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SOCIOLOGY | RESEARCH ARTICLE

Determinants of youth entrepreneurial success in agribusiness sector: the case of Vhembe district municipality of South Africa

Victor M. Mmbengwa¹, Xiaoshun Qin^{2*} and Virginia Nkobi³

Abstract: Youth agribusinesses' entrepreneurial failures have led to unattractiveness, disinvestment, and low prioritization of youth agri-business in South Africa. This study aimed to uncover factors that may reduce youth agribusiness entrepreneurial failures. A concurrent mixed-method research design was used carried out the study objectives. The simple random sampling design was used to select 235 youth entrepreneurs in agriculture. The study revealed that perseverance ($\beta = 0.121$, $p < 0.01$), personal motivation ($\beta = 0.100$, $p < 0.01$), creativity ($\beta = 0.099$, $p < 0.01$), and positive attitude ($\beta = 0.093$, $p < 0.01$) were found to be key determinants that can enhance youth entrepreneurial success in Vhembe District Municipality. It concluded that capacity building around technical skills might be required to ensure that these entrepreneurs are efficient and effective in carrying out their entrepreneurial duties. The study recommended that youth need adequate resources and may need adequate exposure to commercial farming operations.

Subjects: Agricultural Economics; Economics and Development; Business and Management

Keywords: agri-business; entrepreneurship; failure; youth; success



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PUBLIC INTEREST STATEMENT

The sustainable future of any sector in any country relies on succession planning. The youth form an integral part of such a plan. In South Africa, youth participation in agri-business entrepreneurship has been dismal despite institutional support and investments made to date. The failure to woo youth towards agribusiness entrepreneurship has a devastating consequence for the new generation of farmers. Thus, making South African agriculture face an uncertain future. The level of uncertainties in Agriculture is compounded by many external factors such as climate change, pandemics such as COVID-19, lack of funding, and separate development policies remnants. The study revealed various factors that can be used to influence youth participation in agribusiness with success. Applying the models suggested may improve the involvement of youth in this sector, making it possible for the country to implement its succession plan.

1. Introduction

Youth are seen as the agent of transformation globally for both developed and developing countries (Mudasiru & Fatai, 2020), and the South African youth are no exception. Globally, the youth population is increasing rapidly, making up one of the integral parts of global population growth (Nakirijja et al., 2020; Rostovskaya et al., 2020). Reis (2020) pointed out that youth are associated with community development activism. Despite them being the victim of high unemployment levels and poverty (Nakirijja et al., 2020). Ude (2020) reported that youth employment positively influences rural areas in African countries. However, the increase in youth unemployment appears to be rampant in African countries' rural and urban centers (Mkombe et al., 2020). For instance, Akanle and Omotayo (2020) reported that youth unemployment proliferates in Nigeria. Similarly, Mazorodze (2020) observed that the South African provinces are experiencing the same trend.

The current studies have shown that agriculture plays a critical role in rural areas' economic development by providing employment (Antle & Ray, 2020; Yan, 2020). These studies appear not to explain the importance of youth entrepreneurship in smallholder agriculture and how it could reduce youth employment. Very few studies have explained the determinants of youth entrepreneurship in the agribusiness sector and its impact on youth development. Nevertheless, there is a consensus that youth have serious unemployment challenges and have to resort to agricultural entrepreneurship to solve this challenge. In Africa, agriculture is the core economic sector (Sinyolo & Mudhara, 2018).

Furthermore, it was also reported that agriculture is the primary industry in Sub-Saharan Africa countries (SSA) (Mapunda et al., 2020). The South African agricultural sector is considered one of the most employment-intensive sectors of the country's economy, primarily agriculture (Botha & Middelberg, 2020). According to these authors, SSA's agriculture is dominated by smallholder farmers who play a crucial role in African agriculture. Consequently, it may make perfect sense that smallholder farming entrepreneurship could be attracted by youth because it is affordable for youth to establish smallholder agricultural enterprises due to less capital investment.

