Journal of International Agricultural and Extension Education

Volume 29
Issue 4 *29(4)*

Article 6

12-22-2022

Exploring the Barriers, Opportunities, and Motivation for Agricultural Entrepreneurship of Rural Colombian Students Who Participated in Dual-Credit Programs

Carlos A. Parra
Universidad de Caldas, Manizales, Colombia, carlos.parra@ucaldas.edu.co

Neil Knobloch
Purdue University, knobloc@purdue.edu

Recommended Citation

Parra, C. A., & Knobloch, N. (2022). Exploring the Barriers, Opportunities, and Motivation for Agricultural Entrepreneurship of Rural Colombian Students Who Participated in Dual-Credit Programs. *Journal of International Agricultural and Extension Education, 29*(4), 93-108. DOI: https://doi.org/10.4148/2831-5960.1039

Exploring the Barriers, Opportunities, and Motivation for Agricultural Entrepreneurship of Rural Colombian Students Who Participated in Dual-Credit Programs

Abstract

Rural Colombian college students may be interested in pursuing entrepreneurship activities to improve their future and livelihoods. College students who participated in a dual-credit program as high school students completed a questionnaire to assess their motivations to participate in agricultural entrepreneurship activities and the barriers and opportunities to participate in rural entrepreneurship activities. We found that students were motivated to participate in entrepreneurship activities because of their motivations to be their own boss and job security. At the same time, the rural students perceived political and structural barriers as important to be addressed to develop entrepreneurship projects. Finally, participants agreed that personal opportunities related to education were essential for developing rural entrepreneurship activities. These results are important to develop policies and methodologies to improve students' preparation for their future and their communities.

Keywords

Colombia youth; rural; entrepreneurship; student motivation

Exploring the Barriers, Opportunities, and Motivation for Agricultural Entrepreneurship of Rural Colombian Students Who Participated in a Dual-Credit Program

Carlos A. Parra, Universidad de Caldas, Manizales, Colombia
Neil Knobloch, Purdue University

Abstract

Rural Colombian college students may be interested in pursuing entrepreneurship activities to improve their future and livelihoods. College students who participated in a dual-credit program as high school students completed a questionnaire to assess their motivations to participate in agricultural entrepreneurship activities and the barriers and opportunities to participate in rural entrepreneurship activities. We found that students were motivated to participate in entrepreneurship activities because of their motivations to be their own boss and job security. At the same time, the rural students perceived political and structural barriers as important to be addressed to develop entrepreneurship projects. Finally, participants agreed that personal opportunities related to education were essential for developing rural entrepreneurship activities. These results are important to develop policies and methodologies to improve students' preparation for their future and their communities.

Keywords Colombia youth; rural; entrepreneurship; student motivation

Introduction/Review of Literature

Education and workforce development play a critical role in community and economic development, especially in marginalized communities and developing countries. Developing countries face a financial crisis reflected in the high unemployment rates and low incomes of the citizens. Approximately half of the world's population lives on the equivalent of approximately two U.S. dollars per day, but having a job in many places does not guarantee escaping poverty (International Labor Organization, 2019). This phenomenon affects countries and regions worldwide differently and impacts existing unfavorable situations in rural areas, which have traditionally faced disadvantages compared to urban areas. Typically, rural areas have common characteristics, such as low population density, progressive aging, economic dependence on natural resources and agriculture, rural exodus, scarce economic diversification, high unemployment rates, low birth rates, and lack of services (Siemens, 2012).

The armed conflict in rural Colombia limits employment and business opportunities for rural youth. According to Perilla (2021), an expanded concept of youth are those persons with ages between 15 to 40 years. Youth are unemployed, underemployed or lack productivity when they seek employment. Although some low-income families have land, it is insufficient to improve their living conditions. Moreover, most rural families living in poverty have no land or limited opportunities of owning land. Youth migrate to cities because there is little hope for families in rural areas (Zabala-Perilla et al., 2021). As a result, rural unemployment shifts to new geographic locations such as urban unemployment (Folmer et al., 2010). Rural youth migrate to overcome or escape the social and economic barriers that rural families face every day (Mendez, 2016). Many cities in Colombia have begun to feel the effects of rural migration to urban areas. Moreover, rural youth do not see a positive future in rural Colombian communities because of the aging rural population.

Caldas is one of 32 geographic departments (i.e., districts) in Colombia. Caldas is in the coffee-growing region in the west central areas of Colombia. In Caldas, the conflict coincided with the crisis in the agricultural sector, especially with the collapse of the coffee economy. This resulted in a noticeable decline in quality of life standards in the Caldas region. Poverty, migration, and displacement increased because of the guerrilla conflict (Cifuentes & Palacio, 2005). The presence and actions of armed groups negatively impacted the education of youth in the Caldas Department. Education of youth in rural communities was disrupted by the conflict. There was a mass displacement of families, which resulted in schools being abandoned (Romero, 2013).

Agriculture is a predominant industry in Caldas. Rural youth in Caldas were not interested in the agricultural sector (Mendez, 2016) because of the many challenges in rural communities. Youth need opportunities to learn knowledge and skills that could results in them owning their own businesses. Dual-credit secondary education programs (e.g., Universidad en el campo program) are an alternative approach that can engage and motivate rural high school students to earn college credits while completing high school. Additionally, dual-credit programs provide the opportunity to foster student entrepreneurship processes to support them in starting their own businesses (Yildirim et al., 2016).

