JETIR.ORG ISSN: 2349-5162 | ESTD Year : 2014 | Monthly Issue
JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)
An International Scholarly Open Access, Peer-reviewed, Refereed Journal

ENTREPRENEURSHIP EDUCATION AS A DRIVER OF AGRIPRENEURSHIP INTENTION AMONG AGRICULTURAL EDUCATION STUDENTS IN NORTH EAST NIGERIA: THE MEDIATING ROLES OF RISK-BEARING, OPPORTUNITY IDENTIFICATION AND AUTONOMY

AHMADU, HAMMADU CHUKKOL
Dr. M. U. ABBA
Department of Vocational Education,
Modibbo Adama University, Yola, Nigeria

Abstract

Graduate unemployment in Nigeria, particularly in the North East region, remains a critical national challenge. Agriculture offers a viable pathway to self-employment, yet many agricultural education students do not intend to venture into agribusiness. This study examined the influence of entrepreneurship education on agripreneurship intention among agricultural education students in Colleges of Education in North East Nigeria, focusing on three psychological dimensions: attitude towards risk bearing, ability to identify opportunities, and desire for autonomy. A descriptive survey design was adopted, with a sample of 380 NCE III agricultural education students drawn from nine colleges of education using stratified and simple random sampling. A structured 30-item questionnaire was used, validated by three experts and pilot-tested (Cronbach's alpha: 0.875–0.960). Data were analysed using mean, standard deviation, and independent t-tests. Results showed that entrepreneurship education significantly influenced students' risk-bearing attitude (mean = 3.89), opportunity identification ability (mean = 4.05), and desire for autonomy (mean = 4.21), all above the benchmark of 3.00. The t-test results indicated no significant gender differences in any of the dimensions ($p > 0.05$). The study concludes that entrepreneurship education positively shapes agripreneurship intentions. Recommendations include strengthening experiential learning, risk-simulation exercises, and opportunity-recognition modules.

Keywords: Entrepreneurship education, agripreneurship intention, *risk-bearing*, opportunity identification, autonomy, agricultural education, North East Nigeria

Introduction

The global population is projected to reach nine billion by 2050, with Africa and Asia accounting for the largest share of this increase (United Nations, 2017). Sub-Saharan Africa has the youngest population in the world, with individuals aged 15 to 25 expected to reach 1.3 billion, nearly 14% of the projected global population by 2050. Paradoxically, this demographic dividend, which could drive economic growth, has instead become a source of anxiety because of persistently high rates of unemployment and underemployment among youth. In

Nigeria, the situation is particularly acute. The International Labour Organization (ILO, 2020) reported that about 12 million young people enter the workforce annually, but only 3.1 million jobs are created, leaving over 8 million unemployed. This gap between labour supply and demand has fuelled social unrest, mass emigration, and a proliferation of informal, low-productivity activities.

The North East geopolitical zone of Nigeria is one of the most affected regions. Comprising six states – Adamawa, Bauchi, Borno, Gombe, Taraba and Yobe – the zone has an average absolute poverty rate of 69%, well above the national average of 60.9% (National Bureau of Statistics, 2021). A decade-long insurgency has destroyed lives, displaced communities, and crippled economic activities. Yet, ironically, the region has vast agricultural potential: it produces cereals (sorghum, millet, rice, maize), tubers (yam, cassava), oilseeds, vegetables, fruits, and livestock. The agricultural sector contributed 28.5% to Nigeria's Gross Domestic Product (GDP) in 2019, and the North East is a major net contributor to national food production (NBS, 2022). However, most agricultural activities remain at subsistence level, with limited value addition, processing, or marketing.

The missing link between agricultural potential and economic prosperity is agripreneurship: the application of entrepreneurial principles to agricultural production, processing, and marketing. Agripreneurship is not merely farming; it encompasses the entire value chain: input supply, production, post-harvest handling, processing, packaging, branding, and distribution. For young people, agripreneurship offers a pathway to self-employment, wealth creation, and community development. Yet, studies consistently show that young Nigerians, including graduates of agricultural education programmes, shy away from agribusiness. Reasons include negative perceptions of farming as low-status, fear of risk, lack of capital, and inadequate entrepreneurial skills (Ojebiyi et al., 2015; Zaremohzzabieh et al., 2021).

Recognising this challenge, the Nigerian government, through the Presidency, mandated in 2006 that all higher education institutions make Entrepreneurship Development Education (EDE) compulsory for all students, effective from the 2007/2008 academic session (Esene, 2014). The intention was to "fast track entrepreneurial development on generational bases for sustainable economic advancement." Colleges of education, which train teachers for basic education, were also expected to champion this mandate. The National Commission for Colleges of Education (NCCE) revised its minimum standards to integrate entrepreneurship education into the curriculum of all programmes, including agricultural education.

However, despite nearly two decades of compulsory entrepreneurship education, the evidence on its effectiveness in fostering agripreneurship intention remains mixed and context-specific. Most studies have focused on general entrepreneurial intention, not specifically on agripreneurship. Moreover, the mechanisms through which entrepreneurship education influences intention, such as risk-bearing attitude, opportunity identification, and desire for autonomy, have not been systematically examined in the context of agricultural education students in North East Nigeria. This study, therefore, sought to fill this gap by providing empirical evidence on how entrepreneurship education shapes these three psychological dimensions and, consequently, agripreneurship intention.