On the contrary, Nxumalo and Oladele (2013) further reported that old farmers dominate smallholder agriculture, implying that in South Africa, youth in South Africa do not see smallholders as an economic opportunity (Khan, 2021). According to Nxumalo and Oladele (2013), about 47.30% of farmers who participated in Zululand's agricultural programs were aged 60 years, compared to 3.3% of youth who participated. This observation shows that youth participation in agri-business is still problematic, and drastic measures need to be taken to ensure that youth participate in agri-businesses. Furthermore, Ayodele et al. (2021) found that 62, 24% of the farmers who participated in the leafy vegetable production in Nigeria were aged 47–59 years, with only 3% youth participation. There is no doubt that young people's low participation in farming is a threat to the future of agriculture, food security, succession, and economic transformation on the continent. Ayodele et al. (2021) revealed that youth unemployment and under-employment are severe concerns in sub-Saharan Africa, especially given its young population. Agriculture is the primary industry in Sub-Saharan Africa countries (SSA) (Asongu et al., 2020; Mapunda et al., 2020), and youth unemployment could be mitigated by involving youth in agri-business entrepreneurship relative to other industry where access is difficult. Youth unemployment in South Africa is a ticking time bomb: about half of the working-age population under 34 does not have a job (Matschke, 2020). Thus, this study aims to identify the factors influencing youth agricultural entrepreneurship success in South Africa to reduce the ever-growing youth unemployment in South Africa with a particular reference to youth in Vhembe District Municipality.

2. Literature review

By 2050, the youth population in Sub-Saharan Africa (SSA) is expected to exceed 60% (Zulu et al., 2021). According to these authors, to reduce unemployment and emigration from rural areas, and increase agricultural productivity, SSA countries seek policies to enhance youth engagement in

agriculture. However, youth are heterogeneous and are influenced by various social orientations (Rostovskaya et al., 2020). Various studies have shown that it is challenging to attract young people to participate in traditional agriculture in many countries (Hess & Trexler, 2011; Hung, 2004; Magagula & Tsvakirai, 2020; Tiraieyari & Krauss, 2018). However, Hess and Trexler (2011) revealed that few empirical studies had been conducted on youth motivation to participate in urban agriculture programs. Although agricultural development is fundamental to economic development, livelihood, and the poverty alleviation drive in the developing countries (Aprilia et al., 2020; Dauda et al., 2014; Omotesho et al., 2020), youth appear to be less attracted to agri-businesses. So, the questions are, what could the problem be? Is it because agriculture is not well branded? Or is it that agriculture is associated with backwardness? Also, is it that agriculture is associated with apartheid?

Aprilia et al. (2020) pointed out that employment in agriculture is critical, an indicator of sector development, and guides the sustainability of the farming venture. On the contrary, the youth's responsiveness to recent agricultural development efforts and entrepreneurial capacity has been generally low (Aprilia et al., 2020; Chirițescu et al., 2015). There is no doubt that if African youth could take economic advantage over agriculture, then agricultural entrepreneurship could be the more significant employer in the African continent. Agricultural industries could provide the most critical platform for expanding employment, income generation, and food security (at national and household levels) across the globe (Nkobi, 2018). According to this author, various studies suggested that black youth are unattracted to agri-business because of the social perception of agriculture. In South Africa, youth participation in agriculture has been a critical focus area of essential policies such as the National Development Plan (Magagula & Tsvakirai, 2020; Sinyolo & Mudhara, 2018). South African youth are reluctant to participate in agribusiness ventures, resulting in their insignificant economic contribution to sectoral growth and development (Botha & Middelberg, 2020). Youth who have received higher educational training in South Africa seek public sector employment relative to starting their agricultural enterprises.

The incubation programs that seek to attract youth to start their enterprises in South Africa are often under-resourced, riddled by financial corruption, and poor publicity. FAO, CTA and IFAD (2014) reported that insufficient access to knowledge, information, and education, limited access to land and markets, inadequate access to financial services, and limited involvement by youth in policy dialogue, as well as other logistics and services for agribusiness success, is associated with limited participation of black youth in agricultural entrepreneurship.