Universidad en el Campo is a project supported by academia, government, and industry to implement dual-credit programs in rural areas with the goal of improving quality of rural education, access to high education, and encouraging rural entrepreneurship activities (Parra et al., 2020). Students who participated in dual-credit programs showed a desire to start new rural businesses and adopt new technologies (Parra & Knobloch, 2020), which can create opportunities

for starting new businesses in the agricultural sector. Entrepreneurship is essential for long-term economic growth and the economic and social prosperity of rural communities depends partly on the entrepreneurial activities (Amorós & Poblete, 2013).

Rural college students need to be motivated to pursue agriculture and entrepreneurship opportunities to address these agricultural-related issues in rural communities. In doing so, this could positively impact the country's future and address the 21st-century challenges, such as food security, water scarcity, climate change, and rural development, by bringing fresh perspectives and new ideas. As such, youth need to develop initiative, invention, and overall, an entrepreneurial spirit (Stefanovic et al., 2011).

Rural entrepreneurship provides opportunities to address existing challenges and improve the quality of life in rural areas. However, young farmers and small businesses face different social and infrastructure barriers that do not often experience business in urban areas and often lack the necessary skills to navigate these barriers (Siemens, 2012). Because agricultural entrepreneurs are vital to developing rural communities and local economic opportunities, this study addressed motivational factors, barriers, and success factors of youth agricultural entrepreneurs in central Colombia's regional agricultural production area (i.e., Caldas Department).

Theoretical Framework

Agricultural enterprises can improve living conditions in rural communities. Therefore, we framed the study to describe college students' motivations to participate in agricultural entrepreneurship development in a rural coffee region in Colombia. We chose situated expectancy-value motivation (SEVT) as the theoretical framework for this study. This theory was chosen because Eccles and Wigfield (2020) model of SEVT identifies contextual factors (i.e., perceived barriers and affordances) that develop over time and influence students' choices to participate in youth activities. Situated expectancy value theory addresses an individuals' choice, persistence, and performance to do a task as a construct based on the expectations and the utility value (Rosenzweig et al., 2021). The students' interpretation of the experiences supports the motivation to engage in a particular task, which is bound to cultural, gender, racial/ethnic factors, and others (Eccles & Wigfield, 2020). Therefore, the students' motivations and factors helped us to measure why youth would participate in entrepreneurial activities. SEVT assumes the contextual and bidirectional nature of (a) expectancies for success and subjective task values (i.e., labor motivation & personal motivation) and (b) their antecedents and consequences (i.e., political barriers, structural barriers, personal opportunities, support opportunities; Eccles & Wigfield, 2020). Consequently, we assumed the students' motivations for entrepreneurship activities were informed by their interpretations of expectations, experiences, messages (e.g., family, friends, news, social media), and context. The choices they make to engage (or not engage) in entrepreneurship activities are based on the youth's contextualized experiences.

Purpose and Objectives

The purpose of this study was to explore and describe dual-credit students' perceptions about motivations, barriers, and opportunities to develop rural entrepreneurship. The following research questions guided this study: (a) What were the students' motivations in the dual-credit program to develop rural entrepreneurship? (b) What were the students' perceived barriers and opportunities to develop rural entrepreneurship? (c) What were the relationships among students'

motivations, perceived barriers, and perceived opportunities to develop rural entrepreneurship and their place of residence and gender?

Methods

The study population consisted of dual-credit students registered at the technological level in the Universidad en el Campo program during the first semester of the 2019 academic year. The census used in this study was 120 students. Data were collected online using a Google Forms questionnaire sent via email. There were 86 rural youth who responded to the questionnaire in five weeks between March and April (response rate of 72%). Non-response error was not controlled because it was a census, and the results are not generalizable beyond the participants.

Instrumentation

The instrument consisted of 50 items (see Tables 1, 2 & 3) adapted from three existing questionnaires (Zimmerman & Chu, 2013; Stefanovic, Prokic & Rankovic, 2010; Marinic, Zathurecky & Spicak, 2014). The questionnaire consisted of four sections: (a) students' characteristics (12 items; e.g., gender, where do you live, major); (b) students' motivations to develop entrepreneurs' activities (12 items; see Table 1); (c) perceived barriers to developing rural entrepreneurship (12 items; see Table 2); and, (d) perceived opportunities to develop rural entrepreneurship (14 items; see Table 3). The questionnaire was field-tested with 35 rural students from Colombia who did not participate in the study. Minor edits were made based on students' comments to establish face validity. A panel of international development and education research experts reviewed the questionnaire to establish content validity. The panel deemed the questionnaire to be acceptable and did not recommend changes. A five-point anchored rating scale was used to measure the variables that measured motivation, perceived barriers, and perceived opportunities: (1 = *Not important*, 2 = *Low important*, 3 = *Somewhat important*, 4 = *Important*, and 5 = *Very important*). The questionnaire was translated into Spanish and wording was adapted for the Colombian context for participants to complete the questionnaire. The results were translated into English. Post-hoc reliability of the scales were examined using Cronbach's alpha coefficient: Labor motivation = 0.83 (4 items); personal motivation = 0.83 (8 items); political barriers = 0.84 (7 items); structural barriers = 0.86 (5 items); personal opportunities = 0.82 (7 items); and, support opportunities = 0.83 (7 items). Coefficients were considered robust (Gliem & Gliem, 2003).