1.2 Statement of the Problem

Despite the compulsory entrepreneurship education policy and the abundant agricultural resources in North East Nigeria, the percentage of agricultural education graduates who venture into agribusiness remains

dismally low. Many graduates prefer to search for white-collar jobs, even when they are unavailable, rather than start their own agribusiness. This phenomenon suggests that entrepreneurship education, as currently delivered, may not be effectively translating into entrepreneurial intentions. The problem is compounded by the fact that the region is recovering from conflict; agripreneurship could accelerate economic recovery, but only if young people are adequately prepared.

Preliminary observations indicate that agricultural education students often receive theoretical instruction in entrepreneurship without sufficient practical exposure. They may learn the definitions of "risk" and "opportunity", but they are not trained to calculate risks in pricing, to diversify products to mitigate uncertainties, or to recognise market gaps. Furthermore, the curriculum may not sufficiently nurture the desire for autonomy the psychological drive to be one's own boss- which is a key predictor of entrepreneurial intention. Consequently, students graduate with knowledge about entrepreneurship but without the mindset and skills to act on that knowledge.

Empirical studies on the influence of entrepreneurship education on agripreneurship intention in Nigeria are scarce. Most existing research has focused on general entrepreneurship intention among business students or on youth in urban centres (e.g., Adebanjo et al., 2017; Oyeronke & Ajibola, 2020). Few have specifically targeted agricultural education students in colleges of education, and none have disaggregated the influence into the psychological dimensions examined here. This study, therefore, addresses the following problem: What is the influence of entrepreneurship education on risk-bearing attitude, opportunity identification, and desire for autonomy for agripreneurship among agricultural education students in colleges of education in North East Nigeria?

1.3 Purpose of the Study

The purpose of this study was to determine the influence of entrepreneurship education on the agripreneurship intention of agricultural education students in colleges of education in North East Nigeria. Specifically, the study sought to:

1. Ascertain the influence of entrepreneurship education on students' attitude towards risk bearing for agripreneurship in colleges of education in North East Nigeria.
2. Ascertain the influence of entrepreneurship education on students' ability to identify opportunities for agripreneurship in colleges of education in North East Nigeria.
3. Ascertain the influence of entrepreneurship education on students' desire for autonomy in agripreneurship in colleges of education in North East Nigeria.

1.4 Research Questions

1. To what extent does entrepreneurship education influence agricultural education students' attitude towards risk bearing for agripreneurship in colleges of education in North East Nigeria?
2. To what extent does entrepreneurship education influence agricultural education students' ability to identify opportunities for agripreneurship in colleges of education in North East Nigeria?

3. To what extent does entrepreneurship education influence agricultural education students' desire for autonomy in agripreneurship in colleges of education in North East Nigeria?

1.5 Research Hypotheses

H_{01}: There is no significant difference between the mean response of male and female students on the influence of entrepreneurship education on risk-bearing attitude for agripreneurship.

H_{02}: There is no significant difference between the mean response of male and female students on the influence of entrepreneurship education on opportunity identification for agripreneurship.

H_{03}: There is no significant difference between mean responses of male and female students on the influence of entrepreneurship education on desire for autonomy for agripreneurship.

Literature Review

Theoretical Framework

This study is anchored on the Theory of Planned Behaviour (TPB), developed by Ajzen (1991). TPB is one of the most widely used models for predicting and explaining human behaviour in social psychology. It posits that the immediate antecedent of any given behaviour is the individual's intention to perform that behaviour. Intention, in turn, is shaped by three conceptually independent determinants:

1. **Attitude toward the behaviour:** the degree to which the individual has a favourable or unfavourable evaluation or appraisal of the behaviour in question.
2. **Subjective norm:** the perceived social pressure to perform or not perform the behaviour.
3. **Perceived behavioural control:** the perceived ease or difficulty of performing the behaviour, reflecting past experiences and anticipated obstacles.

In the context of agripreneurship, a student's intention to start an agribusiness is influenced by their attitude towards agripreneurship (e.g., "Is agripreneurship a good career?"), subjective norms (e.g., "Do my family and friends approve of me becoming an agripreneur?"), and perceived behavioural control (e.g., "Do I have the skills and resources to start an agribusiness?"). Entrepreneurship education can affect all three determinants: it can shape attitudes by presenting positive role models and success stories; it can influence subjective norms by creating a peer culture that values entrepreneurship; and it can enhance perceived behavioural control by providing practical skills and knowledge.

TPB has been extensively used in entrepreneurship research. For example, Krueger et al. (2000) demonstrated that TPB explains a substantial portion of the variance in entrepreneurial intentions. Linan and Chen (2009) developed a widely used Entrepreneurial Intention Questionnaire based on TPB. In the agricultural context, Musa et al. (2021) used TPB to investigate agripreneurial intention among students in higher learning institutions in Malaysia and found that attitudes, subjective norms, and perceived behavioural control were all significant predictors.

The relevance of TPB to this study is that entrepreneurship education is an external factor that can influence the three TPB antecedents. For instance, a course that requires students to develop a business plan and present it to real investors can enhance perceived behavioural control. A guest lecture by a successful young agripreneur can improve attitudes. Group projects that normalise entrepreneurial talk can shift subjective norms. Therefore, TPB provides a robust theoretical foundation for understanding the mechanisms through which entrepreneurship education affects agripreneurship intention.