2.1. Government programs

Different governments implemented various initiatives to help youth entrepreneurial development ensures that youth could take over the current businesses. IFAD, F. (2014) suggested that youth participation in agricultural entrepreneurship was a challenge to many nations, and thus, most governments (if not all) have resorted to implementing several programs with varying approaches and objectives.

2.2. Global youth development initiatives

For instance, in 2008, the United Nations had offered programs that sought to support youth participation in economic and market development (United Nations, 2008). This program sought to sustain youth enterprises with adequate on-farm incomes. On the other hand, in collaboration with the European Union (EU), the French government provided support to young farmers' funds to promote youth business start-ups (Martina & Francesca, 2014). In the same period, the Grameen Bank in Bangladesh started a new project called the Youth Entrepreneur Loan Project (YELP) (CTA, 2014), where most of the young, well-educated students were successfully financed to start their farming venture. According to Martina and Francesca (2014), YELP provided loans to youth who showed enthusiasm, entrepreneurial thinking, and hard work. In Canada, it was reported that the Canadian government decided to give the younger generation access to resources to start their agricultural activities (CTA, 2014).

Between 2004 and 2008, more than 9 800 young people from 21 states of Mexico took part in the Young Rural Entrepreneur and Land Fund Program training, where about 4 000 received financial support from the program to implement their projects (IFAD, F., 2014). Besides, it was revealed that in Ethiopia, the Relief Society of Tigray (REST) initiated the program to distribute land to landless youth for entrepreneurship development (IFAD, F., 2014). According to Nkobi (2018), these young beneficiaries received a land-ownership certificate from the village administration to make the land transfer official. In Brazil, labor unions initiated the youth knowledge program in 2004 to enhance young farmers (IFAD, F., 2014). Furthermore, the Ndola Youth Resource Centre (NYRC) in Zambia (a youth-led and youth-focused Zambian NGO) has set up and equipped seven youth resource centers that focus mainly on agriculture (IFAD, F., 2014).

2.3. South African youth development initiatives

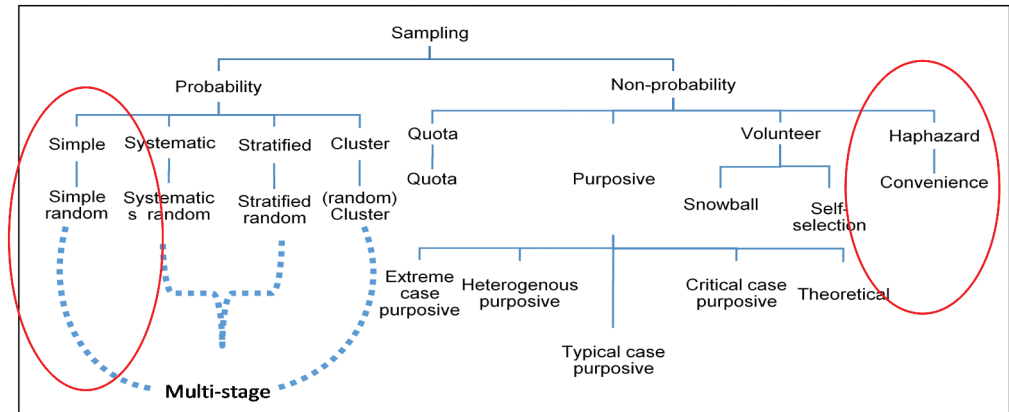
In South Africa, youth development has been referred to as an engine of economic growth. Consequently, leading to the establishment of institutions such as the National Youth Development Agency (NYDA) (NYDA, 2017). Other initiatives, such as the National Rural Youth Service Corps (Narysec), augment the importance of youth entrepreneurship in South Africa. These initiatives were established to ensure that the youth are equipped with skills and mentored to develop further, lead, and manage the country's youth development affairs (National Rural Youth Service Corps (NARYSEC), 2014).

