0.465	0.400	0.439	0.435
FSE4	0.596	0.508	0.598	0.492	0.516	0.379	0.594	0.836	0.438	0.521	0.539	0.565	0.448
FSE5	0.577	0.546	0.574	0.513	0.479	0.387	0.620	0.854	0.512	0.501	0.521	0.527	0.449
FSE6	0.436	0.457	0.400	0.484	0.417	0.325	0.393	0.761	0.380	0.402	0.327	0.359	0.326
FSE7	0.433	0.450	0.398	0.459	0.468	0.412	0.476	0.754	0.311	0.492	0.330	0.355	0.421
FSE8	0.493	0.520	0.469	0.487	0.446	0.406	0.533	0.804	0.414	0.470	0.457	0.404	0.424
FSE9	0.985	0.524	0.593	0.520	0.437	0.392	0.581	0.832	0.443	0.498	0.538	0.493	0.498
FWB1	0.456	0.487	0.503	0.469	0.535	0.328	0.820	0.602	0.462	0.532	0.471	0.471	0.449
FWB2	0.468	0.461	0.502	0.463	0.592	0.318	0.861	0.561	0.412	0.556	0.492	0.469	0.435
FWB3	0.439	0.404	0.510	0.423	0.496	0.380	0.839	0.492	0.460	0.510	0.504	0.518	0.447
FWB4	0.429	0.515	0.470	0.515	0.526	0.384	0.841	0.556	0.452	0.543	0.453	0.459	0.476
FWB5	0.278	0.447	0.319	0.445	0.400	0.307	0.724	0.426	0.383	0.480	0.320	0.315	0.398
FWB6	0.373	0.480	0.376	0.374	0.372	0.428	0.706	0.527	0.367	0.411	0.344	0.348	0.389
FWB7	0.387	0.511	0.438	0.476	0.427	0.401	0.777	0.461	0.441	0.473	0.452	0.417	0.449
SOD1	0.649	0.579	0.780	0.612	0.437	0.370	0.493	0.461	0.525	0.547	0.859	0.682	0.579
SOD1	0.649	0.579	0.780	0.612	0.437	0.370	0.493	0.461	0.525	0.547	0.859	0.682	0.579
SOD2	0.686	0.535	0.782	0.541	0.424	0.332	0.441	0.430	0.517	0.547	0.874	0.692	0.592
SOD2	0.686	0.535	0.782	0.541	0.424	0.332	0.441	0.430	0.517	0.547	0.874	0.692	0.592
SOD3	0.775	0.511	0.836	0.607	0.461	0.274	0.458	0.508	0.468	0.574	0.854	0.760	0.582
SOD3	0.775	0.511	0.836	0.607	0.461	0.274	0.458	0.508	0.468	0.574	0.854	0.760	0.582
SOD4	0.716	0.542	0.765	0.652	0.503	0.371	0.460	0.468	0.402	0.572	0.792	0.677	0.558
SOD4	0.716	0.542	0.765	0.652	0.503	0.371	0.460	0.468	0.402	0.572	0.792	0.677	0.558
SOP1	0.809	0.508	0.873	0.565	0.531	0.285	0.465	0.491	0.477	0.603	0.767	0.905	0.586
SOP1	0.809	0.508	0.873	0.565	0.531	0.285	0.465	0.491	0.477	0.603	0.767	0.905	0.586
SOP2	0.774	0.469	0.856	0.546	0.467	0.277	0.461	0.478	0.464	0.584	0.750	0.911	0.571
SOP2	0.774	0.469	0.856	0.546	0.467	0.277	0.461	0.478	0.464	0.584	0.750	0.911	0.571
SOP3	0.771	0.554	0.842	0.580	0.469	0.382	0.487	0.499	0.476	0.598	0.734	0.889	0.620
SOP3	0.771	0.554	0.842	0.580	0.469	0.382	0.487	0.499	0.476	0.598	0.734	0.889	0.620
SOP4	0.745	0.600	0.816	0.653	0.546	0.375	0.515	0.549	0.541	0.627	0.717	0.858	0.616