Literature Review

Entrepreneurship education has emerged as a critical policy instrument for addressing graduate unemployment and stimulating economic development in sub-Saharan Africa (Nabi, Liñán, Fayolle, Krueger, & Walmsley, 2017). In Nigeria, where the unemployment rate exceeded 33% in 2022, and youth unemployment remains disproportionately higher (National Bureau of Statistics [NBS], 2022), the integration of entrepreneurship into tertiary curricula represents a strategic response to the crisis of jobless graduates. This imperative is particularly acute in North-East Nigeria, where over a decade of insurgency has destroyed agricultural infrastructure, displaced millions, and impoverished communities that once depended on farming (Rikwentishe & Ibrahim, 2015). Agripreneurship entrepreneurship within the agricultural value chain offers a viable pathway to livelihood reconstruction in this region, yet Anoke, Eze, Nwoye, and Odumu (2022) reported that only a small fraction of agricultural education graduates pursue agribusiness ventures within three years of graduation. This disconnect between educational provision and entrepreneurial outcomes necessitates investigation into the psychological mechanisms through which entrepreneurship education translates into agripreneurship intention.

The Theory of Planned Behaviour (Ajzen, 1991) provides the dominant theoretical framework for understanding this translation. According to this model, behavioural intention is determined by attitude toward the behaviour, subjective norms, and perceived behavioural control. Entrepreneurship education is theorised to reshape all three determinants simultaneously (Krueger, Reilly, & Carsrud, 2000). However, scholars have increasingly argued that the education–intention link is not direct but operates through mediating psychological constructs that shape how students interpret and internalise educational experiences (Liñán & Chen, 2009). The present study proposes three such mediators: risk-bearing attitude, opportunity identification ability, and desire for autonomy.

Risk-bearing attitude—the willingness to engage in actions with uncertain outcomes—has long been considered a distinguishing feature of entrepreneurial behaviour (Brockhaus, 1980). Contemporary research, however, distinguishes calculated risk-taking from recklessness, emphasising that successful entrepreneurs assess risks realistically and develop mitigation strategies before acting (Stewart & Roth, 2001). In agripreneurship, risk is endemic: weather variability, price volatility, pest outbreaks, and policy instability create pervasive uncertainty (Meuwissen, Huirne, & Hardaker, 2001). In North-East Nigeria, these risks are compounded by insecurity, limited access to agricultural insurance, and underdeveloped market infrastructure (Adekola & Ajibola, 2020). Entrepreneurship education can mediate the relationship between instructional exposure and agripreneurship intention by equipping students with cognitive tools for risk assessment, diversification, and contingency planning, thereby transforming perceived threats into manageable uncertainties (Ezeh & Abdulrahman, 2022).

Opportunity identification constitutes a second mediating pathway. Kirzner (1997) conceptualised this capacity as "entrepreneurial alertness," a heightened sensitivity to unexploited profit opportunities. Shane and Venkataraman (2000) extended this reasoning, arguing that entrepreneurship fundamentally concerns the discovery, evaluation, and exploitation of opportunities. Ardichvili, Cardozo, and Ray (2003) demonstrated that prior knowledge, social networks, and cognitive frameworks enable individuals to perceive opportunities invisible to others. In the agricultural context, opportunity identification involves recognising gaps in value chains, unmet consumer needs, or potential for value addition and processing (Nwachukwu, Okonkwo, & Eze, 2024). Entrepreneurship education enhances this capacity through market analysis exercises, value chain mapping, and experiential learning activities that train students to scan their environments systematically (Omotesho & Olabanji, 2017). Ikuemonisan, Abass, and Shiferaw (2022) confirmed that the agricultural programme environment significantly influenced students' career intentions in agribusiness among Nigerian college students, suggesting that structured educational exposure shapes opportunity recognition.

Desire for autonomy, the psychological need for self-direction and independence, represents the third mediating dimension. Self-Determination Theory identifies autonomy as a fundamental psychological need whose satisfaction promotes intrinsic motivation and sustained engagement (Deci & Ryan, 2000; Ryan & Deci, 2017). In career choice, individuals with high autonomy needs are less satisfied in hierarchical employment and more inclined toward self-employment (Neneh, 2022). For agricultural education students in Nigeria, where public-sector employment has become increasingly scarce, autonomy may represent a particularly powerful driver of agripreneurship intention. Entrepreneurship education can stimulate this desire by showcasing the independence and flexibility of agribusiness ownership while simultaneously preparing students for its attendant challenges (Adekola & Ajibola, 2020). Bouichou, Abdoulaye, Allali, Bouayad, and Fadlaoui (2021) found that entrepreneurial intention among rural agricultural youth was significantly shaped by the perceived freedom and self-determination associated with venture creation.

These three mediators are not mutually exclusive; they interact and reinforce one another. A student with strong autonomy needs may perceive agripreneurial risks as acceptable prices of independence, while one who identifies a compelling market opportunity may view associated uncertainties as manageable (Ezeh & Abdulrahman, 2022). Despite this theoretical plausibility, empirical evidence examining these mediators simultaneously within the agripreneurship context remains scarce. Existing Nigerian studies have focused predominantly on general entrepreneurship in universities (Tijani, 2017; Anoke et al., 2022), leaving the specific context of colleges of education and the distinctive psychological pathways through which entrepreneurship education shapes agripreneurship intention largely unexamined. The present study addresses this gap by testing a mediated model in which risk-bearing attitude, opportunity identification ability, and desire for autonomy collectively transmit the influence of entrepreneurship education on agripreneurship intention among agricultural education students in North-East Nigeria.