Data Analysis

Data were analyzed using the JASP 0.14.1® software package. Descriptive statistics were computed to answer the research questions (e.g., frequencies & percentages for items; means & standard deviations for variables). Frequencies were rounded to the nearest $1/10^{th}$. Means, standards deviations, and correlations were rounded to the nearest $1/100^{th}$. Correlations (Spearman Rho, point bi-serial, Pearson) were computed to report relationships among the variables. Statistical differences of relationships were computed ($p = 0.05$ was set *a priori*). Additionally, Cohen's (1988) conventions were used to describe the relationship's effect sizes. R-squared coefficients were computed. Coefficients between 0.01 – 0.08 were small; 0.09 – 0.24 were medium; and 0.25 or greater were large. We assumed medium effect sizes are observed relationships by practitioners and large effect sizes are observed by lay people (Cohen, 1988).

Findings/Results

Of the 86 students who participated in the study, a majority of the participants were female, 51 (59.3%), and 87.2% of the respondents lived with their families (*n* = 75). Regarding residence, 47.7% lived in the municipalities furthest from the capitol of Caldas Department (Manizales), which was located more than 4 hours and 100 km by ground transportation toward the east of Caldas (*n* = 41). Next, 27.9% lived in municipalities located between 1 to 4 hours, and approximately 50 to 100 km by ground transportation toward the west of the Department (*n* = 24). Finally, 24.4% (*n* = 21) lived in municipalities in the center of the Department within 50 km around the capital city and less than one hour by ground transportation. Regarding the academic program in which the respondents were enrolled in the Universidad en el Campo program, the most frequent response was technology in management of agricultural projects (*n* = 34; 39.5%) and technology in environmental management (*n* = 17; 19.7%).

As part of the dual-credit program, students were expected to develop entrepreneurship projects they could developed through their courses and educational experiences in the dual-credit program. Regarding entrepreneurship projects, 73 (84.9%) of the students designed a production project, and the majority (*N* = 21, 28.8%) were in animal production, and 28 (38.3%) were crop production (e.g., coffee production, panela production, horticulture). Regarding support, 58 (79.5%) of the students received family support for the project, and 39 (53.4%) received external support. Finally, 22 (30.1%) of the students reported working on their projects beyond completing their courses. Twelve (16.4%) students reported spending 1 to 5 hours per week on their projects. Three (4.1%) spent between 6 to 15 hours per week, 2 (2.8%) spent between 16 to 25 hours per week, 2 (2.8%) between 26 to 35 hours per week, 1 (1.2%) spent between 36 to 45 hours, and 2 (2.8%) were working full-time on their projects. Fourteen students (19.2%) did not answer the question about the time spent on their projects. Furthermore, 48 students shared they did not design a project or did not continue working on their projects for the following reasons: lack of resources (*n* = 8; 16.6%); it was just a class project (*n* = 5; 10.4%); I am dedicated to another activity (*n* = 4; 8.3%); the project was not approved by the program (*n* = 3; 6.2%); and, personal motives (*n* = 3; 6.2%).

Research Question 1: Dual-credit Students' Motivations to Develop Rural Entrepreneurship

Eight out of 10 participants agreed "to be my own boss" had the highest agreement among the labor motivation items (*n* = 69, 80.2% for important and very important). Overall, participants agreed labor motivation (*M* = 4.13, *SD* = 0.96) was important motivation to develop rural entrepreneurship (Table 1). The item "for my own satisfaction and growth" had the highest agreement among the personal motivation items (*n* = 68, 79.1% agreed it was important and very important), followed by increase my income (79.0%) and pass on a business to my family (77.9%). Overall, participants agreed personal motivation (*M* = 4.03, *SD* = 1.06) was important.

Table 1
Frequencies of the Student's Motivations to Develop Rural Entrepreneurship

`	Item	Frequencies and Percentage Agreement									
		1		2		3		4		5	
		f(x)	%	f(x)	%	f(x)	%	f(x)	%	f(x)	%
Labor Motivation *M* = 4.13 *SD* = 0.96	To be my own boss	0	0.0	6	7.0	11	12.8	16	18.6	53	61.6
	Job security	0	0.0	3	3.5	18	20.9	27	31.4	38	44.2
	To use my experience	0	0.0	5	5.8	21	24.4	25	29.1	35	40.7
	To provide jobs for my family members	1	1.2	7	8.1	20	23.3	21	24.4	37	43.0
Personal Motivation *M* = 4.03 *SD* = 1.06	For my own satisfaction and growth	0	0.0	2	2.3	16	18.6	13	15.1	55	64.0
	To increase my income	1	1.2	3	3.5	14	16.3	18	20.9	50	58.1
	To build a business to pass on the family	0	0.0	4	4.7	15	17.4	18	20.9	49	57.0
	To show that I can do it	0	0.0	4	4.7	16	18.6	22	25.6	44	51.1
	To be closer to my family	1	1.2	5	5.8	18	20.9	21	24.4	41	47.7
	To maintain personal freedom	0	0.0	6	7.0	20	23.3	24	27.9	36	41.8
	To get public recognition	4	4.7	22	25.6	15	17.4	27	31.4	18	20.9
	To have fun	3	3.5	14	16.3	26	30.2	22	25.6	21	24.4