These drives confirm the conviction that youth are the future leaders of each country, and therefore, neglecting youth development could deter the future development of that particular society. Ironically, agriculture in the youth sector of South Africa appears to be unattractive; the career pathing in this sector is branded as inferior compared to other sectors. Hence, South Africa youth do not willingly choose agriculture as a career or as a business venture. This attitude makes the sector dominated by older people who are often uneducated, especially those from a historically disadvantaged community. This problem affects South Africa's potential to reduce youth employment, which is reported to be increasing rapidly amongst the youth (Statistics South Africa, 2014).

Figure 1. Map for Vhembe district and local municipality (Source: Google Map, 2020).



Figure 2. Sampling techniques (Saunders et al., 2016).



3. The research method

3.1. Research design, location, and sampling

The study followed the concurrent mixed-method design, and it was carried out in the Vhembe district municipality (see Figure 1). The study's location was in all four local municipalities (Musina, Thulamela, Makhado, and Collins Chabani). A simple random sample technique was used to determine the quantitative data sampling unit, while convenient sampling was used for the qualitative data (see Figure 2).

3.2. Data collection

Data were collected in 2017 from 325 youth entrepreneurs who are smallholder farmers across the Vhembe district municipality using a pre-tested structured close-ended questionnaire, and the paper was presented in a validation seminar in 2019. The questionnaire provided two categories section; descriptive characteristics (gender, age, experience, level of education, and educational background), and demographic youth entrepreneurship characteristics (Involvement in the entrepreneurship, Area of birth, and entrepreneurship in development), and followed by the section that deals with entrepreneurial factors (creativity, innovation, risk, Human relations skills, positive attitude, leadership, commitment, perseverance, and financial support).

3.3. Data analysis

Descriptive statistics by way of means, standard deviation, and frequencies were used to summarize the sampling unit using Software for Statistics and Data Science (STATA 15). This analysis was followed by the demographic analysis, which used the frequencies and percentages to describe the youth entrepreneurship characteristics. A bivariate correlation then followed it. This correlation technique was used to determine the multi-collinearity and significance of the relationship between entrepreneurial factors. The inferential analysis of the quantitative entrepreneurial factors was analyzed using hierarchical multiple linear regression models. These models were used to examine the effects of various combinations of the response variables to the agricultural entrepreneurial success factor (Lewis, 2007). This analysis was presided by determining the normality of the residuals, multi-collinearity concerns, homoscedasticity of the residuals, and the R-squared change in each multiple regression stage.

3.4. Model specification

For the inferential analyses, the hierarchical multiple linear regression (HMLR) was preferred. Since the hierarchical theory is a new and promising general systems theory (Du et al., 2021; Smith & Sage, 1973), it deals basically with dividing a system into subsystems forming a hierarchical structure with a degree of complexity (Perotti et al., 2020; Smith & Sage, 1973), we choose this model for this

investigation. The youth structure and farming approaches to agricultural entrepreneurship in Vhembe district municipality are deemed complex. The complexity is informed by the differences in the agricultural innovations, potentials, and spatial developments in the local municipalities that make up the district municipality. Consequently, we thought that the natural hierarchical analytical frame of the HMLR could unlock the diverse responses for different variables in the models (Smith & Sage, 1973; Zhang & Ding, 2020). Thus, it would appear to be particularly appropriate for use in public and societal systems problems. We used the entrepreneurial success factors proposed by Shakeel et al. (2020) to select the parameters. Model 1 was computed using the following analytical framework.

$$Y_1 = C_1 + \beta X_1 + \beta X_2 + \beta X_3 + \beta X_4 + E_1 \tag{1}$$

Where C represents constant, β represents coefficients X_1 , X_2 , X_3 , and X_4 representing creativity, innovation, risk orientation, and Human relationship skills. E_1 represented an error term.