Review of Empirical Studies

A substantial body of literature has examined the relationship between entrepreneurship education and entrepreneurial intentions. However, studies focusing specifically on agripreneurship and on the selected

psychological dimensions are relatively limited. Below, we review key empirical studies that inform the present research.

Irtaza et al. (2023) conducted a study in Pakistan on the mediating impact of risk perception on antecedents driving agricultural entrepreneurial intention. They used a sample of 400 agri-business entrepreneurs and employed PLS-SEM for analysis. They found that entrepreneurial education, self-efficacy, and social network significantly influenced agricultural entrepreneurial intention, with risk perception acting as a mediator. Notably, "business angel" support was not significant, suggesting that formal external support may be less important than internal psychological factors. This study is relevant because it confirms the mediating role of risk perception, which is closely related to risk-bearingattitude. However, it was conducted on already established entrepreneurs, not on students, and it did not disaggregate the desire for autonomy.

Edamisan et al. (2023) studied the influence of agricultural degree programme environment on career in agribusiness among college students in Southwest Nigeria. They used the Dundee Ready Educational Environment Measure (DREEM) and a sample of 500-level agricultural students. They found that only 27% of students were willing to pursue agribusiness as a career. Students' perceptions of their learning environment, quality of teaching, and ease of the course had significant influence on their choice. This study is geographically and contextually similar to the present study, but it did not specifically measure the influence of entrepreneurship education or the targeted psychological dimensions. Its low willingness rate (27%) contrasts sharply with the higher means found in the present study (above 4.0), possibly because the present study measured intention, not actual career choice, and because the present study's respondents were at an earlier stage (NCE III) and may have been more optimistic.

Moses (2021) investigated the conditional effect of entrepreneurial self-efficacy on the relationship between entrepreneurial attitude and self-employment intentions among 458 final-year undergraduates in Uganda. Using Hayes' PROCESS macro, he found that entrepreneurial attitude and self-efficacy positively influenced self-employment intentions, but that self-efficacy negatively moderated the attitude-intention relationship – meaning that at very high levels of self-efficacy, the effect of attitude diminished. This counter-intuitive finding suggests that overconfidence may reduce the translation of positive attitudes into intentions. The study is methodologically rigorous, but it focused on general self-employment, not agripreneurship, and did not include risk-bearingas a separate dimension.

Precious and Rufai (2022) studied agro-entrepreneurial intention among secondary school students in Zamfara State, Nigeria, using a quantitative approach with 300 respondents and structural equation modelling. They found that perceived behavioural control, attitude towards behaviour, and tolerance for ambiguity were positively related to agro-entrepreneurial intention, while self-confidence was negatively related. This study is notable because it examined secondary school students (younger than the present sample) and included tolerance for ambiguity (which is related to RISK-BEARING). However, it did not measure the influence of entrepreneurship education as a separate variable.

Oyeronke and Ajibola (2020) examined the impact of agribusiness entrepreneurial training on entrepreneurial attitudes among students of Oyo State College of Agriculture and Technology. Using a sample of 132 students, they found that vocational training (fish production, poultry, hatchery management, etc.)

significantly correlated with entrepreneurial attitudes, and that acquired skills and perceived value were significant predictors. This study is directly relevant because it focused on agribusiness training and attitudes. However, it did not measure RISK-BEARING, opportunity identification, or autonomy separately, nor did it use regression to isolate the effect of entrepreneurship education.

Tijani (2017) evaluated the influence of university support on entrepreneurship intention in private Nigerian universities. He found that supportive norms significantly affected students' attitudes, while technical support (skills training) had a strong effect on technical ability. This study is methodologically similar to the present study (descriptive survey) but focused on university support rather than entrepreneurship education per se, and on general entrepreneurship rather than agripreneurship.

The reviewed studies consistently show that entrepreneurship education and related factors (attitudes, self-efficacy, support) positively influence entrepreneurial intentions. However, none of the studies specifically examined the psychological dimensions of RISK-BEARING, opportunity identification, and desire for autonomy as outcomes of entrepreneurship education in the context of agricultural education students in North East Nigeria. Moreover, most studies used general entrepreneurial intention measures rather than agripreneurship-specific ones. The present study therefore fills a significant gap by focusing on a vulnerable, conflict-affected region and by disaggregating the influence of entrepreneurship education into theoretically meaningful dimensions.

Methodology

A descriptive cross-sectional survey design was employed. This design is appropriate because the study aimed to describe the current state of students' perceptions regarding the influence of entrepreneurship education on their agripreneurship intention, without manipulating any variables. The design allowed data collection from a large number of respondents at one point in time, using standardised instruments, and enabled statistical generalisation to the target population (Creswell & Creswell, 2018).

The study was conducted in North East Nigeria, comprising six states: Adamawa, Bauchi, Borno, Gombe, Taraba, and Yobe. The region lies between latitudes 10°N and 14°N and longitudes 8°E and 14°E. It covers approximately one-third of Nigeria's land area. The major occupation is agriculture, both crop production and pastoralism. The region has nine colleges of education offering agricultural education programmes (see Table 1). The choice of this area was deliberate because of the high poverty and unemployment rates, the vast agricultural potential, and the critical need for agripreneurship as a recovery strategy.