Discriminant validity - Cross loadings

Zoom (47%)   Copy to Excel   Copy to R

	Access information and Resource	Bonding Social Capital	Bridging Social Capital	Community support	Engagement	Family support	Farmers' well-being	Farmers' Self-efficacy	Friends support	Linking Social Capital	Social Diversity	Social Participation	Trust
FSE5	0.577	0.548	0.574	0.513	0.479	0.387	0.620	0.854	0.512	0.501	0.521	0.527	0.449
FSE6	0.436	0.457	0.400	0.484	0.417	0.325	0.393	0.761	0.380	0.402	0.327	0.359	0.326
FSE7	0.433	0.459	0.398	0.459	0.488	0.412	0.476	0.754	0.311	0.492	0.330	0.355	0.421
FSE8	0.493	0.508	0.499	0.487	0.446	0.405	0.533	0.804	0.414	0.470	0.457	0.464	0.424
FSE9	0.565	0.524	0.553	0.520	0.437	0.342	0.581	0.832	0.443	0.498	0.538	0.493	0.486
FWB1	0.488	0.487	0.503	0.469	0.535	0.328	0.820	0.602	0.462	0.532	0.471	0.471	0.449
FWB2	0.468	0.491	0.502	0.483	0.592	0.316	0.861	0.561	0.412	0.556	0.492	0.469	0.435
FWB3	0.439	0.494	0.510	0.423	0.496	0.380	0.839	0.492	0.460	0.510	0.504	0.518	0.447
FWB4	0.429	0.515	0.470	0.515	0.528	0.384	0.841	0.556	0.432	0.543	0.453	0.459	0.476
FWB5	0.278	0.417	0.319	0.445	0.460	0.307	0.724	0.426	0.333	0.480	0.320	0.315	0.398
FWB6	0.373	0.460	0.376	0.374	0.372	0.426	0.706	0.527	0.367	0.411	0.344	0.346	0.389
FWB7	0.387	0.511	0.438	0.470	0.427	0.401	0.777	0.461	0.441	0.473	0.452	0.417	0.449
SOD1	0.849	0.579	0.760	0.612	0.437	0.370	0.493	0.461	0.525	0.547	0.859	0.682	0.579
SOD1	0.849	0.579	0.760	0.612	0.437	0.370	0.493	0.461	0.525	0.547	0.859	0.682	0.579
SOD2	0.686	0.535	0.782	0.541	0.424	0.332	0.441	0.430	0.517	0.547	0.874	0.692	0.592
SOD2	0.686	0.535	0.782	0.541	0.424	0.332	0.441	0.430	0.517	0.547	0.874	0.692	0.592
SOD3	0.775	0.511	0.836	0.607	0.461	0.274	0.458	0.508	0.468	0.574	0.854	0.760	0.582
SOD3	0.775	0.511	0.836	0.607	0.461	0.274	0.458	0.508	0.468	0.574	0.854	0.760	0.582
SOD4	0.716	0.542	0.765	0.652	0.503	0.371	0.460	0.468	0.402	0.572	0.792	0.677	0.558
SOD4	0.716	0.542	0.765	0.652	0.503	0.371	0.460	0.468	0.402	0.572	0.792	0.677	0.558
SOP1	0.809	0.508	0.873	0.565	0.531	0.285	0.465	0.491	0.477	0.603	0.767	0.905	0.596
SOP1	0.809	0.508	0.873	0.565	0.531	0.285	0.465	0.491	0.477	0.603	0.767	0.905	0.596
SOP2	0.774	0.499	0.856	0.546	0.457	0.277	0.461	0.478	0.484	0.554	0.750	0.911	0.571
SOP2	0.774	0.499	0.856	0.546	0.457	0.277	0.461	0.478	0.484	0.554	0.750	0.911	0.571
SOP3	0.771	0.554	0.842	0.580	0.489	0.382	0.487	0.499	0.479	0.598	0.734	0.889	0.620
SOP3	0.771	0.554	0.842	0.580	0.489	0.382	0.487	0.499	0.479	0.598	0.734	0.889	0.620
SOP4	0.745	0.600	0.816	0.653	0.546	0.375	0.515	0.540	0.541	0.627	0.717	0.858	0.616
SOP4	0.745	0.600	0.816	0.653	0.546	0.375	0.515	0.540	0.541	0.627	0.717	0.858	0.616
TRU1	0.546	0.542	0.592	0.609	0.627	0.413	0.467	0.471	0.392	0.795	0.549	0.589	0.850
TRU1	0.546	0.542	0.592	0.609	0.627	0.413	0.467	0.471	0.392	0.795	0.549	0.589	0.850
TRU2	0.605	0.648	0.636	0.675	0.598	0.519	0.444	0.507	0.485	0.804	0.621	0.588	0.896
TRU2	0.605	0.648	0.636	0.675	0.598	0.519	0.444	0.507	0.485	0.804	0.621	0.588	0.896
TRU3	0.628	0.515	0.651	0.584	0.640	0.345	0.468	0.457	0.419	0.823	0.622	0.599	0.889
TRU3	0.628	0.515	0.651	0.584	0.640	0.345	0.468	0.457	0.419	0.823	0.622	0.599	0.889
TRU4	0.619	0.588	0.644	0.667	0.694	0.420	0.502	0.486	0.402	0.885	0.623	0.589	0.912
TRU4	0.619	0.588	0.644	0.667	0.694	0.420	0.502	0.486	0.402	0.885	0.623	0.589	0.912
TRU5	0.526	0.551	0.559	0.526	0.544	0.414	0.493	0.374	0.481	0.718	0.549	0.547	0.788
TRU5	0.526	0.551	0.559	0.526	0.544	0.414	0.493	0.374	0.481	0.718	0.549	0.547	0.788