Note. 1 = *Not important*, 2 = *Low important*, 3 = *Somewhat important*, 4 = *Important*, and 5 = *Very important*

Research Question 2(a): Barriers that Dual-credit Students Perceived to Develop Rural Entrepreneurship

Within the perceived political barriers variable, the item "obtaining long-term financial capital" was perceived as the most as important item among the perceived political barriers (n = 69, 65.1% agreed it was important or very important). Overall, students perceived political barriers (M = 3.57, SD = 1.05) as important when deciding to venture or continue into agricultural entrepreneurship (Table 2). Among structural barriers, "lack of training in marketing" was perceived by most participants as the most important item (n = 51, 59.3% agreed it was important or very important). Next, nearly 52% of the participants agreed "lack of management

training" was important and very important. Overall, students agreed structural barriers were somewhat important (*M* = 3.43, *SD* = 1.09).

Table 2

Frequencies of the Barriers Perceived for Dual-credit Students to Develop Rural Entrepreneurship

Variable	Item	Frequencies and Percentage Agreement									
		1		2		3		4		5	
		f(x)	%	f(x)	%	f(x)	%	f(x)	%	f(x)	%
Political Barriers *M* = 3.57 *SD* = 1.05	No access to long-term financial capital	0	0.0	6	7.0	24	27.9	34	39.5	22	25.6
	No access to short-term financial capital	0	0.0	4	4.7	29	33.7	30	34.9	23	26.7
	Weak economy	2	2.4	10	11.6	21	24.4	26	30.2	27	31.4
	Continuously changing conditions	5	5.8	11	12.8	26	30.2	33	38.4	11	12.8
	Too much government regulation / bureaucracy	0	0.0	15	17.4	28	32.6	25	29.1	18	20.9
	Too much competition	2	2.3	11	12.8	33	38.4	25	29.1	15	17.4
	Tax burden and complicated tax system	9	10.5	19	22.1	18	20.9	29	33.7	11	12.8
Structural Barriers *M* = 3.43 *SD* = 1.09	Lack of training in marketing	3	3.5	11	12.8	21	24.4	26	30.2	25	29.1
	Lack of training in management	1	1.2	12	14.0	28	32.6	24	27.9	21	24.3
	Bad conditions of roads / transport	3	3.5	10	11.6	25	29.1	37	43.0	11	12.8
	Unsafe location	3	3.5	13	15.1	28	32.6	26	30.2	16	18.6
	Electricity problems	10	11.6	19	22.1	32	37.2	19	22.1	6	7.0

Note. 1 = *Not important*, 2 = *Low important*, 3 = *Somewhat important*, 4 = *Important*, and 5 = *Very important*

Research Question 2(b): Opportunities that Dual-credit Students Perceived as to Develop Rural Entrepreneurship

Regarding personal opportunities, participants perceived "honesty reputation" the most important item (*n* = 66, 76.7% agreed it was important or very important), followed by "good

general management skills" (75.5%) and "hard work" (74.5%). Overall, personal opportunities were important (*M* = 4.15, *SD* = 1.49; Table 3) among the participants to obtain success in agricultural entrepreneurship. Regarding perceived support opportunities, participants agreed "marketing factors" was the most important item (*n* = 66, 76.8% agreed it was important or very important), followed by "good product at a competitive price" (75.5%) and "support from family and friends" (72.1%). Overall, students agreed support opportunities were important (*M* = 3.93, *SD* = 0.95).

Table 3

Frequencies of the Opportunities Perceived for Dual-credit Students to Develop Rural Entrepreneurship

Variable	**Item**	**Frequencies and Percentage Agreement**									
		1		2		3		4		5	
		f(x)	%	f(x)	%	f(x)	%	f(x)	%	f(x)	%
Personal Opportunities ***M* = 4.15** ***SD* = 1.49**	Honesty reputation	1	1.2	4	4.7	15	17.4	18	20.9	48	55.8
	Good general management skills	0	0.0	3	3.5	18	21.0	15	17.4	50	58.1
	Hard work	0	0.0	7	8.1	15	17.4	26	30.2	38	44.3
	Access to capital	0	0.0	3	3.5	19	22.1	17	19.8	47	54.6
	Proper training	1	1.2	6	7.0	18	20.9	27	31.4	34	39.5
	Knowledge about maintenance of accurate records of sales/expenses	0	0.0	2	2.3	23	26.7	33	38.4	28	32.6
	Previous business experience	0	0.0	11	12.8	21	24.4	26	30.2	28	32.6
Support Opportunities ***M* = 3.93** ***SD* = 0.95**	Marketing factors	0	0.0	5	5.8	15	17.4	28	32.6	38	44.2
	Good product at competitive price	0	0.0	4	4.7	17	19.8	22	25.5	43	50.0
	Support from family and friends	2	2.3	6	7.0	16	18.6	33	38.4	29	33.7
	Community involvement	0	0.0	2	2.3	23	26.7	33	38.4	28	32.6
	Location	0	0.0	6	7.0	20	23.3	26	30.2	34	39.5
	Government support	1	1.2	8	9.3	21	24.4	27	31.4	29	33.7
	Political involvement	6	7.0	15	17.4	23	26.8	26	30.2	16	18.6

