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Entrepreneurship Education and Business Startup Performance: Are Personal Characteristics a Growth-catalyst?

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Abstract
The paper argued that entrepreneurship education affects business startup performance, and personal-characteristics are growth-catalyst moderator. Cross-sectional survey research design was used and data collected from 406 graduate entrepreneurs at the National Youth Service Camp (NYSC) before registering with SAED-BOI (Bank of Industry), Lagos State 2021 NYSC 21A, and Stream 1 Batch. Total enumeration technique was applied after sample filtration criteria were established. Reliability and validation tests were conducted on the adopted and adapted questionnaire before it was administered. Hierarchical regression analysis results using SPSS add-on called process analysis identified personal characteristics significantly moderated the interactions between entrepreneurship education and business startup performance ($\Delta R^2 = 0.0038$, $\Delta F(1, 387) = 4.5157$, $p < 0.05$) in Lagos Nigeria. The paper concluded that since, white-collar jobs will always be limited while the number of graduates yearly will continue to increase, there is a need to strategically introduce, sustain, and encourage business startup programs through entrepreneurship education with the infusion of personal characteristics as a growth-catalyst. Thus business practitioners, universities and the Government centres should progressively enrich, and encourage business startup educational programs and align same to personal specifics to drive startup performance.

Keyword: Business Startup Performance, Entrepreneurship Education, Growth-Catalyst, Personal Characteristics

Introduction
The academic debate on business startup performance, education, and the person-specifics has remained unabated. The fundamentals along market dynamics, entrepreneurial-based education, and unfriendly environment have regenerated the argument and also illuminated startup hindrance to the extent that only extremely determined, motivated and greatly skilled entrepreneurs still have the zeal to start a business and survive (Wright, Seigel & Mustar, 2019). More so, the investment environment has become complex and challenging due to
customer-centric demands, intense competition, digitalization, technological development and health crisis. These complexities have transformed and reconfigured the nature of business startups, university education, firms’ survival and continuity. As such, the prescriptive business models are becoming universally non-compatible and robust to address context challenges and the approaches at times are not sustainable to address and encourage business startups. Hence, each economy has crafted best-fit context informed strategies and policies to address startup challenges (Ogamba, 2019; Spender et al., 2017). In many countries, startups are necessities and panacea to the alarming rate of unemployment, economic poverty, social/income disparity, innovation, and strategic option to prime weak economies. However, the life-cycle trajectory of business startup presents unique cyclical constraints, which are profound existential challenges at several levels, resulting from lack of entrepreneurship knowledge and education, liability of newness, skills drought, funds, and market factors.

In a study by Statistic Brain, the failure rate of all United State of America (USA) startups after five years was over 50 percent, and over 70 percent after 10 years (Patrick, 2017). In addition, 20% of startups failed within the first year, over 50% of startups abortive after 5 years and over 70% of startups disbanded after 10 years in America (Hering, 2020). According to the US Bureau of Labour Statistics in 2019, 20% of businesses failed within their first year and 45% of businesses disappeared within their first 5 years of operations (Harrison, 2021). Considering these context observations, career-focused education programs were emphasized in United States of America to encourage the development of entrepreneurial mind-set. These programs utilized project-based learning to develop a holistic, non-cognitive skillset linked to an entrepreneurial mind-set (Rodriguez & Lieber, 2020). The experiences in the USA are not geographically restricted as one in five new businesses in Europe failed in their first year, with almost two thirds surviving for three years, and less than half surviving for five years (Statista, 2020). Across Africa, Tage (2020), identified average failure rate of startups to be 54.2% with entrepreneurs struggling with several issues such as lack of orientation on market needs, insufficient financial resources, poor product quality, internal organizational issues; inability to scale business ideas and growth stagnation (GreenTec Capital Africa Foundation & WeeTracker Media, 2020).

Personal characteristics, scholars claimed to facilitate new business opportunities recognition and the assembling of unique resources for the exploration and exploitation of opportunities (Genty et al., 2015; Zhao, Seibert & Lumpkin, 2010). In addition, extant literature suggest that some individuals are more able to recognize and exploit opportunities than others due to better access to information and knowledge (Zhao et al., 2010, Rudhumbu, Svotwa, Munyanyiwa, & Mutsau, 2016). The assumption is that entrepreneurs are embedded in a social capital network structure and individuals within the networks recognize entrepreneurial opportunity and transform the opportunity into a business startup. As such, various scholars (Eniola et al., 2018; Lawal et al., 2018; Ogunsade et al., 2018) argued that survival rate of entrepreneurial ventures could be based on the entrepreneur’s personality and attitude.

