

## Relationship Between Age Proxies and Women Entrepreneurial Participation in Kebbi and Sokoto States of Northwestern, Nigeria

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<https://doi.org/10.56201/jbae.vol.12.no9.2026.pg51.68>

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### Abstract

*The study examines the sectoral assessment of the influence of age proxies on women entrepreneurial participation in Kebbi and Sokoto States of North- Western Nigeria. The effect of the three age parameters namely AL (Age Limit), AG (Age Group) and YEE (Year of Experience), were examined on women entrepreneurial participation in the wholesale retail, agriculture, education, manufacturing and processing and hospitality sectors. A sample of 500 women entrepreneurs were selected using stratified and purposive sampling techniques, a multinomial logistic regression was utilized to test the study hypothesis. The study found that AG has positive significant influence in education and manufacturing/processing sectors examined in Kebbi and Sokoto States of North-western Nigeria relative to agriculture, AL has negative significance influence only in agriculture sector. YEE has negative influence in agriculture and education sectors. Also, only AG has positive influence women entrepreneurial participation in the manufacturing/processing. However, all the parameters do not predict women entrepreneurial participation in the hospitality sector. This study therefore recommended that Government and policy makers should introduce entrepreneurship courses at undergraduate level which will reduce the burden of unemployment on the government after graduation. Government should also organize experienced women entrepreneurs to train the younger ones so that they can gain more knowledge or additional skills.*

**Keywords:** *Women entrepreneur, Entrepreneurial participation, Age Proxies, Sectors.*

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### 1. Introduction

Entrepreneurship has been recognised as a fundamental force for economic change and so requires more women to be involved in its operations (Okafor & Mordi, 2010). Dharmendra (2014) advances that women's entrepreneurship needs to be studied separately for two main reasons. The first reason is that women's entrepreneurship has been recognized during the last decade as an important untapped source of economic growth. The second reason is that women entrepreneurs create new jobs for themselves and others and also provide society with different solutions to management, organization and business problems as well as to the exploitation of entrepreneurial opportunities (Dharmendra, 2014).

The age, as a component of the individuals' human capital, is considered to be an important factor of entrepreneurial activity by most studies of entrepreneurship (Parker, 2009). Suzana and Danijela

(2012) highlighted that there are different opinions on the effect of age on individual choice of self-employment as a labour market status. The rationale of the positive impact of age on self-employment is based on the view that the quantity of the financial and human capital that one possesses and that are necessary for starting and conducting the business increases with age (Johansson, 2000; Arum & Müller, 2004; Parker, 2009). Furthermore, social and business networks that older people have developed can ease the realisation of their entrepreneurial venture. Since self-employment offers greater ability to control the content and pace of the work, this may be preferable working option for older people (Parker, 2009). This theoretical argument is supported by studies that find that the probability of self-employment increases with age (Blanchflower, 2000; Carree, M., van Stel, A., Thurik, R. and Wennekers, S. 2002; Blanchflower, 2004). However, given the fact that self-employment is assessed as a riskier employment option (Boden, 1999; Parker, 2004), and as an option that often means longer working hours (Blanchflower, 2004), it can be assumed that the self-employment can also be the less desirable option for older people (Johansson, 2000). Namely, it is estimated that the risk aversion increases with age (Parker, 2009). According to Suzana and Danijela (2012), taking into account the arguments for and the argument against the positive impact of age on self-employment, it is argued that there is an age limit, after which the willingness of individuals to start their own entrepreneurial ventures decreases and that is most likely that the individuals who are in the middle of their careers will become self-employed (Parker, 2009; Müller, 2006s). The non-linear dynamics of the self-employment rates in relation to the age should be analysed in the context of certain studies that found that the probability to be self-employed increases with age, but only to a certain limit, after which it decreases, or stabilizes (Bates, 1997; Blanchflower, 2004).

As a result of socio-cultural peculiarities in some places, women's entrepreneurial activity is clustered in low-growth and low-skilled business sectors. Numerous studies (Usman and Umar (2019), Folashade and Mairo (2021)) have been conducted to explore the relationship between women entrepreneurship and socio-cultural factors in different geographical locations. Most of the studies have, however, been concentrated in developed countries and region, using different methodologies. For example, Tundui (2012), in her study of the relationship between gender and small businesses involving 310 owner-managers in Tanzania, found that "women are unlikely to aim high as compared to men due to different socialization experiences." Nawaz (2009) and Nchimbi (2002) in their separate studies cited normative factors including social dishonor of women especially in rural areas as barriers to women who venture into entrepreneurship. Ge, Abbas, Ullah, Abbas, Sadiq and Zhang (2022) in their study of women's entrepreneurial contribution to family income: Innovative Technologies Promote Females" Entrepreneurship Amid Covid -19 crisis in Pakistan using an ordered logit model , the study findings suggest an insignificant positive effect of age on the contribution of entrepreneurship toward total household income. The value of the odds ratio indicates that keeping all other variables constant at their mean values, increasing the age of the sampled female respondents by 1 year will increase the probability of higher contribution toward household income only by 2 percent relative to the base category of lower contribution. Eliana et al (2018). In their Study of Female Entrepreneurs: How and Why are they Different? Found that norms of early marriage and motherhood at young ages can affect women's ability to access education and market opportunities and can lead to health problems with negative productivity effects (Kantor, 2002). Felicia Siegrist (2022) Study Supporting Women Entrepreneurs in Developing Countries: What Works? in Switzerland . Stated that findings across numerous studies show that Socio cultural constraints and gender norms often limit businesses, especially in male dominated industries. Issue relating to influence of age on women

entrepreneurial participation in different sectors were not covered. The extent to which women-owned business performance can be explained by age factors is not quantitatively exploited in depth. This creates a geographical gap, which this study seeks to fill by evaluating the influence of age parameters on women entrepreneurial participation in Kebbi and Sokoto States of Nigeria. In other words, this study attempts to investigate whether age as a socio-cultural factor plays a significant role in influencing women's participation in entrepreneurship in Kebbi and Sokoto States, Nigeria. In addition, we expect, *a priori*, that a woman's age group in Kebbi and Sokoto States determine to an extent her degree of entrepreneurial intentions and actions. The objective of the study is to find out the relationship between age proxies and women entrepreneurial participation in Kebbi and Sokoto states of northwestern, Nigeria. Based on the study objective the relevant questions were raised;