D.5 Inner VIF Values

Collinearity statistics (VIF) - Inner model - Matrix

Zoom (45%)   Copy to Excel   Copy to R

	Access information and Resource	Bonding Social Capital	Bridging Social Capital	Community support	Engagement	Family support	Farmers' well-being	Farmers' Self-efficacy	Friends support	Linking Social Capital	Social Diversity	Social Participation	Trust
Access information and Resource													
Bonding Social Capital				1.000		1.000	2.059	1.863	1.000				
Bridging Social Capital	1.000						2.458	2.287			1.000	1.000	
Community support													
Engagement													
Family support													
Farmers' well-being													
Farmers' Self-efficacy							1.974						
Friends support													
Linking Social Capital				1.000			2.331	2.260					1.000
Social Diversity													
Social Participation													
Trust													

D.6 Path Analysis Table

Path coefficients - Mean, STDEV, T values, p values

Zoom (85%)   Copy to Excel   Copy to R

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
Bonding Social Capital -> Community support	0.825	0.825	0.013	61.116	0.000
Bonding Social Capital -> Family support	0.854	0.854	0.014	60.630	0.000
Bonding Social Capital -> Farmer s' well-being	0.190	0.189	0.039	4.870	0.000
Bonding Social Capital -> Farmers' Self-efficacy	0.315	0.315	0.047	6.747	0.000
Bonding Social Capital -> Friends support	0.868	0.868	0.012	73.011	0.000
Bridging Social Capital -> Access information and Resource	0.960	0.960	0.005	176.773	0.000
Bridging Social Capital -> Farmer s' well-being	0.015	0.012	0.053	0.278	0.781
Bridging Social Capital -> Farmers' Self-efficacy	0.294	0.294	0.051	5.732	0.000
Bridging Social Capital -> Social Diversity	0.931	0.931	0.008	119.065	0.000
Bridging Social Capital -> Social Participation	0.951	0.951	0.005	183.957	0.000
Farmers' Self-efficacy -> Farmer s' well-being	0.353	0.355	0.045	7.866	0.000
Linking Social Capital -> Engagement	0.928	0.929	0.005	178.235	0.000
Linking Social Capital -> Farmer s' well-being	0.290	0.293	0.044	6.631	0.000
Linking Social Capital -> Farmers' Self-efficacy	0.190	0.191	0.053	3.600	0.000
Linking Social Capital -> Trust	0.925	0.925	0.006	149.444	0.000

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D.7 Results of R^2

R-square – Overview

	R-square	R-square adjusted
Access information and Resource	0.921	0.921
Community support	0.681	0.680
Engagement	0.862	0.862
Family support	0.729	0.729
Farmer s' well-being	0.535	0.532
Farmers' Self-efficacy	0.493	0.491
Friends support	0.753	0.753
Social Diversity	0.867	0.866
Social Participation	0.904	0.904
Trust	0.855	0.855

D.8 Results of f^2 Effect Size Values

f-square – List

	f-square
Bonding Social Capital -> Community support	2.132
Bonding Social Capital -> Family support	2.696
Bonding Social Capital -> Farmer s' well-being	0.038
Bonding Social Capital -> Farmers' Self-efficacy	0.105
Bonding Social Capital -> Friends support	3.053
Bridging Social Capital -> Access information and Resource	11.715
Bridging Social Capital -> Farmer s' well-being	0.000
Bridging Social Capital -> Farmers' Self-efficacy	0.075
Bridging Social Capital -> Social Diversity	6.495
Bridging Social Capital -> Social Participation	9.382
Farmers' Self-efficacy -> Farmer s' well-being	0.135
Linking Social Capital -> Engagement	6.247
Linking Social Capital -> Farmer s' well-being	0.078
Linking Social Capital -> Farmers' Self-efficacy	0.032
Linking Social Capital -> Trust	5.890