The second model's computation was computed by adding two more independent variables in the original equation. This was illustrated as follows:

$$Y_2 = C_2 + \beta X_1 + \beta X_2 + \beta X_3 + \beta X_4 + \beta X_5 + \beta X_6 + E_2 \tag{2}$$

Where X_5 and X_6 represent personal motivation and positive attitude, respectively

Similarly, the last model (Model 3) was computed by adding the two extra independent variables from model 2, resulting in the following equation:

$$Y_2 = C_3 + \beta X_1 + \beta X_2 + \beta X_3 + \beta X_4 + \beta X_5 + \beta X_6 + \beta X_7 + \beta X_8 + E_3 \tag{3}$$

Table 1. Socio-demographic/Background Characteristics of Youths Agric-Entrepreneurs

Description	Frequency	(%)
Gender		
Male	101	42.98)
Female	134	57.02)
Age (Means, SD)	21	(0.203)
Experience in years (Means, SD)	1.32	(0.096)
Educational Achievements		
No education	4	(1.70)
Grade 12	222	(94.47)
Diploma	1	(0.43)
Degree	4	(1.70)
Honors	2	(0.85)
Masters	1	(0.43)
Doctorate	1	(0.43)
Background Education in Agriculture		
Participation in agricultural subjects	131	(55.74)
Animal health	2	(0.85)
Crop production	12	(5.11)
Bachelor of Science	4	(1.70)
Honors in Agriculture	1	(0.43)
Masters in Agriculture	9	(3.83)
None	76	(32.34)

SD = Standard Deviation and % = Percentages

Table 2. Characteristics of youth entrepreneurship

Description	Frequency (n)	(%)
Involvement in Entrepreneurship		
School garden	80	(34.04)
Home garden	124	(52.77)
Farm	21	(8.94)
Cooperative	1	(0.43)
Other	9	(3.83)
Area of Birth		
Villages	190	(80.85)
Farms	4	(1.70)
Township	31	(13.19)
Suburb	9	(3.83)
Other	1	(0.43)
Entrepreneurship Development		
Business Plan	104	(44.26)
Case Studies	21	(8.94)
Historical Background	7	(2.98)
Strategic Management	82	(34.89)
Other	21	(8.94)

Where X_7 and X_8 represent perseverance, and financial support, respectively

The last model represents the ideal model that could determine the youth entrepreneurial success in the agri-business environment in the Vhembe district municipality of South Africa.

4. Results and discussion

4.1. Youth entrepreneurs' attributes in the sample

The results revealed that female respondents were in the majority (57%) in the sample, with males constituting (43%). The participants had a mean age of 21 years (see Table 1). Their experiences in agricultural entrepreneurship were found to be at an average of 3 months to 1 year. Concerning their educational achievements, the results revealed that most youth entrepreneurs are poorly educated (94.47%) with grade 12 qualifications, and the post-matric educational achievement was approximately 1.70%. The low educational achievement is counterintuitive because youth development has occupied a sizeable developmental agenda in many developing countries, including South Africa (Baladjay et al., 2020). Looking at these entrepreneurs' backgrounds, the majority (56%) have participated in agricultural subjects in the short-learning programs rolled out by the public and private sector. Those with crop production backgrounds (5%) are the third dominant group, and surprisingly, those with no distinct agricultural background tend to occupy the second dominant group (32%).

This observation indicates that Vhembe youth agricultural entrepreneurs have difficulty selecting a particular commodity to do business in agricultural entrepreneurship, implying that there may be a challenges relating educational agricultural background, and this may explain high failure of youth agri-business entrepreneurship. Their weak psychological attributes, personality, attitudes, and behavior might be the most significant obstacles in succeeding in their farming enterprises (Rasheed & Rasheed, 2003). Baladjay et al. (2020) pointed out that youth may be subjected to the poverty situation and lack of creativity without a straightforward youth development empowerment program.

Table 3. Bivariate correlations between entrepreneurial factors

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Creativity (1)	1								
Innovation (2)	.300	1							
Risk (3)	.255	.334	1						
H-Relations (4)	.417	.388	.343	1					
P-Attitude (5)	.337	.239	.231	.242	1				
Leadership (6)	.456	.274	.135	.320	.405	1			
Commitment (7)	.363	.219	.182	.273	.430	.550	1		
Perseverance (8)	.333	.294	.243	.262	.446	.476	.422	1	
Financial-S (9)	.362	.160	.292	.340	.302	.379	.367	.289	1

All correlations were 5% significant, H-Relations = Human relations skills, P-Attitude = positive attitude, Financial-S = Financial support.