1. To what extent does age group influence women entrepreneurial participation in Kebbi and Sokoto States of Northwestern, Nigeria?
2. To what extent does age limit influence women entrepreneurial participation in Kebbi and Sokoto States of Northwestern, Nigeria?
3. To what extent does year of experience influence on women entrepreneurial participation in Kebbi and Sokoto States of Northwestern, Nigeria?

## **2. Literature Review**

This section gives detailed clarifications on major conceptual and empirical issues with a view to developing a theoretical framework for the study. In order to arrive at the conceptual framework, the section provides the study's operational conceptions of the variables as well as explores the different theoretical perspectives of entrepreneurship to guide the study.

### **2.1 Theoretical Review**

Different theories already existed in which are in relevance and are used for the foundation of this research, two theories are hereby reviewed this comprises of The Theory of Planned Behavior (TPB) and Perceived Behavioral Control (PBC),

#### **2.1.1 The Theory of Planned Behavior (TPB)**

The theory of planned behavior (TPB) was put together by Ajzen, in the year 1991 this explains the planning of human actions in the expectance of the possible outcomes (Ephrem et al., 2019). However, choosing the path of entrepreneurship is actually a voluntary one (Cheng and Liao, 2017). Whereas, the more an individual have the intentions in choosing entrepreneurship as his/her career is also the more he has the chances of becoming and entrepreneur (Contreras et al., 2017a). Attitude Toward Behavior refers to an individual's positive or negative evaluation of performing a behavior. It encompasses beliefs about the consequences of the behavior and the individual's overall assessment of whether those consequences are desirable or undesirable. Subjective norms capture the perceived social pressure to engage or not engage in a behavior. It includes beliefs about what significant others think one should do and the motivation to comply with those expectations. The Theory of planned behavior doesn't always account for situational factors that might influence behavior but are not directly captured by the theory's constructs. Cultural Differences: The theory may not adequately address cultural variations in attitudes, norms, and perceived control. Behavioral Complexity: It might oversimplify the complexities of behavior by assuming rational decision-making and linear relationships between its constructs. Weaknesses: Limited Predictive Power: While Theory of planned behavior offers a strong theoretical

framework, its ability to predict actual behavior accurately is sometimes limited, especially for complex behaviors influenced by numerous factors. Measurement of Challenges assessing the subjective norms and perceived behavioral control accurately can be challenging, as these constructs involve individuals' perceptions, which may be difficult to quantify objectively. Strengths Comprehensive Framework Theory of planned behavior provides a comprehensive framework for understanding behavior, integrating cognitive, social, and control factors into a single model. Practical Applications Despite its limitations, Theory of planned behavior has been successfully applied in various fields such as health psychology, consumer behavior, environmental psychology, and organizational behavior.

Theory of planned behavior can be modified and extended to better fit specific contexts or populations, making it adaptable for various research and practical purposes. Applicability: Health Promotion TPB is widely used in health promotion interventions to understand and change health-related behaviors such as smoking cessation, exercise adoption, and dietary habits. Marketing and Advertising: Marketers use Theory of planned behavior to understand consumer attitudes and behaviors towards products and services, aiding in the development of effective marketing strategies. Environmental Conservation Theory of planned behavior has been applied in studies aiming to understand and promote pro-environmental behaviors such as recycling, energy conservation, and sustainable transportation choices.

### **2.1.2 Perceived Behavioral Control (PBC),**

Perceived behavioral control (PBC) makes this intention arise from the attitudes of an individual which happens to be the predictors of its immediate intentions. The TPB explains that the more positive from the subjective norms and attitude will lead to a better the perceived control, will make the individual's intention stronger in completing the action. Perceived Behavioral Control (PBC) This factor refers to an individual's perception of the ease or difficulty of performing the behavior. It encompasses beliefs about the presence of facilitating or hindering factors and an individual's perceived control over them. TPB by emphasizing the influence of perceived control over one's ability to perform a behavior. Tenets: Perceived Behavioral Control (PBC) this is the central tenet of the theory. It refers to an individual's perception of their ability to perform a particular behavior under various circumstances. It involves beliefs about internal and external factors that may facilitate or hinder the behavior and the perceived ease or difficulty of overcoming those factors. Perceived Behavioral Control enhances the predictive power of the theory of planned behavior by accounting for perceived control, it still may not fully capture the complexity of human behavior, especially in situations where perceived control does not accurately reflect actual control. Overemphasis on Individual Agency Perceived Behavioral Control focuses heavily on individual perceptions of control, potentially overlooking broader systemic or environmental influences on behavior. Strengths: Accounting for Volitional Control Perceived Behavioral Control acknowledges the importance of individuals' perceived ability to control their behavior, which can significantly influence their intentions and actions. Enhancing Predictive Validity By incorporating perceived control into the theory of planned behavior framework, PBC strengthens the model's ability to predict behavior by addressing factors beyond attitudes and social norms. Applicability: Health Behavior Change Perceived Behavioral Control is widely applied in health psychology to understand and promote health behavior change, such as adherence to medication regimens, dietary habits, and exercise routines. Addiction and Substance Abuse: In the context of addiction and substance abuse interventions, PBC helps researchers and practitioners assess individuals' perceived control over their addictive behaviors and develop strategies to enhance