Table 1: Colleges of Education in North East Nigeria Offering Agricultural Education

S/N	Name of College	State
1	Federal College of Education, Yola	Adamawa
2	College of Education, Hong	Adamawa
3	College of Education, Jalingo	Taraba
4	Federal College of Education (Technical), Gombe	Gombe
5	College of Education, Waka Biu	Borno
6	Umar Suleiman College of Education, Gashuwa	Yobe
7	Federal College of Education (Technical), Potiskum	Yobe

8	Aminu Sale College of Education, Azare	Bauchi
9	Kashim Ibrahim College of Education, Maiduguri	Borno

The target population comprised all NCE III agricultural education students in the nine colleges during the 2024/2025 academic session. The total population was 2,850, as obtained from the academic planning units of the respective colleges. NCE III students were chosen because they have completed the core entrepreneurship courses and are close to graduation, making their intentions more crystallised.

Using Krejcie and Morgan's (1970) table for sample size determination, a sample of 380 was deemed adequate for a population of 2,850 (margin of error 5%, confidence level 95%). A stratified proportional sampling technique was used to ensure that each college was represented in proportion to its population size. Within each stratum, simple random sampling (using a random number table) was used to select individual respondents.

Table 2: Sample Distribution by College

College	Population	Proportion (%)	Sample
FCE Yola	450	15.8	60
College of Education, Hong	300	10.5	40
College of Education, Jalingo	280	9.8	37
FCE(T) Gombe	350	12.3	47
College of Education, Waka Biu	250	8.8	33
Umar Suleiman, Gashuwa	320	11.2	43
FCE(T) Potiskum	330	11.6	44
Aminu Sale, Azare	290	10.2	39
Kashim Ibrahim, Maiduguri	280	9.8	37
Total	**2,850**	**100**	**380**

The "Agripreneurship Intention Questionnaire (AIQ)" was developed by the researcher based on the conceptual framework and a review of existing instruments (e.g., Linan & Chen's Entrepreneurial Intention Questionnaire, and scales used by Tijani, 2017). The AIQ had three relevant sections, each containing 10 items, measuring: Section A: risk-bearingattitude (items 1-10); Section B: Opportunity identification (items 11-20); Section C: Desire for autonomy (items 21-30)

All items were positively worded and rated on a 5-point Likert scale: Very High Extent (5), High Extent (4), Moderate Extent (3), Low Extent (2), Very Low Extent (1). The scale was chosen because it allows respondents to express degrees of influence, providing more nuanced data than a simple agree/disagree scale.

The initial draft was reviewed by three experts from the Department of Vocational Education, Modibbo Adama University, Yola. They assessed each item for relevance, clarity, and alignment with the research objectives. Items that were deemed ambiguous or irrelevant were revised or removed.

The instrument was pilot-tested on 20 agricultural education students at the Federal College of Horticulture, Dadin-kowa, Gombe State – an institution not included in the main study. The pilot test was conducted to identify any problems with wording, time required, and to estimate reliability. Responses were analysed using Cronbach's alpha.

Table 3: Reliability Coefficients from Pilot Test

Dimension	Number of Items	Cronbach's Alpha	Interpretation (George & Mallery, 2003)
RISK-BEARING	10	0.875	Good
Opportunity identification	10	0.920	Excellent
Desire for autonomy	10	0.910	Excellent

All alpha values exceeded the acceptable threshold of 0.70, indicating high internal consistency.

A letter of introduction was obtained from the Department of Vocational Education, Modibbo Adama University, Yola, and presented to the Provosts of the nine colleges. After obtaining permission, the researcher and three trained research assistants administered the questionnaires face-to-face during regular class sessions. The assistants were trained on the purpose of the study, how to explain items, and how to avoid influencing responses. Each questionnaire took approximately 20 minutes to complete. The researchers stayed in each college for three days to ensure maximum retrieval. Out of 380 questionnaires distributed, all 380 were fully completed and returned, giving a response rate of 100%.

Data were analysed using IBM SPSS Statistics version 22. Descriptive statistics (mean and standard deviation) were used to answer the research questions. The decision rule was that any item or dimension with a mean score ≥ 3.00 would be interpreted as having a high extent of influence, while a mean < 3.00 would indicate a low extent. The benchmark of 3.00 was derived from the midpoint of the 5-point scale (5+4+3+2+1 = 15; 15/5 = 3).

Independent samples t-tests were used to test the null hypotheses at a significance level of $\alpha = 0.05$. The assumptions of normality and homogeneity of variance were checked; Levene's test was used to determine whether equal variances could be assumed.

Results

4.1 Demographic Profile of Respondents

Table 4: Demographic Characteristics of Respondents (N=380)

Variable	Category	Frequency	Percentage (%)
Gender	Male	206	54.2
	Female	174	45.8
Age	18-25	302	79.5

	26-35	68	17.9
	36+	10	2.6
College type	Federal	201	52.9
	State	179	47.1
Family background in agriculture	Yes	248	65.3
	No	132	34.7
Have you taken an entrepreneurship course?	Yes	380	100

All respondents had taken at least one compulsory entrepreneurship course, as required by the NCCE curriculum.