In light of these discussions, the studies of Eniola et al (2018); Ogunsade et al (2018); Olaolu (2018) yielded divergent results, thus leading to a lack of consensus on the role of entrepreneurship education on startup performance with a focus on personal characteristics. Although other factors could be associated with the debate, educational strength, and personal characteristics of an entrepreneur are presumed fuel business performance (Herrero et al., 2018; Pantouvakis et al., 2017). In addition, findings from previous studies
revealed that startup entrepreneurs’ failures can be linked to personal-specifics or character like managerial ineptitude, foresight and insight (Okoro, Ewah, & Ndema, 2020; Onoja, 2020). The academic perspectives of Amah et al (2018); Lawal et al (2018); Ogunsade (2018), and Olayiwola (2019) are inconclusive, divergent, and polarized with reference to entrepreneurial education, startup performance, and personal characteristics, which provided an opportunity to address the gap of a moderator (personal characteristics) in this study. Thus, this paper’s hypothesis states:

H0: Personal characteristics have no moderating significant effect on the relationship between entrepreneurship education and business startup performance in Lagos State, Nigeria and NYSC members.

Literature Review
Entrepreneurship education is conceptualized by Damge (2016) as a program, which enables individuals to identify unique opportunities, take advantage of them and create a business venture. Other scholars (Eniola et al., 2018; Woldesenbet & Vershinina, 2018) added that it entails a thorough training that prepares individuals for the very fast-paced, constantly changing economy, where more job creators and enterprising employees are needed. Entrepreneurship education can also be a platform, which supports the development of students’ entrepreneurial knowledge and skills, supports the development of students’ personal and emotional resources, and provides students with experience in applying knowledge, skills and personal resources in value-creating processes (Ogundele et al., 2012; Rasmussen et al., 2015).

Startups are businesses that bring new ideas to the market and these ideas are transformed into economically sustainable enterprises (Spender et al., 2017). Pasumarti and Pattnaik (2020) added that business startups are new small establishment or enterprises that engage in the supply of goods and services that are profit oriented. In economic terms, startups are artefacts for transforming entrepreneurial judgement into profit (Spender, 2014). Ogamba (2019) stated that startups are characterized by their early-stage business life cycle, initial shift from the idea stage to securing finance, laying down the basic structure of the business, and initiating operations or trading. As such, startup success requires mastery skills on how to identify a business idea; identify the required team; assess business development needs; understand and monitor the environment with limited resources; identify business approach, attract and retain good customers; appraise and learn from competition (Ogamba, 2019; Spender et al., 2017). Based on the aforementioned, business startup was defined as the outcome of entrepreneurs’ interactions with their immediate environment and their alertness to current market opportunities available for exploitation.

Personal characteristics referred to personality traits, the response inclinations to circumstances, which are characterized by an individual’s feelings, thoughts and behavioural patterns (Colquitt et al., 2017). Herath and Shamila (2018) defines personal characteristics as one of the influential factors that help describe how individuals relate with the members of their own socio-cultural group as well as external members. Personality can be described by key traits, which are dimensions of individual differences in tendencies to show consistent patterns of thoughts, feelings, and actions (McCrae & Costa, 2003). One of the most well-known models of personality is based on the Five-Factor model of personality—generally referred to as the Big Five. It organizes personality traits in five factors: Openness to experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism (OCEAN) (Brandstätter, 2011; Umukoro et al., 2021; Zhao et al., 2010). The passion a startup
entrepreneur displays is important because it can lead investors to be more confident in the entrepreneur, particularly when the product or environment is ambiguous and uncertain. Thus, high levels of displayed positivity and dexterity can help entrepreneurs expand their social networks, financial capital, more persuasive and increase business portfolio (Cardon, 2008; Hmieleski & Baron, 2008).