self-efficacy and coping skills. Organizational Behavior: Perceived Behavioral Control has applications in organizational psychology, particularly in understanding employee behaviors such as job performance, absenteeism, and turnover intentions. In summary, the Theory of Perceived Behavioral Control adds an important dimension to the Theory of Planned Behavior by incorporating individuals' perceptions of control over their behavior. While it enhances the predictive validity of the model and has practical applications in various domains, it also has limitations, particularly in its reliance on individuals' subjective perceptions of control.

## **2.2 Empirical Review**

### **2.2.1 Overview of Women Entrepreneurship in North-Western Nigeria**

Available studies show that there is dearth of research work on women entrepreneurial activities especially in North-western Nigeria. It has however been demonstrated that women entrepreneurs in the region are mostly engaged in small scale business activities. In a study on the participation of women entrepreneurs in northern Nigeria, Zivkovic (2014) examined the obstacles that stand between northern Nigerian women and entrepreneurship. These obstacles are lack of financing, lack of education, higher rates of poverty and interest, inadequate market awareness, keen competition, family responsibilities, low mobility and low social capacity to bear risk. Reviewing socio-cultural influence on economic status, Zivkovic (2014) argues that Nigerian women, especially from the northern region, are considered subjugated. The social situation of Hausa women in northern Nigeria is that they are supposed to be home-bound, while the men take care of the economic aspect of the family and also provide social security required for the women. Thus, it is commonly believed that there is no role for women in the economic development of a country and they are supposed to stay in the home. Although the above study briefly highlights age as a factor that conditions women entrepreneurial participation, In Northern Nigeria, the bleak situation for women entrepreneurs is further clouded by specific religious factors that have actually become law in that part of the country. Literature shows that before the 20<sup>th</sup> century, many women were engaged in entrepreneurial activities such as production of food items from their homes or small-scale agricultural enterprises; activities that are commonly referred to as the informal sector. Women who engage in these small scale enterprises do not legally register their businesses with the local corporate affairs commission or obtain a tax file number with the federal revenue collection agency, along with any other required government regulations. There are few or no government records that recognize or protect women operating in this unregulated business context (Adeoye, 2010).

### **2.2.2 Age Limit (AL)**

Quang Hung Do and Tuen Tran (2020) taking into account the arguments for and against the impact of age on self-employment, it is argued that there is an age limit, after which the willingness of individuals to start their own entrepreneurial ventures decreases, and that is most likely that the individuals who are in the middle of their careers will become self-employed. Most empirical studies find a peak age for business creation: entrepreneurs tend to be individuals in their thirties and forties. The general consensus of research findings is that “entrepreneurship is concentrated among individuals in midcareer between thirty-five and forty-four years of age. This differs from the conventional belief that entrepreneurship is mostly the province of the very young, who are presumably unfettered, willing to take risks, have low discount rates, and are undeterred from challenging established ways of doing things (Simon, 2009, Dane and Daniel, 2013). Dane and Daniel (2013) posit that one might expect that an aging population means less entrepreneurship

and new business creation. Older individuals (over age 55) tend not to become new entrepreneurs, aside from self-employment. Older individuals are presumed to have lower levels of risk tolerance and higher opportunity costs. Empirical research highlights age 30-40 as a “peak age” for entrepreneurship. Julian et al (2016) studied the age of entrepreneurs at the time when they started companies that made significant contributions to the birth and growth of the micro/personal computer industry; they also looked at their birthdates. Gielnik, Zacher, and Wang (2018) found that opportunity identification had positive effects on entrepreneurial intentions and this effect was contingent upon people’s age and future time perspective. The study postulated that the effect of opportunity identification on entrepreneurial intentions is stronger for younger people with a more extensive future time perspective compared to older people with a more constraint future time perspective. . In addition, we expect, *a priori*, that a woman’s age group in Kebbi and Sokoto States determine to an extent her degree of entrepreneurial intentions and actions.

H<sub>02</sub>: Age limit has no significant influence on women entrepreneurial participation in Kebbi and Sokoto States of Northwestern, Nigeria?

H<sub>a2</sub>: Age limit has significant influence on women entrepreneurial participation in Kebbi and Sokoto States of Northwestern, Nigeria

### 2.2.3 Age Group (AG)

If age is taken as a determinant of the financial, human and social capital that an individual has, it can be assumed that the possibility to become an entrepreneur will increase with age (Praag and Ophen, 1995). On the other hand, the willingness of individuals to be self-employed decreases with age. Briger Steven A., Baro Anne, Criaco Giuseppe and Terjesen Siri, A. (2021). Study of Entrepreneurs’ age, institution, and social value creation goals: A multi-country study. Entrepreneurs in their middle age are relatively more economically and less socially oriented, whereas both young and older entrepreneurs express higher socially oriented goals through their businesses. Findings also revealed that cross-sectional age differences in entrepreneur’s goals in doing business vary depending on the characteristics of the formal environment where these entrepreneurs are embedded. The results from the auxiliary analysis also suggest that informal institutions also influence the relationship between entrepreneurs ‘age and their social value creation goals, that entrepreneurs become more economically oriented when they reach middle age and more socially oriented in the young and old age. Entrepreneurs’ creation of social value decreases with age to a point, after which social value creation increases again with rising age. Quang Hung Do and Tuen Tran (2020) study of the influence of age and gender on entrepreneurship in Vietnam’s context. Using data collected from Global Entrepreneurship Monitors (GEM). Findings revealed that female entrepreneurship had less household’s income and were likely to have more fear of failure in starting a business. Entrepreneurs tend to be older and young entrepreneurs have better education. The study also indicated that male entrepreneurs were likely to have more perception of the ease to start a business. Stefanovic and Stosic (2012) quantitative analysis of the statistical data indicates that during the 2004-2011 period individuals aged 50-54years were the most frequent among the self-employed in the Republic of Serbia, and that the half of the self-employed in the Republic of Serbia is over 50 years old. Found that probability of survival is the highest for the age group 45-54 after which it decreases.