D.9 Indirect Effect Analysis of Mediation Model

Specific indirect effects – Mean, STDEV, T values, p values   Zoom (77%)

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
Linking Social Capital -> Farmers' Self-efficacy -> Farmer s' well-being	0.067	0.067	0.019	3.515	0.000
Bridging Social Capital -> Farmers' Self-efficacy -> Farmer s' well-being	0.104	0.105	0.025	4.159	0.000
Bonding Social Capital -> Farmers' Self-efficacy -> Farmer s' well-being	0.111	0.112	0.022	5.064	0.000

Specific indirect effects – Confidence intervals   Zoom (77%)

	Original sample (O)	Sample mean (M)	2.5%	97.5%
Linking Social Capital -> Farmers' Self-efficacy -> Farmer s' well-being	0.067	0.067	0.032	0.107
Bridging Social Capital -> Farmers' Self-efficacy -> Farmer s' well-being	0.104	0.105	0.060	0.157
Bonding Social Capital -> Farmers' Self-efficacy -> Farmer s' well-being	0.111	0.112	0.073	0.158

FAS1	FAS2	FAS3	FAS4	FAS5	FRS1	FRS2	FRS3	FRS4	COS1	COS2	COS3	SOD1	SOD2	SOD3	SOD4	AIR1
4	5	5	5	3	3	2	2	3	1	1	4	5	4	1	5	5
4	5	5	5	3	3	2	2	3	1	1	4	5	4	1	5	5
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Continued

A IR2	A IR3	A IR4	A IR5	SO P1	SOP2	SO P3	SO P4	TRU 1	TRU 2	TRU 3	TRU4	TRU 5	ENG 1	ENG 2	ENG 3	ENG 4
2	5	4	3	4	4	4	1	4	4	4	4	3	4	1	3	4
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Continued

ENG5	FSE1	FSE2	FSE3	FSE4	FSE5	FSE6	FSE7	FSE8	FSE9	FSE10	FW B1	FW B2	FW B3	FW B4	FW B5	FW B6
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3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3
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1	3	2	1	1	1	3	4	1	4	1	1	2	1	4	2	3
1	3	2	1	1	1	3	4	1	4	1	1	2	1	4	2	3
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4	3	2	5	4	3	4	3	4	5	5	5	4	5	5	5	5
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1	3	2	1	1	1	3	4	1	4	1	1	1	1	1	1	1
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1	4	4	4	2	2	4	4	4	4	4	1	1	1	1	4	4
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5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
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5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
5	5	5	5	5	4	4	4	4	5	5	5	5	5	5	4	4
5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Continued