**Personal Characteristics, Entrepreneurship Education, and Business Startup Performance**

Previous study results have been inconclusive; Sousa et al (2018) reported that TPB (attitude, subjective norms, and perceived behavioural control) seems to predict entrepreneurial intentions better than the personality model. In addition, no personality trait moderates the effect of TPB variables on entrepreneurial intentions with the exception of extraversion on attitude. The higher the score in extraversion, the stronger is the effect of attitude on entrepreneurial intentions. In particular, attitude and perceived behaviour control significantly predict intentions; subjective norms, despite having the expected direction effect, do not emerge as a significant predictor. In another study, Genty et al. (2015) found how three demographic factors (education, training, and experience) served as predictors of entrepreneurs’ success. More interestingly, experience possessed by the entrepreneurs had significantly predicted the business performance. Building on previous works, Montiel (2018) reported a positive and significant relationship between creative personality and entrepreneurial alertness. While in a meta-analysis of the prediction of personality traits on business creation and on business success, Rauch (2007) found that several personality constructs were significant.

Zhao et al (2010) found that four (extraversion, conscientiousness, openness to experience, neuroticism) of the five personality traits were significant on two distinct phases of the entrepreneurial process (entrepreneurial intentions and entrepreneurial performance) while Agreeableness was not found to be related to the entrepreneurial process. Also, Ciavarella, Buchholtz, Riordan, Gatewood and Stokes (2004) after exploring the impact of personality traits on long term survival of entrepreneurial activity, found that consciousness was significantly associated with entrepreneurial activity survival. However, the trait of openness to experience was negatively associated with entrepreneurship. Ayoade et al (2018) contradicted Ciavarella et al (2004) findings that all personality dimensions apart from neuroticism and openness to experience have positive effect on entrepreneurs’ commitment to their entrepreneurial performance. Ayoade et al (2018) further indicated that a combination of extraversion, conscientiousness and agreeableness resulted to high degree of commitment of the entrepreneurs towards their enterprise. More so, Franco and Prata (2019) found founder’s socio-demographic characteristics not to influence general performance of family SMEs, but extraversion, conscientiousness, openness to experience, agreeableness do, and neuroticism had negative influence on business performance. The inconclusiveness was an aftermath of methodology differences, statistical analysis applied, geographical location, unit of analysis, and sector.

The Theory of Reasoned Action founded in 1980, birthed the development of the Theory of Planned Behavior by Icek Ajzen in 1985. The theory underscores that only attitude, subjective norms and perceived behavioral controls have a direct effect on intention. This postulation’s implication attribute three variables to impact entrepreneurship intentions directly, while all other factors exercise their influence on intentions through these three immediate antecedents. Thus, entrepreneurship, like most forms of human behavior, was presumed to be deliberate (Ajzen, 1985, 1991). Firstly, attitude relates to individual’s predisposition
towards a subject/phenomenon (Tshikovhi & Shambare, 2015). Packham, Jones, Miller, Pickernell and Thomas (2010) connected attitudes with entrepreneurship (X) as an integral part of measuring entrepreneurial intention, which was considered as a predictor of startup and performance (Y). Subjective norms effect an individual’s significant others (educators, mentors, knowledgeable colleagues, parents and siblings) with reference to intention to engage in a particular behavior (Malebana & Swanepoel, 2015). This is subject to the strength of one’s normative beliefs (Ajzen, 2015) meaning the efficacy of significant others’ influence on an individual’s behavior is subject to their moral dispositions.

The third, perceived behavioral control reflects subjects’ perceptions that the behavior is personally controllable or self-specific (Z); it further reflects the perceived feasibility of performing subject to personal situational competence (self-efficacy). In addition, self-beliefs as a model, externalities and exogenous variables influence self-efficacy depending on the traits and or behaviour (Ajzen, 2015). The thrust of this theory resides in its applicability in a variety of behaviors in different contexts and diverse subject areas (Armitage & Conner, 2001; Moss, O’Connor & White, 2010; Robinson & Doverspike, 2006). The Theory has also been criticized for the exclusion of emotional determinants of behavior (Conner & Armitage, 1998; Gibbons et al., 1998). However, Ajzen (2000) responded to this criticism by stating that emotions are seen as background variables and would be expected to influence intentions and behavior through their impact on beliefs and attitudes. Although the theory has received robust criticisms, Theory of Planned Behavior adoption and usage was anchored on various factors that can influence an entrepreneur’s behavior with respect to business startup by integrating personal characteristics and also lays a foundation for entrepreneurial attitude.