H<sub>01</sub>: Age group does not significantly influence women entrepreneurial participation in Kebbi and Sokoto States of Northwestern, Nigeria?

H<sub>a1</sub>: Age group has significant influence on women entrepreneurial participation in Kebbi and Sokoto States of Northwestern, Nigeria

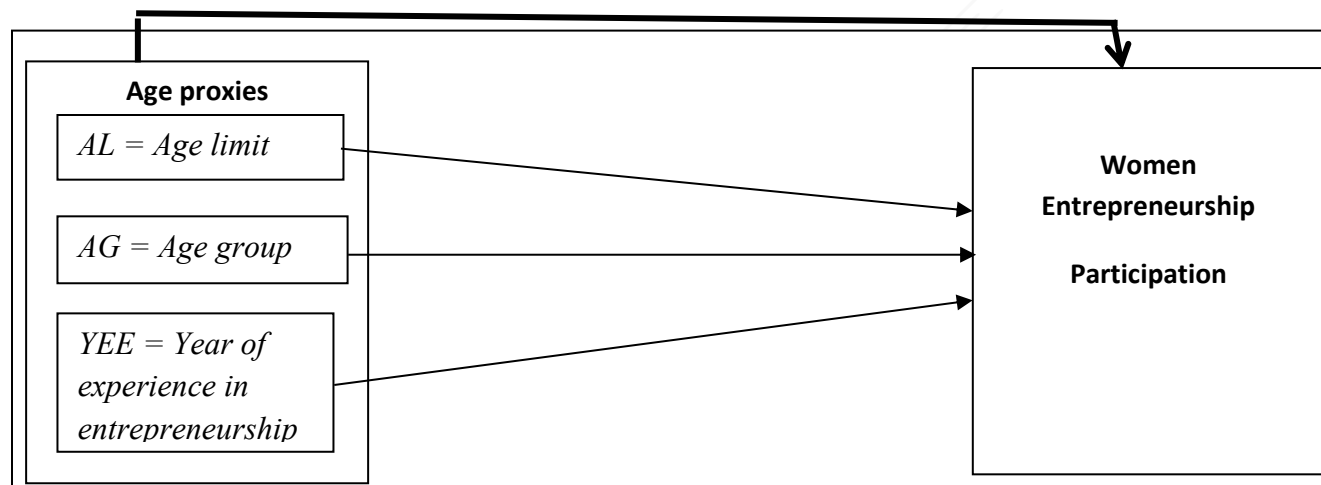
#### 2.2.4 Year of Experience (YEE)

Shafqat Mehmood Khan, Muqaddas Rehman, Chaudhary Abdul Rehman (2016) Work experience and Entrepreneurship: Evidence from various industries of (Lahore) Pakistan. Findings of the study show that job experience has strong relation with entrepreneurship because prior work experience provide a solid base to start own business in terms of management skills, problem solving techniques, know how about the labour issues and getting initial business contracts. The findings also show that a good and handful of experience is always a pre- requisite to begin entrepreneurial activity.

H<sub>01</sub>: Year of experience does not significantly influence women entrepreneurial participation in Kebbi and Sokoto States of Northwestern, Nigeria?

H<sub>a1</sub>: Year of experience has significant influence on women entrepreneurial participation in Kebbi and Sokoto States of Northwestern, Nigeria

### 2.3 Conceptual Framework



#### Keys

- - Independent Relationship  
 — - Combined Relationship

Source: Researcher, 2022

### 3. Methodology

This study is a descriptive survey designed for data collection on the influence of socio-cultural factors on women entrepreneurial participation in Kebbi and Sokoto States, Nigeria. Quantitative data was collected via a structured questionnaire because it is an empirical study. Data gathered was analysed via descriptive and inferential statistics. The descriptive statistics used frequency table, mean, and averages of the data set, while the inferential statistics used multinomial logistic regression to establish the degree of influence of the independent variable on the dependent variables of the study, because the dependent variable is categorical and have multiple response. This study focuses on sectorial assessment of the influence of age factors on women entrepreneurial participation in Kebbi and Sokoto States, Nigeria. These regions was chosen because they have larger population and also given the homogeneity observed in the population the desired level of accuracy was used accordingly. The study focused on women entrepreneurial