Note. 1 = Not important, 2 = Low important, 3 = Somewhat important, 4 = Important, and 5 = Very important

Research Question 3: Relationships Among Motivations, Barriers, and Opportunities to Develop Rural Entrepreneurship and Place of Residence and Gender of Dual-Credit Students

A series of Spearman Rho correlations were computed to describe relationships between the place of residence and students' motivations, barriers, and opportunities. Two statistically significant relationships were found (Table 4). For example, a two-tailed test of significance indicated a statistically significant and positive relationship existed between the place of residence and personal motivations ($N = 86$) = 0.24, $p < .05$. The effect size ($R^2 = .06$) of this relationship was small (Cohen, 1988). Squaring the correlation coefficients indicated that 6% of the variance was shared by personal motivations and students' place of residence. This suggests that students who live in remote communities furthest from the capitol are more likely to be motivated by personal factors than their peers who live in communities that are closer to the capitol.

Table 4
Intercorrelations among Variables

***N* = 86**			**Intercorrelations**					
	Place[1]	**Gender[2]**	**1**	**2**	**3**	**4**	**5**	**6**
1. Labor Motivation	0.13	-0.12	1					
2. Personal Motivation	0.24*	-0.09	0.77***	1				
3. Political Barriers	0.06	-0.12	0.47***	0.44***	1			
4. Structural Barriers	0.13	-0.17	0.40***	0.36***	0.63***	1		
5. Personal Opportunities	0.29**	-0.18	0.53***	0.55***	0.50***	0.35***	1	
6. Support Opportunities	0.20	-0.12	0.46***	0.49***	0.42***	0.38***	0.75***	1

Note 1: Place: 1 = Municipalities located between 1 to 4 hours, and 50 to 100 km from the capital, 2 = Municipalities located less than 1 hour and 50 km around the capital, 3 = Municipalities located more than 4 hours, and 100 km from the capitol of Caldas; Gender: 1 = Female, 2 = Male.
Note 2: [1] Spearman Correlation, [2] Pearson correlation
* Correlation is significant at the 0.05 level (2-tailed)
** Correlation is significant at the 0.01 level (2-tailed)
*** Correlation is significant at the 0.001 level (2-tailed)

Next, the other significant relationship was between the place of residence and personal opportunities ($N = 86$; $r = 0.29$, $p < .01$ (Table 4). The effect size of this relationship was small (Cohen, 1988). Squaring the correlation coefficients indicated that 8.4% of the variance in personal opportunities was shared with students' place of residence, indicating that students who lived in communities closer to the capitol were more likely to perceive greater personal

opportunities to develop rural entrepreneurial activities. Further, the point bi-serial correlation was used to describe relationships between the gender of the students and students' motivations, barriers, and opportunities. Two-tailed significance tests indicated no statistically significant relationships between gender and the motivation and perception variables.

Finally, Pearson correlations were computed to analyze relationships among perceived motivations, barriers, and opportunities (Table 4). Two-tailed tests of significance indicated a statistically significant and positive relationships existed among all the SEVT variables. Nine relationships had medium effect sizes, and six had large effect sizes (Cohen, 1988). For example, a two-tailed test indicated a statistically significant and positive relationship between labor and personal motivations to engage in rural entrepreneurship activities ($N = 86$; $r = 0.77$, $p < .001$. The effect size of this relationship was large (Cohen, 1988). Squaring the correlation coefficient indicated that 59.0% of the variance was shared between personal motivations and labor motivations. This suggests the higher the labor motivations, the more likely students would have higher personal motivation to participate in rural entrepreneurship activities.

The relationship between personal opportunities and labor motivation was positive and high ($N = 86$), $r = 0.545$, $p < .001$). The effect size of this relationship was large (Cohen, 1988). Squaring the correlation coefficient indicated that 30.0% of the variance in personal opportunities was shared with personal motivations. This suggests that the higher the personal motivations, the more likely students perceived personal opportunities to participate in rural entrepreneurship activities.

Conclusion, Implications, and Recommendations

Rural student participants designed agricultural entrepreneurship projects and agreed they were supported through the dual-credit program offered by their families and the University (i.e., Universidad en el Campo). The university provided education regarding rural entrepreneurship, rural businesses, and technical aspects of production systems in their curriculum. The families supported the youth agricultural entrepreneurship projects by motivating the youth to design and implement their entrepreneurship projects, providing land and infrastructure on the family's farms for the implementation of the project, providing money to purchase supplies or materials to build the project, or contributing their work and family labor for the different tasks of the project. This conclusion supported other studies that education supports students' interest and intention in entrepreneurship. For example, Pouratashi (2015) found that education plays a significant role in preparing young students with the knowledge and skills necessary for new challenges. Pihie and Bagheri (2010) shared that young people at the secondary education level have an innate entrepreneurial vocation, which should be fostered. Moreover, Jayaratne et al. (2017) commented on education's crucial role in improving the business culture, creativity, and critical thinking. Another important factor is family support, which supported Pouratashi's finding (2015) that the importance of the family and their approval of becoming a rural entrepreneur improve the possibilities of success in the rural venture of young people.