Methodology
The study survey research design was cross-sectional. Survey research design is flexible enough to provide opportunity for investigating different constructs or hypotheses of a problem under study. With respect to its usability, several studies (Genty et al., 2015; Igwe et al., 2018; Ogunlana, 2018; Okeke et al., 2016) applied cross-survey research design. As a subset of quantitative methods, it allows statistical, mathematical, or numerical analysis of data collected through polls, questionnaire, and surveys, or the manipulating of pre-existing statistical data using computational techniques. Amouri, Sidrat, Boudabbous and Boujelbene (2017); Fada et al (2017); Gbadegeshin and Mohannak (2017), in their respective studies used quantitative approach. In addition, some studies such as Luluk et al (2017); Outi and Katariina (2016) anchored their works on qualitative methods, these research works were purely conceptual reviews with no real hypothesis testing, hence cannot be applied in making scientific generalizations.

The target population for the study was 406 graduate entrepreneurs consisting of four hundred (400) graduates who started their businesses before graduation and six (6) graduates while at the camp before registering with SAED-BOI (Bank of Industry), Lagos State 2021 NYSC 21A and Stream 1 Batch. According to the State Coordinator and reconfirmed by Skills Acquisition and Entrepreneurship Department (SAED) under the Lagos State National Youth Service Corps (NYSC), one thousand, one hundred and ninety-five (1,195) graduates (both startup entrepreneurs and non-entrepreneurs) of the 2021 Batch 21A and Stream 1 set of National Youth Service Corps (NYSC) in Lagos State, Nigeria, registered with SAED. However, the study is only focused on graduate entrepreneurs who have established businesses (registered or non-registered) while in school and during NYSC camp before the SAED entrepreneurial training. The decision to focus on Lagos was based on Global Startup
Ecosystem Rankings report (2019), which analyzed startup ecosystems in 1,000 cities and 100 countries, and recorded Lagos State as the best startup ecosystem in Africa, as such presents itself within Nigeria as the best geographical location for the study.

The total enumeration method was employed as the sample size since the population was scientifically judged to be too small for a sample size selection for generalization (Nwangwu et al., 2020; Adetayo & Hamzat, 2021). Based on the foregoing, the sample size for this study was four hundred and six (406). The sample size formula such as Taro Yamane sample size formula (Jill et al., 2016; Shaik & Venkataiah, 2016); Cochran sample size formula (Abdullahi et al., 2018; Olokundun et al., 2018) and even Fabrigar and Krosnick (1995) sample size formula as used by Abu et al (2018); Agbonlahor (2017); Asangu and Nwachukwu (2017) were not considered due to the targeted population. Primary data were obtained through administered questionnaire. The items in the questionnaire were adapted from previous studies based on the nature of the current study using a 6-point Likert-type scale ranging from VHE= Very High Extent (6), H= High Extent (5), MHE= Moderately High Extent (4), MLE= Moderately Low Extent (3), LE= Low Extent (2) VLE= Very Low Extent (1). The questionnaire consisted of four sections: A, B, C and D. Section A covered the information about the respondent biodata which included gender, age, and institution of higher learning and nature of business startups. Section B consisted of entrepreneurship education variable (Coduras et al., 2008; Lucky & Ibrahim, 2015; Olokundun et al., 2018). Section C covered business startup performance (Afrin et al., 2010; Muhammad, 2018; Pratono et al., 2019; Walsh & Nagaoka, 2016), and Section D covered personal characteristics variable (Andrzejczyk, 2017). Pilot study was carried out among Graduates (NYSC Corp members) outgoing Corp members in Lagos from 2019 Batch C and Stream II set. The choice of these set of people is that they are fresh graduates serving in Lagos State and registered with SAED. Forty (40) copies of the questionnaire representing ten per cent of the sample size were distributed. Thirty-six (36) copies of the questionnaire were retrieved representing 90% response rate. Consistency and reliability of the questionnaire items were determined based on the number returned. The validity of the instrument confirmed the instrument could measure what it intended to measure and taking into consideration how well the concept is defined through the measurement. Content, criterion and construct validity of the research instrument were established. The questionnaire was subjected to face and content validity which measured how well the content of the measurement instrument measures what it is designed to measure.