participation in five sectors namely, wholesale and retail, manufacturing and processing, agriculture, hospitality, and educations sectors. The population of this study consists of four thousand, four hundred and three (4,403) registered women-owned enterprises in five activity sectors, namely, wholesale & retail, agriculture, education, manufacturing & processing, and hospitality, spread across Kebbi and Sokoto States in North-western Nigeria. (SMEDAN, 2017). This is composed of 3220 registered women-owned enterprises in Sokoto and 1183 registered women-owned enterprises in Kebbi states respectively. A total sample size of 500 was drawn from the population size of 4403. The sample size of 500 was determined using the Krejcie and Morgan (1970) sampling approach for calculating sample size for a finite (known) population. A 99% confidence level (with a Z-value of 2.576) and a 5% margin of error were assumed for the computation of the sample size. The choice of confidence level, population proportion and degree of accuracy was informed by the researcher's observed realities on the field while collecting the data and in line with previous researches. In analyzing the data collected the field the following model was used. A total of five multinomial logistic regression models ( $k = 5$ ) were designed however, only 4 models (i.e.  $k-1$ ) were estimated, using the agriculture sector as the reference category. Therefore, for simplicity, the following four multinomial logistic regression models used in this work were linearly stated and estimated simultaneously. Logistic regression was used in testing the hypothesis which was stated in the following models of regressions was used in getting the age proxies and entrepreneurial participation in five sectors.

$$\ln Pr (Agric/Ref. WR.) = a_0 + \beta_1 AL_i + \beta_2 AG_i + \beta_3 YEE_i + e \text{-----}(1)$$

$$\ln Pr (HP/Ref. WR.) = a_0 + \beta_1 AL_i + \beta_2 AG_i + \beta_3 YEE_i + e \text{-----}(2)$$

$$\ln Pr (Edu/Ref. WR.) = a_0 + \beta_1 AL_i + \beta_2 AG_i + \beta_3 YEE_i + e \text{-----}(3)$$

$$\ln Pr (MP/Ref. WR.) = a_0 + \beta_1 AL_i + \beta_2 AG_i + \beta_3 YEE_i + e \text{-----}(4)$$

Where;

WR; EDU; HRB; MP; AGRIC = The Five Sectors/Dependent Variable

AL = Age limit

AG = Age group

YEE = Year of experience in entrepreneurship

$B_i (i=1,2,3,)$  =Coefficients of Independent variables

$e$  = Error term

$\ln Pr$  =Probability of dependent variable

The above equations explain the extent to which age parameters influence women participation in entrepreneurial activities in the five different sectors.

## 4. Data Analysis and Presentation

### 4.1 Gender of the Respondents

Table 1: Distribution of Respondents based on gender

| Gender | Frequency | Percentage | Cumulative% |
|--------|-----------|------------|-------------|
| Male   | 62        | 12.4       | 12.4        |
| Female | 438       | 87.6       | 100         |
| Total  | 500       | 100        |             |

**Source: Researcher (2024)**

Table 1 shows the distribution of respondent base on gender. The result revealed that 62 (12.4%) are male while 438 (87.6%) are female. This implies that the majority of respondent are females.

## 4.2 Marital Status of the Respondents

Table 2: Distribution of Respondents based on Marital Status

| Marital status | Frequency | Percentage | Cumulative % |
|----------------|-----------|------------|--------------|
| Married        | 222       | 44.4       | 44.4         |
| Single         | 64        | 12.8       | 57.2         |
| Divorce        | 59        | 11.8       | 69.0         |
| Separated      | 99        | 19.8       | 88.8         |
| Widow          | 56        | 11.2       | 100.0        |
| Total          | 500       | 100        |              |

**Source: Researcher (2024)**

Table 2 shows marital status of respondent (44.4%) are married (12.8%) single, (11.8%) divorce then (19.8%) separated while (11.2%) are widower. This revealed that the majority of respondent are married

## 4.3 Age group of the respondents

Table 3: Distribution of Respondent based on Age Group

| Age Group  | Frequency | Percentage | Cumulative % |
|------------|-----------|------------|--------------|
| 18-20 year | 46        | 9.2        | 9.2          |
| 20-30 year | 49        | 9.8        | 19.0         |
| 31-40 year | 216       | 43.2       | 62.2         |
| Above 40   | 189       | 37.8       | 100.0        |
| Total      | 500       | 100.0      |              |

**Source: Researcher (2024)**

Table 3 shows the age group of the respondent. The table revealed that (9.2%) of the respondent fall between the age group of 18 to 20, (9.8%) between the age group of 20 to 30, (43.2%) between the age group of 31 to 40 (37.8%) between the age group of 40 and above meaning that majority of the respondent are between the age of 31 to 40.

## 4.4 Ethnic Group of the Respondents

Table 4: Distribution of Respondent based on Ethnic Group

| Ethnic group | Frequency | Percentage | Cumulative % |
|--------------|-----------|------------|--------------|
| Hausa/Fulani | 368       | 73.6       | 73.6         |
| Yoruba       | 42        | 8.4        | 82.0         |
| Igbo         | 87        | 17.4       | 99.4         |
| Others       | 3         | 0.6        | 100.0        |
| Total        | 500       | 100.0      |              |

**Source: Researcher (2024)**

Table 4: shows the demographic variable of the ethnic group of the respondent (73.6%) are Hausa/Fulani, (8.4%) are Yoruba Ethnic group while (17.4%) are Igbo then (0.6%) fall between another ethnic group. This shows that majority of the respondents are Hausa/Fulani ethnic group.

#### 4.5 Distribution of Respondent based on Ownership Status

Table 5: Distribution of Respondent based on Ownership Status

| Ownership Status | Frequency | Percentage | Cumulative % |
|------------------|-----------|------------|--------------|
| Sole ownership   | 379       | 75.6       | 75.8         |
| Joint            | 32        | 6.4        | 62.2         |
| Family business  | 66        | 13.2       | 75.4         |
| Corporative      | 21        | 4.2        | 99.6         |
| Others           | 2         | 0.4        | 100.0        |
| Total            | 500       | 100        |              |

**Source: Researcher (2024)**

Table 5 shows ownership status of the respondent (55.6%) are sole owner of the business (6.4%) are joint ownership while (13.2%) run family business (4.2%) are into corporative business (0.4%) are for others. This shows that majority of the respondent are sole proprietorship.