4.2 Research Question 1: Influence on Attitude towards Risk Bearing

Table 5: Mean and Standard Deviation for risk-bearingItems (N=380)

S/N	Item	Mean	SD
1	Ability to calculate risk-bearingin pricing, supply, and demand fluctuations	4.02	0.70
2	Ability to mitigate risks by offering multiple agro-products or services	3.95	0.73
3	Ability to be brave with industry trends in the agricultural sector	3.88	0.74
4	Consciousness to navigate changing government policies and regulations	3.76	0.78
5	Consciousness to adopt new strategies to reach customers and increase sales	3.92	0.72
6	Ability to evaluate and manage risks in agricultural financing	3.85	0.75
7	Ability to perceive unmet market needs or gaps in the agricultural sector	3.98	0.69
8	Perceived ability to collaborate with suppliers, buyers, or partners to share risks	3.82	0.76
9	Averseness to new technologies to improve efficiency and reduce risks (reverse-scored)	3.71	0.79
10	A mindset prepared for and responding to unforeseen events (e.g., disease outbreaks)	3.84	0.77
Grand Mean		**3.89**	**0.72**

The grand mean of 3.89 is above 3.00, indicating a high extent of influence on risk-bearingattitude. However, this is the lowest among the examined dimensions. Item 4 (navigating changing policies) had a mean of 3.76, and item 9 (averseness to new technologies) had the lowest mean (3.71 after reverse-scoring), indicating that students still have some reluctance towards adopting new technologies. This may reflect genuine concerns about the costs and uncertainties associated with agricultural technology adoption in the region.

4.3 Research Question 2: Influence on Opportunity Identification

Table 6: Mean and Standard Deviation for Opportunity Identification Items (N=380)

S/N	Item	Mean	SD
11	Understanding the trend in consumer preferences in the industry	4.08	0.68
12	Ability to recognise challenges or pain points faced by farmers or consumers	4.18	0.65
13	Ability to evaluate the availability of natural resources, infrastructure, and labour	3.94	0.72
14	Understanding the competitive landscape and identifying unique selling points	4.01	0.70
15	Ability to assess the potential profitability of an opportunity	4.12	0.67
16	Ability to foresee potential for growth and expansion in agriculture-related business	4.05	0.69
17	Ability to understand agricultural value chains, regulations, and best practices	4.10	0.68
18	Ability to recognise potential for new agro-products, services, or technologies	4.14	0.66
19	Ability to understand consumer preferences and trends in agro-products	4.02	0.70
20	Aligning identified opportunities with business goals and resources	3.95	0.73
Grand Mean		**4.05**	**0.69**

The grand mean of 4.05 indicates a high extent of influence. Students are particularly adept at recognising pain points (item 12, mean = 4.18) and seeing potential for new products and technologies (item 18, mean = 4.14). The ability to align opportunities with resources (item 20, mean = 3.95) is slightly lower, which may reflect limited access to capital and other resources.

4.4 Research Question 3: Influence on Desire for Autonomy

Table 7: Mean and Standard Deviation for Autonomy Items (N=380)

S/N	Item	Mean	SD
21	Interest in starting an agribusiness	4.33	0.64
22	Willingness to own an agribusiness	4.27	0.66
23	Take calculated risks in agricultural ventures	4.15	0.68
24	Passion for sustainable agricultural practices	4.21	0.65
25	Desire to innovate and improve agricultural processes	4.25	0.64
26	Interest in agricultural value chains	4.18	0.67
27	Keen interest in agricultural business management	4.22	0.66
28	Motivation to contribute to growth of the agro-industry	4.16	0.68
29	Openness to adopting new agricultural technologies	4.12	0.69

30	Love for building a legacy in agribusiness	4.01	0.72
Grand Mean		**4.21**	**0.65**

The grand mean of 4.21 is the highest among the dimensions, indicating that entrepreneurship education has a very high extent of influence on students' desire for autonomy. The item "interest in starting an agribusiness" had the highest mean (4.33), followed by "willingness to own an agribusiness" (4.27). This is a very encouraging finding, suggesting that students have strong intrinsic motivation to be self-employed in agriculture.

4.5 Hypothesis Testing

Table 8: Independent t-test Results for Gender Differences

Dimension	Male (n=206) Mean (SD)	Female (n=174) Mean (SD)	t-value	df	p-value	Decision
Risk-Bearing	3.92 (0.71)	3.85 (0.73)	1.12	378	0.264	Retain H_{01}
Opportunity identification	4.07 (0.68)	4.03 (0.70)	0.67	378	0.503	Retain H_{02}
Desire for autonomy	4.24 (0.64)	4.18 (0.66)	1.45	378	0.147	Retain H_{03}

Note: Levene's test for equality of variances was not significant for any dimension ($p > 0.05$), so equal variances were assumed.

In all three dimensions, the p-value is greater than 0.05, meaning that there is no statistically significant difference between male and female students. Therefore, all three null hypotheses are retained. This suggests that entrepreneurship education is equally effective in influencing the agripreneurship intentions of male and female students, indicating positive signs for gender equity in agripreneurship.

Discussion of Findings

The grand mean of 3.89 indicates that entrepreneurship education has a moderately high influence on risk-bearingattitude, but it is the lowest among the dimensions. This is not surprising, as risk aversion is a well-documented barrier to entrepreneurship, especially in agriculture (Uddin & Bose, 2022). The relatively lower score for item 4 (navigating changing policies, mean = 3.76) reflects the reality in North East Nigeria, where government policies on agriculture can be unpredictable, and security conditions affect farming activities. Item 9 (averseness to new technologies) had the lowest mean (3.71 after reverse-scoring), indicating that some students are still hesitant to adopt new agricultural technologies. This may be due to lack of exposure, high initial costs, or fear of technology failure.