It was also used in determining a scale’s validity, which is a method that literally measures the face value of the measuring instrument. The construct validity was conducted through factor analysis using Kaiser-Meyer-Olkin and Bartlett tests of sphericity (Hadi et al., 2016). Also used was Average Variance Extract and composite reliability as recommended and utilized to ensure a completion of the conduct validation. The KMO test result was greater than 5% and Bartlett test of Sphericity result was less than 5%, denoting that statements that comprised the research instrument of each variable measured what were intended. Also, Average Variance Extracted for all the variables were greater than 0.5 and composite reliability values for the variables were above 0.6. The justification for testing for AVE further confirmed and affirmed the validity of the instrument. Table 1 shows the KMO and Bartlett test of Sphericity result.
Table 1: Results of the Validity Tests

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Number of Items</th>
<th>Kaiser-Meyer-Olkin (KMO) Test</th>
<th>Bartlett's Test</th>
<th>Sig</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurship Education</td>
<td>6</td>
<td>0.696</td>
<td>(163.919)</td>
<td>0.000</td>
<td>0.916</td>
</tr>
<tr>
<td>Business Startup Performance</td>
<td>5</td>
<td>0.647</td>
<td>(124.640)</td>
<td>0.000</td>
<td>0.948</td>
</tr>
<tr>
<td>Personal Characteristics</td>
<td>5</td>
<td>0.622</td>
<td>(106.91)</td>
<td>0.000</td>
<td>0.939</td>
</tr>
</tbody>
</table>

Source: Pilot Study, SPSS Output (2021)

In addition, the reliability of the research instrument was carried out to measure the internal consistency of the set of question items that make up the measuring instrument. The merit of internal consistency reliability is that it is used mainly to assess the reliability of summated rating scales which the study adopted. Consequently, Cronbach’s alpha test was used to determine the reliability of the instrument. A Cronbach’s alpha coefficient value of 0.7 or above shows high internal consistency (Owino, Kibera, Munyoki, & Wainaina, 2014). Table 2 presents the Cronbach’s alpha coefficient values for the variables.

Table 2: Result of the Reliability Tests

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Number of Items</th>
<th>Cronbach’s Alpha (α)</th>
<th>CR</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurship Education</td>
<td>6</td>
<td>0.770</td>
<td>0.649</td>
<td>Reliable</td>
</tr>
<tr>
<td>Business Startup Performance</td>
<td>5</td>
<td>0.753</td>
<td>0.778</td>
<td>Reliable</td>
</tr>
<tr>
<td>Personal Characteristics</td>
<td>5</td>
<td>0.738</td>
<td>0.756</td>
<td>Reliable</td>
</tr>
</tbody>
</table>

Source: Pilot Study, SPSS Output (2021)

The reliability test on the pilot data showed that the Cronbach’s alpha coefficient values for the variables ranged from 0.738 to 0.770 which were greater than 0.70 thresholds. This implies that the overall reliability measurement of the instrument is acceptable in terms of reliability thus, depicting its internal consistency. According to Owino et al (2014), a reliability coefficient of 0.70 or higher indicates a high degree of consistency. The obtained data from respondents was analysed using the descriptive and inferential statistics using Statistical Package for Service Solutions (SPSS) version 23. The hierarchical regression analysis as the inferential statistics to predict if personal characteristics moderated the effect between the relationship of entrepreneurship education and business startup performance was used.

Studies on personal characteristics, entrepreneurship education, and business startup performance in different nations have used different analytical tools; panel regression (Akinyemi & Bassey, 2012; Effiom & Edet, 2018; Muhammad, 2018; Salihu, 2016) due to its ability to analyze two-dimensional data usually covering secondary data of a long period. In addition, simple linear regression analysis was utilized by Laurikainen, Da Silva, Schlemper, Soares, and De Melo (2018); Lawal et al (2018); Obamuyi and Iriobe (2018) who observed the effect of one of the determinants of entrepreneurship education on business startup performance. Leffler and Näsström (2014); Muhammad (2018); Ndofirepi and Rambe (2017) adopted Pearson product moment correlation analysis as it seeks to determine how the constructs are related. However, these analytical methods are not robust and suitable for this study, which seeks primary data for the analysis of the subject matter. Hence, a combination of simple linear regression, and hierarchical regression were adopted based on the positions...
of (Jean et al., 2015; Olokundun et al., 2018). This method was preferred because of its ability
to determine the effect of one independent variable on one dependent variable and measure
the combined effects of the independent variable and the moderating effect on the
relationship between the two main constructs.
Data collected from the field were subjected to numerous pre-estimation tests to ensure the
usability of data collected. Such test included normality, using Jarque-bera test to ensure
goodness of fit for sample data such that the skewness and kurtosis of the data collected
matches a normal distribution, homoscedasticity, and multi-collinearity test using the
variance inflation factor (VIF) of <10 as evidence that items in the questionnaire are not highly
corrrelated. The result of the multi collinearity test presents that the VIF value of the
entrepreneurship education was less than 10 (VIF < 10) and the Tolerance value was higher
than 0.1 (Tolerance > 0.1) which reveals that there is no case of severe multicollinearity issues
as confirmed by Salkind (2010), who assert that no sever collinear relationship exist when
VIF<10, and when the tolerance (1/VIF) is greater than 0.1.