#### 4.6 Descriptive Statistics for AG, AL and YEE

Table 6: Descriptive Statistics for AG, AL and YEE

|                    | N         | Mean      |            | Std. Deviation |
|--------------------|-----------|-----------|------------|----------------|
|                    | Statistic | Statistic | Std. Error | Statistic      |
| AG                 | 500       | 3.1320    | .03752     | .83904         |
| AL                 | 500       | 2.6720    | .07016     | 1.56887        |
| YEE                | 500       | 2.2800    | .05036     | 1.12612        |
| Valid N (listwise) | 500       |           |            |                |

**Source: Researcher (2024)**

Table 1 shows the results of mean and standard deviation of predictors AG, AL and YEE. The results revealed mean scores of 3.132, 2.672, 2.28 and standard deviation of 0.83904, 1.56887, and 1.12612 for AG, AL and YEE respectively. The mean value of 3.132 (approximately 3) for (AG) imply that the average age of the respondents is between 31- 40 years. Also the mean value of 2.672 (approximately 3) for AL means that majority of the respondent agreed that age limits their level of entrepreneurial participation. The mean result 2.28 for YEE implies that majority respondents disagreed that year of experience is associated with entrepreneurial success.

#### 4.7 Model Fitting

Table 7: Model Fitting Information

| Model          | Model Fitting Criteria | Likelihood Ratio Tests |    |      |
|----------------|------------------------|------------------------|----|------|
|                | -2 Log Likelihood      | Chi-Square             | Df | Sig. |
| Intercept Only | 649.045                |                        |    |      |
| Final          | 586.708                | 62.338                 | 12 | .000 |

**Source: Researcher (2024)**

Table 7 returns a chi square value,  $\chi^2 (12) = 62.338$ ,  $p\text{-value} = 0.000 < 0.05$  revealed that the goodness of fit of the overall model was tested and is high. Impliedly, *AL = Age limit*, *AG = Age group* and *YEE = Year of experience in entrepreneurship* have combined significant effect on women entrepreneurship participation in the five sectoral categories of wholesale & retail, agriculture, education, manufacturing/processing, as well as hospitality.

#### 4.8 Pseudo R-Square

**Table 8: Pseudo R-Square**

|               |      |
|---------------|------|
| Cox and Snell | .417 |
| Nagelkerke    | .523 |
| McFadden      | .241 |

**Source: Researcher (2024)**

Table 8 reports that the independent variables (*AG = Age limit*, *AG = Age group* and *YEE = Year of experience in entrepreneurship*) are able to explain the dependent variable WEP (women entrepreneurial participation) at 52.3%.

#### 4.9 Likelihood Ratio Tests

**Table 9: Likelihood Ratio Tests**

| Effect    | Model Fitting Criteria             | Likelihood Ratio Tests |    |      |
|-----------|------------------------------------|------------------------|----|------|
|           | -2 Log Likelihood of Reduced Model | Chi-Square             | Df | Sig. |
| Intercept | 627.365                            | 40.658                 | 4  | .000 |
| AG        | 599.014                            | 12.307                 | 4  | .015 |
| AL        | 619.137                            | 32.429                 | 4  | .000 |
| YEE       | 596.651                            | 9.943                  | 4  | .041 |

**Source: Researcher (2024)**

Table 9 shows the result statistical significance of each predictor's contribution in the multinomial logistic regression model. The results revealed that all the independent variables (*AL = Age limit*, *AG = Age group* and *YEE = Year of experience in entrepreneurship*) are statistically significant.

#### 4.10 Parameter Estimates

**Table 10: Parameter Estimates**

| WEP <sup>a</sup> |           | B      | Std. Error | Wald   | df | Sig. | Exp(B) | 95% Confidence Interval for Exp(B) |             |
|------------------|-----------|--------|------------|--------|----|------|--------|------------------------------------|-------------|
|                  |           |        |            |        |    |      |        | Lower Bound                        | Upper Bound |
| AGR              | Intercept | 1.484  | .522       | 8.087  | 1  | .004 |        |                                    |             |
|                  | AG        | .008   | .136       | .003   | 1  | .954 | 1.008  | .772                               | 1.315       |
|                  | AL        | -.373  | .084       | 19.880 | 1  | .000 | .689   | .585                               | .811        |
|                  | YEE       | -.314  | .117       | 7.241  | 1  | .007 | .731   | .581                               | .918        |
| EDU              | Intercept | -2.650 | .933       | 8.071  | 1  | .004 |        |                                    |             |
|                  | AG        | .618   | .238       | 6.738  | 1  | .009 | 1.855  | 1.163                              | 2.957       |
|                  | AL        | .048   | .109       | .192   | 1  | .661 | 1.049  | .848                               | 1.298       |
|                  | YEE       | -.340  | .163       | 4.378  | 1  | .036 | .712   | .517                               | .979        |
| HOP              | Intercept | -1.447 | .681       | 4.508  | 1  | .034 |        |                                    |             |
|                  | AG        | .250   | .177       | 1.986  | 1  | .159 | 1.283  | .907                               | 1.816       |
|                  | AL        | .076   | .091       | .692   | 1  | .405 | 1.079  | .902                               | 1.290       |
|                  | YEE       | -.143  | .122       | 1.368  | 1  | .242 | .867   | .683                               | 1.101       |
| MP               | Intercept | -1.711 | .701       | 5.953  | 1  | .015 |        |                                    |             |
|                  | AG        | .378   | .181       | 4.349  | 1  | .037 | 1.459  | 1.023                              | 2.081       |

|     |       |      |      |   |      |      |      |       |
|-----|-------|------|------|---|------|------|------|-------|
| AL  | -.013 | .092 | .020 | 1 | .889 | .987 | .824 | 1.182 |
| YEE | -.101 | .124 | .667 | 1 | .414 | .904 | .709 | 1.152 |

The reference category is: Agric.