Table 4. Test for multi-collinearity amongst the entrepreneurial success factor

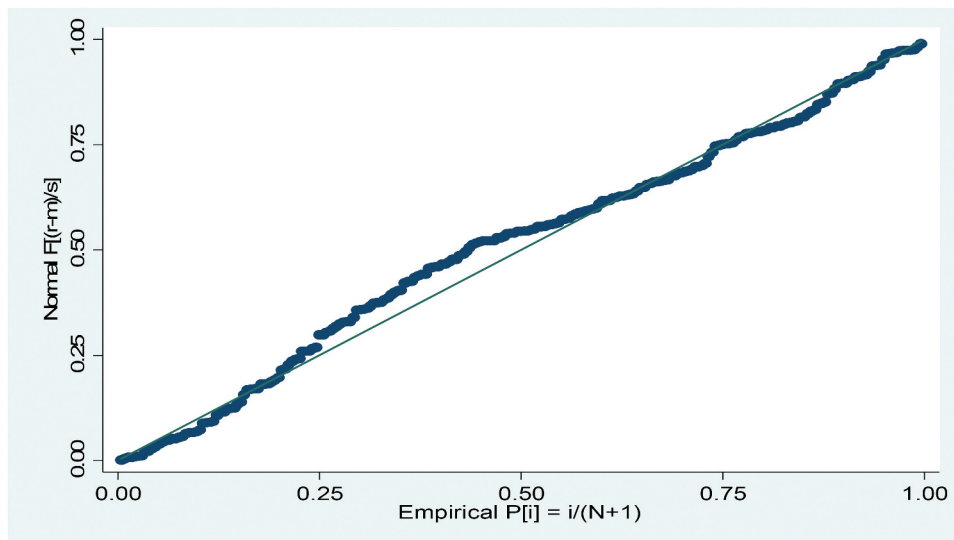
Variable	VIF	1/VIF
Human relation skills	1.47	0.682
Creativity	1.45	0.692
Positive attitude	1.40	0.712
Perseverance	1.38	0.726
Personal motivation	1.37	0.729
Financial Support	1.33	0.752
Innovation	1.32	0.756
Risk orientation	1.27	0.787
Mean VIF	1.37	

No multicollinearity = (VIF > 10, tolerance = 1/VIF < 0.2), VIF = Variance inflation factor.

Table 5. Test for heteroskedasticity of the residual of entrepreneurial success

Source	chi2	Df	P
Heteroskedasticity	96.56	44	0.0000
Skewness	20.06	8	0.0101
Kurtosis	0.46	1	0.4969
Total	117.08	53	0.0000

Figure 3. P-P plot for the residuals of youth entrepreneurial success factors.



4.2. Demographic characteristics of youth entrepreneurship

Table 2 presents the results of the demographic characteristic of the Vhembe district youth entrepreneurs. According to the results, the majority (53%) of the youth involved in agricultural entrepreneurship are involved in home gardens, followed by 34% school gardening, and this sort of involvement is non-commercial but livelihood in nature. Notably, those involved in agricultural entrepreneurship at a farm level were the third biggest (9%), and the least of them all were those involved in cooperatives and other farm activities such as selling inputs, machinery,

agro-processing, and marketing. These results suggest that these youth entrepreneurs' lack of land may be restrictive to youth entrepreneurs' involvement at a bigger scale.

Notably, the cooperatives are unpopular amongst youth entrepreneurs. Henceforth, the involvement of youth entrepreneurs appears to be marginal. The results further revealed that the majority (81%) of the youth involved in this youth entrepreneurship came from the rural areas relative to 13.19% from the township setup. These results portray those who come from farms, suburbs, and other areas as youth who are not interested in this entrepreneurial activity type. Given the characteristics of youth agricultural entrepreneurship, it appears that the entrepreneurial involvement of these youth has its limitations and opportunities. A high proportion of youth entrepreneurship in rural areas may imply that youth entrepreneurship in this sector could be useful for food security and thus characterizes these entrepreneurs as a survivalist.