Result of Normality Test
The result in Table 3 shows a skewed distribution to the left and the result of the kurtosis
shows that it falls within the acceptable threshold. Skewness values between -1 and 1 means
the data is normal and a kurtosis value between +3 to -3 is deemed acceptable as confirmed
by (Patterson & Ashley, 2000). Perfect symmetry is difficult for a cross sectional data in most
cases.

<table>
<thead>
<tr>
<th>Table 3 Skewness and Kurtosis Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Entrepreneurship Education</td>
</tr>
<tr>
<td>Business Startup Performance</td>
</tr>
</tbody>
</table>

Pre-Test for mediation Analysis
Source: Researcher’s field survey report (2021)

Table 4: Summary of regression analysis for the significant effects of entrepreneurial
education on business startup performance in Lagos State, Nigeria

<table>
<thead>
<tr>
<th>N</th>
<th>Model</th>
<th>B</th>
<th>Sig.</th>
<th>T</th>
<th>ANOVA (Sig.)</th>
<th>R</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>391</td>
<td>(Constant)</td>
<td>2.680</td>
<td>0.003</td>
<td>13.404</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>391</td>
<td>Entrepreneurial Education</td>
<td>0.379</td>
<td>0.000</td>
<td>8.203</td>
<td>0.000b</td>
<td>0.384</td>
<td>0.147</td>
</tr>
</tbody>
</table>

Predictors: (Constant): Entrepreneurial Education
Dependent Variable: Business Startup performance

Source: Researcher’s field survey report (2021)

Table 3 to Table 4 satisfied the conditions required for running the analysis. The result in Table
4.4 depicts the baseline model which shows that entrepreneurship education ($\beta = 0.379, t =$
8.203, p < 0.05) has a significant effect on business startup performance, thus satisfies the first condition.

**Model Specification**

The variables in this study are personal characteristics, entrepreneurship education and business startup performance. The description below is a summary of the research objective and hypothesis to be adopted in this study:

\[ Y = f(X) \]

Where:
- \( Y \) = Dependent variable: Business Startup Performance
- \( X \) = Independent variable: Entrepreneurship Education

\[ \text{i.e.: Business Startup Performance} = f (\text{Entrepreneurship Education}). \]

\( Z \) = Moderating variable: Personal Characteristics

**Functional relationships and Regression equations:**

\[ Y = \alpha_0 + \beta_1 X_i + \beta_2 Z_i + \beta_{12} X_i Z_i + \mu_i \]  

(eq. i)

Where
- \( \beta_1 \) is the coefficient relating the independent variable, \( X \), to the outcome, \( Y \), when \( Z = 0 \), \( \beta_2 \) is the coefficient relating the moderator variable, \( Z \), to the outcome when \( X = 0 \), \( \alpha_0 \) the intercept in the equation, and \( \mu_i \) is the residual in the equation.

The hypothesis was tested at 95% confidence interval using moderated (hierarchical) multiple regression analysis. The study *apriori* expectation is that a positive and significant effect will be observed between entrepreneurship education, business startup performance, and personal characteristics will positively moderate the interactions. In addition, the paper adhered strictly to ethics of research, which included anonymity and confidentiality during the data gathering process. Participants had the right to discontinue participating in the study after they have started. Also, previous scholars’ works were duly acknowledged.