Rural students shared that they were motivated to participate in rural entrepreneurship activities. Moreover, they expressed they were interested in their future, considered it an important opportunity for their lives, and was an option to support their families. The situated expectancy value theory focuses on two variables that influence behavior. First, expectancy is described as the belief about how well one can do an activity. The second variable, value, is a person's desire for accomplishment the task (Wigfield & Eccles, 2000). Participants had similar

labor motivation (i.e., expectancy) and personal motivation (i.e., value), which indicates that rural students saw the relevance of rural entrepreneurship activities.

Moreover, Wigfield and Eccles (2000) discussed four types of values: (a) cost beliefs, (b) utility value—perceived future usefulness, (c) attainment value, and (d) intrinsic value. Rural students reported higher attainment and intrinsic values. This could be because they were thinking of a shift toward personal development. This conclusion supported Marinic et al. (2014) finding that the new generation of college students are searching for self-employment as an alternative to the high level of unemployment. Entrepreneurship can be a means to personal development for the growth of individual wealth, education, and the achievement of other important social values. This implies a need to increase rural youth access to rural education and especially dual-credit programs in agricultural science to generate motivations to participate in rural entrepreneurship. Development of rural entrepreneurship could also be accomplished through different academic programs and the support of government and private companies. Increasing the rural students' access to agricultural education could result in economic growth and improve social welfare of rural communities.

Rural students perceived that political and structural barriers were important to develop entrepreneurship projects. Specifically, participants perceived investment risk as a political barrier, and marketing as a structural barrier. Rural entrepreneurship is a process where individuals are willing to assume risk by investing in business activity (Pedrozo, 2016). Most of the students agreed that the investment risk and difficulties accessing financial resources were their main political barriers. This conclusion was aligned with Ospina (2019), who said that Colombian rural youth have difficulties accessing financial resources because the interest rates are very high, and young people or their families cannot meet the requirements in many cases. This scenario is much more complicated because of phenomena impacting rural areas such as land displacement, the armed conflict, and the lack of coverage and information from banking institutions (Fernadez, 2019). Several strategies could be implemented to support rural youth to overcome perceived barriers: (a) improve the education and training in different topics as business, marketing, management, and others; (b) expand public credit; (c) stimulate the creation of youth farmers; and (d) support youth entrepreneurship with low-interest loans and access to services and training. These strategies could build communities, generate social capital, and motivate rural youth entrepreneurs through agricultural production. On the other hand, to overcome the structural barriers, the government's investment in infrastructure for rural development is necessary (e.g., roads, education, security, and others).

Participants agreed that personal opportunities related to education are essential to develop rural entrepreneurship activities. Therefore, participants in education activities have access to the benefits such as training, knowledge, grant funding for research and entrepreneurship, which opens new opportunities for rural youth. Different studies have been conducted regarding the importance the education to motivate the entrepreneurial spirit and this finding supported Pouratashi's (2015) conclusions. Pouratashi found entrepreneurship education increased agricultural students' intentions to start a business; simultaneously, the previous experience in owning projects or the family projects increased their participation in entrepreneurship activities. Moreover, place of residence was related to students' personal motivations for rural entrepreneurship. Students who lived in the rural areas furthest from the department's capitol (i.e., Manizales) were less motivated than their peers who lived closer to the department's capitol. More remote rural areas have the lowest levels of income, social services (i.e., education, health, and others), and agricultural technology. In the past, remote rural communities were more negatively impacted by violence and illicit crops. In this case, the

leading personal motivation may contribute to: (a) increase one's income; (b) one's own satisfaction and growth; (c) build a business to pass on the family; and (d) show youth can do it. Personal motivations should be interpreted in the contexts Colombian rural youth face, such as rural poverty and shortage of employment opportunities. However, no studies were found that investigated motivations of rural youth for entrepreneurship and the relation with the place of residence in Colombia. We can say that these results supported a couple of studies conducted by Stefanovic, et al. (2010) in Serbia and Zimmerman and Chu (2013) in Venezuela. These researchers reported that in a challenging economic and social environment, it was no surprise that personal motivation was the most important motivation to participate in entrepreneurship activities. These researchers identified "to increase my income" as the primary motivation.

Regarding personal opportunities, rural students who lived in the most remote towns in the Caldas region valued resources such as land, water, family work, previous experience, the capacity to work hard, and the honest reputation as important opportunities to participate in entrepreneurship activities. This result supported Papageorgiou, et al. (2013) finding regarding the development of agricultural entrepreneurship activities as being fundamental to being a creative, loyal and innovative person.

Students' motivations, perceived barriers, and perceived opportunities to participate in rural entrepreneurship activities were related. The higher the students' motivations to entrepreneurship activities, the more likely they perceived barriers and opportunities regarding entrepreneurship. Students' motivations and the possibilities to recognize opportunities are important student attributes who plan to follow the path of entrepreneurship (Krueger & Brazeal, 1994). Moreover, students who identify motivations, opportunities, and barriers and how these factors work together would more likely create an innovative environment for them to take risks and pursue opportunities to develop rural entrepreneurship activities.

Implications

This study has some implications for schools and institutions of higher education that have rural education projects in the Caldas Department. For instance, program directors should identify improvements in the programs that strengthen competencies related to rural entrepreneurship and adjust educational models to match the local rural context and the entrepreneurial environment. Moreover, teachers need professional development to develop their students' creativity to strengthen entrepreneurial education, awaken emotions, transform mentalities regarding entrepreneurship, and enhance entrepreneurship possibilities.