FW B	Gende	Age	EDL	MAS	MSI	AIM	DMO	幸福	家庭	朋友	社区	社交	获取	社会	机构	公共
3	1	4	1	1	4	3	2	3.57	4.40	2.50	2.00	3.75	3.80	3.25	3.80	3.20
3	1	4	1	1	4	3	2	3.57	4.40	2.50	2.00	3.75	3.80	3.25	3.80	3.20
3	1	4	1	1	4	3	2	3.57	4.40	2.50	2.00	3.75	3.80	3.25	3.80	3.20
4	2	1	2	2	1	3	2	4.00	5.00	5.00	4.00	4.00	3.80	4.00	4.00	4.20
4	2	1	3	2	1	3	2	4.00	5.00	5.00	4.00	4.00	3.80	4.00	4.00	4.20
4	2	1	3	1	1	3	2	4.00	5.00	5.00	4.00	4.00	3.80	4.00	4.00	4.20
4	2	1	1	2	1	3	2	4.00	5.00	5.00	4.00	4.00	3.80	4.00	4.00	4.20
5	1	1	3	1	3	2	2	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
5	1	1	3	1	3	2	2	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
5	1	1	3	1	4	2	2	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
5	1	1	3	1	4	2	2	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
3	2	3	1	1	2	2	2	2.86	4.00	3.00	3.00	3.25	3.00	3.00	3.00	2.80
3	2	2	1	1	3	2	3	2.86	4.00	3.00	3.00	3.25	3.00	3.00	3.00	2.80
3	2	2	1	1	3	2	3	2.86	4.00	3.00	3.00	3.25	3.00	3.00	3.00	2.80
3	2	2	1	1	3	2	3	2.86	4.00	3.00	3.00	3.25	3.00	3.00	3.00	2.80
3	1	2	1	1	5	2	3	2.29	3.80	2.25	3.00	1.00	1.00	1.00	3.20	1.00
3	1	2	1	1	5	2	3	2.29	3.80	2.25	3.00	3.50	3.00	3.50	3.20	1.00
3	1	2	1	1	3	2	3	2.29	3.80	2.25	3.00	3.50	3.00	3.50	3.20	1.00
5	2	2	1	1	3	2	3	4.86	5.00	4.00	3.67	4.00	4.00	4.25	5.00	4.00
5	2	2	1	1	3	2	3	4.86	5.00	4.00	3.67	4.00	4.00	4.25	5.00	4.00
5	2	2	1	1	3	2	3	4.86	5.00	4.00	3.67	4.00	4.00	4.25	5.00	4.00
5	2	2	1	1	3	2	3	4.86	5.00	4.00	3.67	4.00	4.00	4.25	5.00	4.00
4	1	2	1	1	3	2	4	2.29	5.00	2.50	3.00	1.00	1.00	1.00	4.00	1.60
1	1	2	1	1	3	2	4	1.00	3.80	2.25	3.00	1.00	1.00	1.00	3.20	1.00
4	1	2	1	1	3	2	4	2.29	5.00	2.50	3.33	1.00	1.00	1.00	4.00	1.60
4	1	2	1	1	5	2	4	2.29	5.00	2.50	3.00	1.00	1.00	1.00	4.00	1.60
4	1	2	1	1	3	2	4	2.29	5.00	2.50	3.00	1.00	1.00	1.00	4.00	1.60
5	2	2	2	2	5	2	4	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
5	2	2	2	2	5	2	4	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
5	2	2	2	2	5	2	5	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
5	2	2	2	2	5	2	5	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
4	2	1	3	2	5	2	5	3.86	4.40	5.00	3.00	3.25	2.80	3.00	3.40	3.00
4	2	1	3	2	5	2	5	4.00	3.60	3.25	3.00	4.00	3.80	3.50	3.80	4.00
4	2	1	3	2	5	2	5	3.86	4.40	5.00	3.00	3.25	2.80	3.00	3.40	3.00
4	2	1	3	1	5	2	5	4.00	3.60	3.25	3.00	4.00	3.80	3.50	3.80	4.00
4	1	1	3	1	5	2	5	4.00	4.20	4.00	4.00	4.00	4.00	4.00	4.00	4.00
4	1	1	3	1	5	2	5	3.29	4.00	4.25	3.33	4.00	3.60	4.00	3.80	3.00
4	1	1	3	1	5	2	1	4.00	4.20	4.00	4.00	4.00	4.00	4.00	4.00	4.00
4	1	1	3	1	5	2	1	3.29	4.00	4.25	3.33	4.00	3.60	4.00	3.80	3.00
4	1	1	3	2	5	2	1	4.00	4.20	4.00	4.00	4.00	4.00	4.00	4.00	4.00
4	1	1	3	2	5	2	1	3.29	4.00	4.25	3.33	4.00	3.60	4.00	3.80	3.00
4	1	1	3	1	5	2	1	4.00	4.20	4.00	4.00	4.00	4.00	4.00	4.00	4.00
4	1	1	3	1	5	2	1	3.29	4.00	4.25	3.33	4.00	3.60	4.00	3.80	3.00
3	1	1	3	1	5	2	1	4.43	4.40	4.75	4.33	4.75	4.20	4.25	5.00	4.40
5	1	1	3	1	5	2	1	5.00	5.00	4.00	4.33	4.00	4.00	4.00	4.00	4.60
3	1	1	3	1	5	2	3	4.43	4.40	4.75	4.33	4.75	4.20	4.25	5.00	4.40
5	1	1	3	1	5	2	3	5.00	5.00	4.00	4.33	4.00	4.00	4.00	4.00	4.60
3	1	1	3	1	5	2	3	4.43	4.40	4.75	4.33	4.75	4.20	4.25	5.00	4.40
5	1	1	3	1	5	2	3	5.00	5.00	4.00	4.33	4.00	4.00	4.00	4.00	4.60