The critical question is, do survivalist entrepreneurs have a fundamental role to play in the macro-economic sphere of society? Survivalist entrepreneurs produce only their household consumption, income generation and create minimal employment (Taruvinga et al., 2017). However, it is difficult to discount this type of entrepreneurship's role in reducing poverty, especially in rural areas (Aliber & Mdoda, 2015). The results suggest that the majority (44%) of the respondents need business planning skills as it is the most critical skill required for the youth to be involved in agricultural entrepreneurship.

This skill is fundamental, given what the national planning commission (NPC) advocates for South African rural communities (Jordaan et al., 2014). According to these authors, rural communities should have greater participation in their economic, social, and political lives. The current South African government believes that survivalist agricultural entrepreneurs are better positioned to reduce food insecurity. In order to graduate this survivalist entrepreneurship to a fully fleshed entrepreneurship, the study seems to suggest that business planning and strategic management insights are critical. In reality, it does appear that none of these suggestions are top priorities in the current capacity-building program of the government.

4.3. Correlations analysis of entrepreneurial factors

A bivariate Pearson's product moment correlation coefficient (r) was used to calculate the linear relationship's size and direction amongst the youth entrepreneurial factors (see Table 3). The results showed that all the factors were positively significantly correlated ($p < 0.05$).

The results further revealed that creativity is moderately correlated with leadership factors ($r = 0.456$, $p < 0.05$). Similarly, it was found that human relations skills are moderately correlated to creativity ($r = 0.417$, $p < 0.05$). The innovation is moderately correlated to human relation skills ($r = 0.400$, $p < 0.05$). Risk orientation and financial support appear to be lowly correlated to other predictor variables. However, positive attitude is moderately correlated with leadership [$r(323) = 0.405$, $p < 0.05$], commitment ($r = 0.430$, $p < 0.05$) and perseverance [$r(323) = 0.446$, $p < 0.05$]. On the other hand, perseverance appear to be moderately correlated with positive attitude [$r(323) = 0.446$, $p < 0.05$], leadership [$r(323) = 0.476$, $p < 0.05$] and commitment [$r(323) = 0.422$, $p < 0.05$].

Before calculating the correlation, the assumption of normality linearity (see Figure 3, multicollinearity (see Table 4), and homoscedasticity (see Table 5) were assessed and were found to be supported.

4.4. Factors influencing youth agricultural entrepreneurship

To test that financial support and perseverance as the critical factors that influence youth agricultural entrepreneurial success in Vhembe district municipality beyond the influence of creativity, innovation, risk orientation, human relationship skills, personal motivation, and positive attitude, a hierarchical multiple regression analysis (HMRA) was employed (see Table 6). Before

Table 6. Factors that influence youth agricultural entrepreneurial success

	Model 1 β (SEB)	Model 2 β (SEB)	Model 3 β (SEB)
Creativity	0.191*** (0.0179)	0.130*** (0.0130)	0.0992*** (0.00892)
Innovation	0.0874*** (0.0179)	0.0630*** (0.0126)	0.0552*** (0.00852)
Risk orientation	0.0783*** (0.0171)	0.0494*** (0.0121)	0.0301*** (0.00816)
Human relationship skills	0.132*** (0.0210)	0.102*** (0.0148)	0.0809*** (0.0100)
Personal motivation		0.111*** (0.0136)	0.0997*** (0.00916)
Positive attitude		0.144*** (0.0127)	0.0934*** (0.00905)
Perseverance			0.121*** (0.00950)
Financial support			0.0791*** (0.00816)
Constant	-3.612*** (0.173)	-4.602*** (0.136)	-5.111*** (0.0957)
N	235	235	235
R ²	0.673	0.843	0.930
Δ R ²	-	0.170	0.087

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; Dependent Variable = Entrepreneurial success

interpreting the results of the HMRA, the assumption for normality, multivariate outliers, multicollinearity, and homoscedasticity of residuals were tested and found to be of no concern.