At the same time, undergraduate programs in universities should involve business and entrepreneurship education and incorporate theoretical and practical content that includes students, professors, researchers, government, and companies in the educational process. Universities should offer opportunities for interested students to develop entrepreneurship competencies through elective courses and internships. The findings of this research may be helpful for policymakers in the education office in the Government of Caldas to support and promote dual-credit programs such as Universidad en el Campo to provide new alternatives for students to develop entrepreneurial skills in rural areas.

Moreover, professors and program coordinators should work closely with the family members in developing and implementing their entrepreneurship projects. Family members can serve as mentors to youth in helping provide motivation, facilities and/or land, finances, labor, and management. Further, education and mentoring should be included in entrepreneurship development to strengthen the family as the center of society to help develop important human

relations skills such as communication, problem-solving, and adaptation to change. In developing stronger relationships among the family, young people will likely have the higher social capital to build successful entrepreneurship projects, which may lead to successful businesses, improve rural living conditions, and reduce youth migration to cities (Zabala, et al., 2021).

Recommendations for Future Research

This study should be replicated with students at other universities in Caldas and different contexts similar to the rural conditions of Colombia to compare and increase the number of participants. The instrument should be further studied to confirm factors and study relationship using multiple regression. Also, it is recommended to include focus groups and semi-structured interviews to understand better and determine other specific factors that motivate or restrict the development of rural entrepreneurship activities. Researchers should use structural equation modeling to study the impact of perceived motivation, barriers, and opportunities on entrepreneurship intentions. Finally, researchers should focus on investigating the perceptions of high school teachers and university professors on rural entrepreneurship education. An analysis of this nature could provide information regarding the current role of rural teachers and faculty members in promoting rural entrepreneurship.

References

Amoros, J. E., & Poblete, C. (2013). *Global Entrepreneurship Monitor Reporte Nacional De Chile 2013.* https://negocios.udd.cl/gemchile/files/2014/10/Reporte-GEM-Chile-2013-web.pdf

Cifuentes, M. R., & Palacio, M. C. (2005). El departamento de Caldas: su configuración como territorio de conflicto armado y desplazamiento forzado [Caldas department: its configuration as territory of armed conflict and forced displacement]. *Trabajo Social, 7*, 99-110. http://www.revistas.unal.edu.co/index.php/tsocial/article/view/8478

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences, 2nd ed. Hillsdale*, NJ: Erlbaum.

Eccles, J. S. & Wigfield, A., (2020). From expectancy-value theory to situated expectancy-value theory: A developmental, social cognitive, and sociocultural perspective on motivation. *Contemporary Educational Psychology, 61, 101859*(1). https://doi.org/10.1006/cedpsych.202.10185

Fernández, J. C. (2019). *El microcrédito como alternativa de financiación para pequeños productores paneleros del municipio de Vergara (Cundinamarca - Colombia*) [Microcredit as a financing alternative for small panela producers in the municipality of Vergara (Cundinamarca – Colombia)]. (Bachelor's Thesis, Universidad de La Salle, Bogotá). Universidad de La Salle Repositorio Institucional. https://ciencia.lasalle.edu.co/administracion_agronegocios/318

Folmer, H., Dutta, S., & Oud, H. (2010). Determinants of rural industrial entrepreneurship of farmers in West Bengal: A structural equations approach. International Regional Science Review, 33(4), 367-396. doi:10.1177/0160017610384400

Gliem, J. A., & Gliem, R. R. (2003). *Calculating, interpreting, and reporting Cronbach's alpha reliability coefficient for Likert-type scales.* Paper presented at the Midwest Research-to-Practice Conference in Adult, Continuing, and Community Education, Columbus, Ohio, USA. https://scholarworks.iupui.edu/bitstream/handle/1805/344/Gliem%20&%20Gliem.pdf?s.

International Labour Organization. (2019, June). *Economic and social development.*: https://www.ilo.org/global/topics/economic-and-social-development/lang--en/index.htm.

Jayaratne, K. S., Taylor, L. K., Edwards, M. C., Sitton, S., Cartmell II, D. D., Watters, C. E., & Henneberry, S. R. (2017). Evaluation of an international entrepreneur exchange program: Impacts, lessons learned, and implications for agricultural development. *Journal of International Agricultural and Extension Education, 24*(2), 50-64. https://doi.org/10.5191/jiaee.2017.24204

Kanfer, R. (1990). Motivation theory and industrial and organizational psychology. In M. D. Dunnette and L. Hough (Eds.), *Handbook of industrial and organizational psychology. Volume 1. Theory in industrial and organizational psychology* (pp. 75–170). Consulting Psychologists.