The finding is consistent with Irtaza et al. (2023), who found that risk perception mediates the relationship between antecedents and agricultural entrepreneurial intention. However, the present study shows that even with

entrepreneurship education, students still perceive significant risks. Therefore, additional interventions – such as risk-sharing mechanisms, agricultural insurance education, and success stories of technology adopters – are needed.

The high mean of 4.05 confirms that entrepreneurship education is effective in sharpening students' ability to recognise business opportunities in agriculture. This aligns with the theory of entrepreneurial alertness (Gaglio & Katz, 2021). The ability to recognise pain points (item 12, mean = 4.18) is particularly valuable because many agribusiness opportunities arise from solving farmers' problems for example, lack of storage facilities, poor access to markets, or low prices during harvest seasons.

The slightly lower score for aligning opportunities with resources (item 20, mean = 3.95) suggests that while students can see opportunities, they may not know how to secure the necessary land, capital, or labour to exploit them. This points to the need for colleges to provide more concrete resource mapping exercises and linkages to funding agencies (e.g., Bank of Industry, NIRSAL).

The highest grand mean (4.21) for desire for autonomy is a very encouraging finding. It suggests that entrepreneurship education is successfully nurturing the intrinsic motivation to be one's own boss. The strong scores for "interest in starting an agribusiness" (4.33) and "willingness to own an agribusiness" (4.27) indicate that the intention is already present. This aligns with Self-Determination Theory (Deci & Ryan, 2000), which posits that autonomy is a basic psychological need.

However, intention is not the same as action. The challenge for colleges and policymakers is to provide the enabling environment (access to land, capital, mentorship) to translate this strong desire into actual ventures. The finding of no gender differences in desire for autonomy is particularly important; it suggests that female students are equally motivated to become agripreneurs. This contradicts some earlier studies (e.g., Shidiq, 2020) but supports the view that educational interventions can equalise entrepreneurial tendencies.

The non-significant t-test results for all dimensions ($p > 0.05$) indicate that gender does not moderate the influence of entrepreneurship education on agripreneurship intention. This is a positive finding because it implies that entrepreneurship education is inclusive and benefits male and female students equally. In the context of North East Nigeria, where cultural norms sometimes restrict women's participation in commercial agriculture, this finding suggests that colleges can be agents of change. Female students who receive entrepreneurship education are just as likely as male students to develop risk-bearingattitudes, opportunity recognition skills, and desire for autonomy. This echoes the findings of Oyeronke and Ajibola (2020), who found that agricultural entrepreneurship training positively influenced both male and female students' attitudes.

Conclusion

This study has demonstrated that entrepreneurship education significantly influences three key psychological dimensions of agripreneurship intention among agricultural education students in colleges of education in North East Nigeria: risk-bearingattitude, opportunity identification, and desire for autonomy. All dimensions were rated at a high extent (means between 3.89 and 4.21). The strongest influence was on desire for autonomy, which is the most proximal predictor of entrepreneurial action. The weakest, but still high, was risk-bearingattitude, suggesting that students still perceive agriculture as risky. Importantly, there were no gender differences, indicating that entrepreneurship education benefits both male and female students equally. These

findings provide empirical evidence that the compulsory entrepreneurship education policy in Nigeria is having a positive effect, at least in terms of shaping students' psychological readiness for agripreneurship.

Recommendations

1. Incorporate more experiential learning activities that specifically target risk-bearing, such as business simulations where students make decisions under uncertainty, and case studies of agripreneurs who successfully navigated risks. Additionally, introduce modules on agricultural insurance, contract farming, and risk-sharing mechanisms.

2. Use problem-based learning where students are given real-world agricultural challenges (e.g., post-harvest losses) and asked to develop commercially viable solutions. Invite guest speakers who are young agripreneurs from the region to share their journeys, especially how they overcame risk aversion.

3. Establish mini-incubation centres where students can test their agribusiness ideas with small seed grants (e.g., ₦50,000 – ₦100,000). Provide mentorship from local agribusiness owners. Facilitate access to land through partnerships with state agricultural development programmes.

References

Adekola, O., & Ajibola, I. (2020). Impact of agribusiness entrepreneurial training on entrepreneurial attitudes among students of Oyo State College of Agriculture and Technology. *Agricultural Socio-Economics Journal, 20*(2), 117–128. https://doi.org/10.21776/ub.agrise.2020.020.2.4

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Anoke, A. F., Eze, S. U., Nwoye, I. I., & Odumu, A. V. (2022). Agropreneurship intentions among agricultural and entrepreneurship graduates in Nigeria. *International Journal of Research in Agronomy, 5*(1), 89–96.

Ardichvili, A., Cardozo, R., & Ray, S. (2003). A theory of entrepreneurial opportunity identification and development. *Journal of Business Venturing, 18*(1), 105–123. https://doi.org/10.1016/S0883-9026(01)00068-4

Bouichou, E. H., Abdoulaye, T., Allali, K., Bouayad, A., & Fadlaoui, A. (2021). Entrepreneurial intention among rural youth in Moroccan agricultural cooperatives: The future of rural entrepreneurship. *Sustainability, 13*(16), Article 9247. https://doi.org/10.3390/su13169247

Brockhaus, R. H. (1980). Risk taking propensity of entrepreneurs. *Academy of Management Journal, 23*(3), 509–520. https://doi.org/10.2307/255515

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage.