**Source: Researcher (2024)**

Table 10 shows the results of parameter estimates, Wald test of significance and odd ratio of each independent variables with respect to women entrepreneurial participation in the agriculture, education, hospitality, and manufacturing and processing sectors relative to women entrepreneurship participation in wholesale and retail sector in Sokoto and Kebbi States.

## 5. Discussion of Results

The results of Wald test statistic is 19.880 with an associated p-value of  $0.000 < 0.05$  and 7.241 with an associated p-value of  $0.007 < 0.05$  for AL (Age limit) and YEE (= *Year of experience in entrepreneurship*) respectively at 5% level of significance, the study rejects the null hypothesis and concludes that for women entrepreneurial participation in the Agriculture sector relative to women entrepreneurship participation in wholesale and retail, the regression coefficient was found to be statistically different from zero given that all other variables are in the model. Impliedly, predictor AL (B-value of -0.373) and YEE (B-value of -0.314) have negative significant influence on women entrepreneurial participation in the Agriculture sector relative to women entrepreneurial participation in wholesale and retail sector. Impliedly, the older the women, the less active they are in agriculture. This is in consonance with the findings of Quang Hung Do and Tuen Tran (2020) study of the impact of age on self-employment, who argued that there is an age limit, after which the willingness of individuals to start their own entrepreneurial ventures decreases and that is most likely that the individuals who are in the middle of their careers will become self-employed.

The odd ratio of  $0.689 < 1$  for AL and  $0.731 < 1$  for YEE show that the relative risk of being in the agriculture sector would be 69 and 73 percent time less likely when the other variables in the model are held constant, given a one-unit increase in age score, women entrepreneurial participation in the agriculture sector in Kebbi and Sokoto States will decrease. The result is supported by the work of Stefanovic and Stosic (2012) quantitative analysis of the statistical data who indicates that during the 2004-2011 period individuals aged 50-54 years were the most frequent among the self-employed in the Republic of Serbia, and that the half of the self-employed in the Republic of Serbia is over 50 years old. Found that probability of survival is the highest for the age group 45—54 after which it decreases. The Wald test statistic for the predictor (AG) are 0.008, with an associated P-values of  $0.954 > 0.05$ , at 5% level of significance. The regression coefficient has not been found to be statistically different from zero. This provide sufficient evidence to infer that AG has no significance influence on women entrepreneurial participation in the agriculture sector relative to women entrepreneurial participation in the wholesale/ retail sector in Kebbi and Sokoto States. Wald test statistic for the predictor (AG) *Age group* is 6.738 with an associated p-value of  $0.009 < 0.05$  and 4.378 with an associated p-value of  $0.036 < 0.05$  at 5% level of significance respectively, the study rejects the null hypothesis and concludes that for women entrepreneurial participation in the education sector relative to women entrepreneurial participation in wholesale and retail sector, the regression coefficients was found to be statistically different from zero given that all other variables are in the model. Impliedly, predictor AG (B-value of 0.618) has positive significant influence on women entrepreneurial participation in the education sector relative to women entrepreneurial participation in wholesale and retail sector. The odd ratio of  $1.855 > 1$  shows that (AG) *Age group* will make women entrepreneurship to participate more in the education sector

rather than in the wholesale/ retail sector in Kebbi and Sokoto States. The result is supported by the work of Gielnik, Zacher, and Wang (2018) Age in the entrepreneurial process: The role of future time perspective and prior entrepreneurial experience. Found that opportunity identification had positive effects on entrepreneurial intentions and this effect was contingent upon people's age and future time perspective.

The extent of the relationship between age parameter variable (YEE) *Year of experience in entrepreneurship* and women entrepreneurial participation in the education relative to women entrepreneurial participation in the wholesale/ retail sector in Kebbi and Sokoto States with Wald test statistic 4.378 with an associated p-value of  $0.036 < 0.005$  at 5% level of significance, the study rejects the null hypothesis and concludes that for women entrepreneurial participation in the education sector relative to women entrepreneurial participation in the wholesale/ retail sector, the regression coefficient was found to be statistically different from zero given that all other variables are in the model. Therefore, the predictor YEE (B-value of- 0.340) has negative significant influence on women entrepreneurial participation in the education sector relative to women entrepreneurial participation in wholesale/ retail sector. The odd ratio of  $0.712 < 1$  for (YEE) show that *Year of experience in entrepreneurship* promotes women entrepreneurship to participate more in the wholesale/ retail rather than in the education sector in Kebbi and Sokoto States. The result is in agreement with the work of Shafqat Mehmood Khan, Muqaddas Rehman, Chaudhary Abdul Rehman (2016) who posited that show that job experience has strong relation with entrepreneurship because prior work experience provide a solid base to start own business in terms of management skills, problem solving techniques, know how about the labour issues and getting initial business contracts. The findings also show that a good and handful of experience is always a pre-requisite to begin entrepreneurial activity.