Krueger Jr, N. F., & Brazeal, D. V. (1994). Entrepreneurial potential and potential entrepreneurs. *Entrepreneurship: Theory & Practice*, 18(3): 91-104. doi:10.1177/104225879401800307

Marinič, P., Záthurecký, V., & Špičák, O. (2014). Motivation of university students as future entrepreneurs. *Central European Journal of Management, 1*(2), 51-69. https://doi.org/10.5817/CEJM2014-2-4

Mendez, M. J. (2016). Factores De Expulsión Y Retención En La Decisión Migratoria De Jóvenes Rurales En Manizales, Colombia [Expulsion and retention factors in the migration decision of rural youth in Manizales, Colombia]. *InterSedes, 17*(36), 2-36. http://dx.doi.org/10.15517/isucr.v17i36.26943

Ospina, C. (2019, December). *Estudio de trayectorias y aspiraciones de jóvenes rurales en Colombia y el rol del territorio y las políticas publicas.* [Study of the trajectories and aspirations of rural youth in Colombia and the role of the territory and public policies.] (Working paper No. 259). https://rimisp.org/wp-content/files_mf/1578671896DT259Ospina.pdf.

Papageorgiou, G., Giorgalli, F., & Petrou, A. (2013). Management for motivation and job satisfaction in the COOP banking industry. *International Journal of Economics and Statistics,1*(1), 14-20. https://www.naun.org/main/NAUN/economics/2015-101.pdf

Parra, C. A., & Knobloch, N. A. (2020, May 19). Perceived Barriers, Opportunities, and Motivation for Agricultural Entrepreneurship of Rural Colombian Students Who Participated in Dual-Credit Programs [Poster session] American Association for Agricultural Education Annual Conference 2020, Virtual Conference.

Parra, C. A., Zabala-Perilla, A. F. & Knobloch, N. A. (2020, October 15). University-Industry Supported Extension Education Program for Supporting Colombian Rural Youth Career Development [Paper session] National Learner-Centered Teaching Conference/ 2020 North Central Region Annual Conference 2020, Virtual Conference.

Pedrozo, L. M. (2016). El emprendimiento agrícola como promotor de desarrollo rural en Colombia. [Agricultural entrepreneurship as a promoter of rural development in Colombia] (Bachelor's Thesis, Universidad de La Salle, Bogotá). Universidad de La Salle Repositorio Institucional. https://ciencia.lasalle.edu.co/finanzas_comercio/41/

Perilla, A. F. Z. (2021). Colombian Rural Youth Decision-Making Process Regarding Migration, University Education and Careers (Version1). Purdue University Graduate School.https://doi.org/10.25394/PGS.14944317.v1

Pihie, Z. A., & Bagheri, A. (2010). Entrepreneurial attitude and entrepreneurial efficacy of technical secondary school students. *Journal of Vocational Education & Training, 62*(3), 351–366. https://doi.org/10.1080/13636820.2010.509806

Pouratashi, M., (2015) Entrepreneurial intentions of agricultural students: Levels and determinants. *The Journal of Agricultural Education and Extension, 21*(5), 467-477, https://doi.org/10.1080/1389224X.2014.960528

Romero, F. A. (2013). *Conflict armed, school, human rights and international humanitarian law in Colombia.* Análisis Político, 26 (77), 57-84. ISSN 0121-4705. http://www.revistas.unal.edu.co/index.php/anpol/article/view/44001/45251.

Rosenzweig, E. Q., Wigfield, A., & Eccles, J. S. (2021). Beyond utility value interventions: The why, when, and how for next steps in expectancy-value intervention research. *Educational Psychologist, 57*(1), 11–30. https://doi.org/10.1080/00461520.2021.1984242

Siemens, L. (2012). Embedding small business and entrepreneurship training within the rural context. Entrepreneurship and Innovation, 13(3), 165–178. https://doi.org/10.5367/ijei.2012.0085

Stefanovic, I., Prokic, S., & Rankovic, L. (2010). Motivational and success factors of entrepreneurs: The evidence from developing country. *Journal of Economics Business, 28*(2), 251-269. E-ISSN: 1846-7520. URI: https://hrcak.srce.hr/62359

Stefanovic, I., Rankovic, L., & Prokic, S. (2011). Entrepreneurs motivational factors: Empirical evidence from Serbia. *Serbian Journal of Management, 6*(1), 73-83. DOI: 10.5937/sjm1101073S

Wigfield, A., & Eccles, J. S. (2000). Expectancy–value theory of achievement motivation. A developmental perspective. *Contemporary Educational Psychology, 25*(1), 68–81. https://doi.org/10.1006/ceps.1999.1015

Yıldırım, N., Çakır, Ö., & Aşkun, O. B. (2016). Ready to Dare? A case study on the entrepreneurial intentions of business and engineering students in Turkey. Procedia - Social and Behavioral Sciences, 229, 277–288. https://doi.org/10.1016/j.sbspro.2016.07.138

Zabala-Perilla, A., Knobloch, N.A. & Castro, S. X. (2021). Percepciones de identidad colectiva y fronteras sociales asociadas a procesos académicos de jóvenes rurales colombianos: un estudio de caso [Perceptions of collective identity and social borders associated with academic processes of Colombian rural youth: a case study]. In Guzman, A., Anguiano J. B., Segovia, L., & Dworaczeck, H. O. (Ed.), *Re-Educando: Miradas y Saberes en Contextos Educativos* (pp. 145–166). 1 ed. Corporacion Universitaria Asturias. ISBN: 978-958-53792-1-3

Zimmerman, M. A., & Chu, H. M. (2013). Motivation, success, and problems of entrepreneurs in Venezuela. *Journal of Management Policy and Practice, 14*(2), 76-90. http://www.digitalcommons.www.na-businesspress.com/JMPP/ZimmermanMA_Web14_2_.pdf