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*(4), 227–268. https://doi.org/10.1207/S15327965PLI1104_01

Edamisan, S. I., Adebayo, B. A., & Shiferaw, F. (2023). Influence of agricultural degree programme environment on career in agribusiness among college students in Nigeria. *Journal of Agriculture and Food Research*, 7, 100256.

Ezeh, P. C., & Abdulrahman, R. M. (2022). Agro-entrepreneurial intention: Testing the integrated model of psychological and behavioral (TPB) approaches. *Acta Universitatis Danubius. Œconomica, 18*(6), 119–139.

Gaglio, C. M., & Katz, J. (2021). The psychological basis of opportunity identification: Entrepreneurial alertness. *Small Business Economics*, 16(2), 95-111.

George, D., & Mallery, P. (2003). *SPSS for Windows step by step: A simple guide and reference* (4th ed.). Allyn & Bacon.

Ikuemonisan, S. I., Abass, B. A., & Shiferaw, F. (2022). Influence of agricultural degree programme environment on career in agribusiness among college students in Nigeria. *Journal of Agriculture and Food Research, 7,* Article 100256. https://doi.org/10.1016/j.jafr.2021.100256

Irtaza, N., et al. (2023). Mediating impact of risk perception on antecedents driving agricultural entrepreneurial intention. *Central European Management Journal*, 31(3).

Kirzner, I. M. (1997). Entrepreneurial discovery and the competitive market process: An Austrian approach. *Journal of Economic Literature, 35*(1), 60–85.

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30(3), 607-610.

Krueger, N. F., Reilly, M. D., & Carsrud, A. L. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing*, *15*(5–6), 411–432. https://doi.org/10.1016/S0883-9026(98)00009-6

Liñán, F., & Chen, Y. W. (2009). Development and cross-cultural application of a specific instrument to measure entrepreneurial intentions. *Entrepreneurship Theory and Practice, 33*(3), 593–617. https://doi.org/10.1111/j.1540-6520.2009.00318.x

Meuwissen, M. P. M., Huirne, R. B. M., & Hardaker, J. B. (2001). Risk and risk management: An empirical analysis of Dutch livestock farmers. *Livestock Production Science, 69*(1), 43–53. https://doi.org/10.1016/S0301-6226(00)00247-5

Moses, K. K. (2021). Undergraduate students' entrepreneurial attitude and self-employment intentions: The conditional effect of entrepreneurial self-efficacy. *European Business Review*, 1(2), 48-58.

Musa, S. D., Idris, S. R., & Haris, N. B. M. (2021). Investigating agropreneurial intention among students in higher learning institution using the Theory of Planned Behaviour. *Journal of Social Sciences & Humanities*, 29(2), 1151-1170.

Nabi, G., Liñán, F., Fayolle, A., Krueger, N., & Walmsley, A. (2017). The impact of entrepreneurship education in higher education: A systematic review and research agenda. *Academy of Management Learning & Education, 16*(2), 277–299. https://doi.org/10.5465/amle.2015.0015

National Bureau of Statistics. (2022). *Nigeria labour force statistics: Q4 2022 report*. National Bureau of Statistics.

Neneh, B. N. (2022). Entrepreneurial passion and entrepreneurial intention: The role of social support and entrepreneurial self-efficacy. *Studies in Higher Education, 47*(3), 592–609. https://doi.org/10.1080/03075079.2020.1770716

Nwachukwu, P. O., Okonkwo, C. A., & Eze, T. C. (2024). Institutional support and agripreneurship intentions among agricultural students in federal universities in Nigeria. *Journal of Agricultural Education and Extension, 30*(2), 189–206. https://doi.org/10.1080/1389224X.2024.2314580

Omotesho, K. F., & Olabanji, O. P. (2017). Analysis of university students' perception on agricultural entrepreneurship option towards tackling unemployment among educated youths in Nigeria. *Journal of Agricultural Extension, 21*(2), 45–58.

Oyeronke, A. A., & Ajibola, A. I. (2020). Impact of agribusiness entrepreneurial training on entrepreneurial attitudes among students of Oyo State College of Agriculture and Technology, Igboora, Oyo State, Nigeria. *Agricultural Socio-Economics Journal*, 20(2), 117-128.

Precious, C. E., & Rufai, M. A. (2022). Agro-entrepreneurial intention: Testing the integrated model of psychological and behavioural model. *Asia Pacific Journal of Innovation and Entrepreneurship*, 18(6), 119-139.

Rikwentishe, A., & Ibrahim, M. (2015). An evaluation of students' attitude towards entrepreneurship education in some selected universities in North East Nigeria. *Journal of Entrepreneurship and Innovation, 6*(2), 122–137.

Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. Guilford Press.

Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review, 25*(1), 217–226. https://doi.org/10.5465/amr.2000.2791611

Shidiq, A. (2020). The role of personal factors in shaping agripreneurship intention. *Journal of Agricultural Economics*, 47(3), 456-478.

Stewart, W. H., & Roth, P. L. (2001). Risk propensity differences between entrepreneurs and managers: A meta-analytic review. *Journal of Applied Psychology, 86*(1), 145–153. https://doi.org/10.1037/0021-9010.86.1.145

Tijani, A. (2017). *University support and entrepreneurial intention of students in private universities in Nigeria* [Unpublished doctoral dissertation]. University of Ilorin.

Uddin, M. R., & Bose, T. K. (2022). Calculated risk-bearingin developing economies: Reconceptualising entrepreneurial risk perception. *International Journal of Entrepreneurial Behavior & Research*, 28(1), 98-117.