The Wald test statistic for the predictor AL is 0.192 with an associated P- value of  $0.661 > 0.05$ , at 5% level of significance. The regression coefficient has not been found to be statistically different from zero. This provides sufficient evidence to infer that ALs has no significance influence on women entrepreneurial participation in the education, sector in Sokoto and Kebbi

The Wald test statistic for the predictor entrepreneurial participation (AG, AL, YEE) are 0.250 with an associated P value of  $0.159 > 0.05$ , and 0.076 with an associated P value of  $0.405 > 0.05$ , and 0.143 with an associated P value of  $0.242 > 0.05$ , The regression coefficient has not been found to be statistically different from zero. This provide sufficient evidence to say that AG, AL, YEE have no significant influence on women entrepreneurial participation in hospitality sector. The result is in consonant with the work of Dane and Daniel (2013) posited that older individuals (over age 55) tend not to become new entrepreneurs, aside from self-employment. Older individuals are presumed to have lower levels of risk tolerance and higher opportunity costs. Empirical research highlights age 30-40 as a "peak age" for entrepreneurship.

The Wald test statistic for the predictor entrepreneurial participation (AG) is 0.378 with an associated P value of  $0.037 < 0.05$ . The regression coefficient has been found to be statistically different from zero. This provides sufficient evidence to say that AG has significant influence on women entrepreneurial participation in manufacturing/processing sector. This is in line with the findings of Danijela (2012) who highlighted that there are different opinions on the effect of age on individual choice of self-employment as a labour market status. The rationale of the positive impact of age on self-employment is based on the view that the quantity of the financial and human capital that one possesses and that are necessary for starting and conducting the business increases with age (Parker, 2009; Arum& Müller, 2004; Johansson, 2000). This theoretical argument is supported by studies that found that the probability of self-employment increases with age (Carr

(1996), Blanchflower (2000); Blanchflower (2004)). According to Suzana and Danijela (2012), taking into consideration the arguments for/against the positive impact of age on self-employment, it is argued that there is an age limit, after which the willingness of individuals to start their own entrepreneurial ventures decreases (Lévesque and Minniti, 2006), and that is most likely that the individuals who are in the middle of their careers will become self-employed (Parker, 2009; Arum and Müller, 2004; Moore and Mueller, 2002). Additionally, with a B value of 0.378 if a woman entrepreneur increases her AG influence score by one point she would prefer entrepreneurship in manufacturing/ processing sector rather than wholesale/retail sector. Based on the EXP(B) value of  $1.459 > 1$ , the relative risk of being in manufacturing/processing sector would be 1.459 more likely when other variables in the model are held constant. In other words, an increase in AG score; women entrepreneurship will prefer to participate in the manufacturing/processing business rather than in wholesale/ retail sector.

The Wald test statistic for the predictors, (AL and YEE) are 0.020 with an associated P value of  $0.889 > 0.05$ , and 0.667 with an associated P- value of  $0.414 > 0.05$ , for the manufacturing and processing sector, at 5% level of significance. Additionally, the regression coefficient has not been found to be statistically different from zero. This provide sufficient evidence to infer that AL and YEE have no significant influence on women entrepreneurial participation in the manufacturing/processing sector examined in Kebbi and Sokoto states.

## 6. Conclusions

Based on the findings, the research concludes that (AG), Age group, Age limit (AL), year of experience (YEE), jointly predict women entrepreneurial participation, only AG was positive significant determinants of women entrepreneurial participation in the education and manufacturing/processing sectors examined in Kebbi and Sokoto States. The research concludes that AG is a significant determinant of women entrepreneurial participation in the education and manufacturing/processing sectors, but YEE was found to have a negative in influence on women entrepreneurial participation in the agriculture and education relative to wholesale/ retail sector. Impliedly women entrepreneurs will prefer participation in the wholesale/ retail sector. AG, AL and YEE have no significant influence on women entrepreneurial participation in the hospitality sector. It was found that AL has no significant influence on women entrepreneurial participation in the manufacturing/ processing, education and hospitality sectors. YEE does not predict women entrepreneurial participation in the hospitality and m/processing sectors. The study concludes that women entrepreneurial participation is greater among those women who have many years of experience in the agriculture and manufacturing/ processing sectors.

## 7 Limitations and Recommendations of the Study

Since (AG) has positive significant influence in two sectors, it is recommended that Government and policy makers should introduce entrepreneurship courses at undergraduate level which will reduce the burden of unemployment on the government. Training can be organized by the experienced women entrepreneurs to train the younger ones so that they can gain more knowledge or additional skills. The study has implications for Government, financial institutions and other stakeholders (NGOs) who are interested in the development and enhancement of female entrepreneurial participation. The stakeholders should design policies, programmes and projects that address the issues that continue to hinder the participation of the young female entrepreneurial participation in Kebbi and Sokoto States of North Western Nigeria. These findings will guide policymakers and facilitate women entrepreneurs to ensure that women can play a significant role

in their country's sustainability economic development. The results suggested that the government should put more resources in educating and empowering women business owners so that they are better equipped to take on new challenges in the business world.

This study employed survey research design which is faced with the problem of honest responses to the questionnaire without bias. However, the study tried to reduce such problem to the barest minimum by including questions that check consistency and honest responses. The test retest result of the questionnaire confirms this. In spite of this, the study still shares the shortcomings of survey research design. The study majorly covered women participation in wholesale and retail, agriculture, education, manufacturing and processing as well as hospitality sectors. For the purposes of depth of analysis, the study cannot cover all sectors that women are likely to participate in as entrepreneurs. Future researchers can extend beyond current scopes of entrepreneurship considered in this study to provide more useful information to stakeholders for addressing the main obstacles faced by entrepreneurs.



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