In model 1 of the HMRA, creativity, innovation, risk orientation, and human relationship skills accounted for a significant 67.3% of the youth agricultural entrepreneurial success ($R^2 = 0.673$, $p < 0.01$). Model 2, personal motivation, and positive attitude were added to the regression equation and made the model account for an additional 17% of the variance youth agricultural entrepreneurial success, $\Delta R^2 = 0.170$, $p < 0.01$). This model's predictors explained 84.3% of the youth agricultural entrepreneurial success variation, $R^2 = 0.843$, $p < 0.01$. Lastly, in model 3, perseverance and financial support were added, which increased the model's accountability by 8.7% of the youth agricultural entrepreneurial success, $\Delta R^2 = 0.087$, $p < 0.01$. In combination, these predictor variables explained 93% of the youth agricultural entrepreneurial success, $R^2 = 0.930$, $p < 0.01$.

However, a combined effect of this magnitude can be considered "large" ($F^2 = 13.29$). Interestingly, the unstandardized (β) regression coefficients for all the predictor variables in all the models were found to be positive and highly significant ($p < 0.01$). This observation suggests that all the identified predictor variables could increase the youth's entrepreneurial success in this district. Given that all factors influence the youth agricultural entrepreneurial success, the influence's ranking was then decided. The ranking results showed that perseverance ($\beta = 0.121$, $p < 0.01$) and personal motivation ($\beta = 0.099$, $p < 0.01$) ranked the highest in terms of the influence, followed by creativity ($\beta = 0.099$, $p < 0.01$) and a positive attitude ($\beta = 0.093$, $p < 0.01$).

5. Conclusions, implications and recommendations

This study used a hierarchical multiple regression analysis (HMRA) model to determine the critical factors influencing youth agricultural entrepreneurial success in the Vhembe district municipality. The results revealed that all identified factors were significant in influencing youth agricultural entrepreneurial success. Evidence from the study suggests that perseverance and personal motivation have the most significant influence, followed by creativity and a positive attitude. The study contributes to the theoretical and empirical literature by proving that youth could start and run successful agricultural enterprises if they are prepared to overcome climatic and seasonal variations imposed by the agricultural enterprise's very nature. Secondly, South Africa's youth in general and in Vhembe, particularly, associate agricultural enterprises as poor man's business and thus see it as unattractive. This study suggests that the youth's motivation will be critical to restoring their confidence in these enterprises. The question is, who can best play the mentorship role and motivate youth?

Given that the extension in South Africa's low profile within the agricultural industry, especially the government extension service. Should the youth be motivated to engage in agricultural entrepreneurship, there could a high probability of more creativity that comes from youthful energies? If the contrary happens, the Vhembe district municipality would not be able to tap into the youth's creativity and innovation that could improve the sector's corporate image, and this could be undesirable for succession, economic growth, and food security.

Hence, by identifying key determinants influencing youth agricultural entrepreneurship in Vhembe district municipality, this study provides an empirical contribution to the socio-economic sphere and literature. The study recommends that the proponents of youth development and national development plan in Vhembe district municipality should intensify and implement the youth programs that seek to motivate the youth to engage in agricultural entrepreneurship (NYDA, 2017). Given that female youth are in the majority in these types of entrepreneurship, youth motivation may also solve women empowerment in the agricultural sector. The participation of women and youth in agriculture has been cited as a key strategic goal in the national development plan and agricultural sector transformation (Van Rooyen & Botha, 1998; Agri-BEE Act of, 2007; Mpahlwa, 2008;; NPC (National Planning Commission), 2012)). The study further recommends that youth incubation facilities, especially in the rural areas, should be gear to expose the youth to agri-business entrepreneurship and create the value chain. With the aid of this study's findings, the incubation facilities could focus on the strategies to recruit youth and provide them with more insight on the farming and thereby demystifying the sector and portraying it as attractive to the youth. The Vhembe district municipality would have failed in its duties if it does not develop a model for youth empowerment in agriculture is also very critical.

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