**Findings**

The formulated hypothesis was tested by applying a hierarchical multiple regression analysis using SPSS add-on called process analysis as presented in Tables 5–8. The formulated hypothesis states that personal characteristics have no moderating significant effect on the relationship between entrepreneurship education and business startup performance in Lagos State, Nigeria. The moderating variable was personal characteristics, the independent variable was entrepreneurship education, and the dependent variable was business startup performance. The data for personal characteristics was extracted by adding all the question items of the variable. Entrepreneurship education was generated by adding all the responses of all question items of entrepreneurship curriculum, skill training, entrepreneurial support, institutional factors, and experiential learning. Business startup performance was generated by adding scores of responses of all items for market orientation outcome, venture creation, continuous investment outcome, and idea commercialization. Data from three hundred and ninety-one (391) respondents were collated and analyzed. The results of the process analysis are shown in Table 5 to 8.
Table 5: Summary of regression analysis between entrepreneurial education and business startup performance

<table>
<thead>
<tr>
<th>N</th>
<th>Model</th>
<th>B</th>
<th>Sig.</th>
<th>T</th>
<th>ANOVA (Sig.)</th>
<th>R</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>391</td>
<td>(Constant)</td>
<td>2.680</td>
<td>0.003</td>
<td>13.404</td>
<td></td>
<td>0.000</td>
<td>0.384</td>
</tr>
<tr>
<td></td>
<td>Entrepreneurial</td>
<td>0.379</td>
<td>0.000</td>
<td>8.203</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Predictors: (Constant): Entrepreneurial Education
Dependent Variable: Business Startup performance

Source: Researcher's field survey report (2021)

Table 6: Model summary of regression analysis for moderating effect of personal characteristics on the relationship between entrepreneurship education and business startup performance in Lagos State, Nigeria.

<table>
<thead>
<tr>
<th>R</th>
<th>R-sq</th>
<th>MSE</th>
<th>F</th>
<th>df1</th>
<th>df2</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.8229</td>
<td>0.6771</td>
<td>0.2856</td>
<td>270.499</td>
<td>3</td>
<td>387</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Outcome variable: Business Startup Performance

Source: Researcher's field survey report (2021)

Table 7: Model of regression analysis

<table>
<thead>
<tr>
<th>Model</th>
<th>Beta</th>
<th>Se</th>
<th>T</th>
<th>P</th>
<th>LLCI</th>
<th>ULCI</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-0.1277</td>
<td>0.4091</td>
<td>-0.3121</td>
<td>0.7551</td>
<td>-0.9320</td>
<td>0.6766</td>
<td>0.2563</td>
</tr>
<tr>
<td>Entrepreneurship Education</td>
<td>0.4256</td>
<td>0.0995</td>
<td>4.2788</td>
<td>0.000</td>
<td>0.2301</td>
<td>0.6212</td>
<td>0.2056</td>
</tr>
<tr>
<td>Personal Characteristics</td>
<td>0.7220</td>
<td>0.0840</td>
<td>8.5996</td>
<td>0.000</td>
<td>0.5569</td>
<td>0.8871</td>
<td>0.1717</td>
</tr>
<tr>
<td>Entrepreneurship education*Personal</td>
<td>-0.0423</td>
<td>0.0199</td>
<td>-2.1250</td>
<td>0.0342</td>
<td>-0.0815</td>
<td>-0.0032</td>
<td></td>
</tr>
<tr>
<td>Characteristics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Outcome Variable: Business Startup Performance

Source: Researcher's field survey report (2021)

Table 8: Indirect effect(s) of X on Y

<table>
<thead>
<tr>
<th>R² change</th>
<th>F</th>
<th>df1</th>
<th>df2</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>X*W</td>
<td>0.0038</td>
<td>4.5157</td>
<td>1</td>
<td>387</td>
</tr>
</tbody>
</table>

Source: Researcher's field survey report (2021)
To test the hypothesis, process analysis using model 1 of the SPSS process add-on was used as showed in figure 1. The first part of the analysis showed the relationship between entrepreneurial education and business startup performance as seen in Table 5 which revealed a significant effect ($\beta = 0.379$, $R^2 = 0.147$, $t= 8.203$, $p<0.05$). Table 6 and Table 7 showed the changes that took place when the moderator was introduced. With the introduction of the moderator (personal characteristics) in Table 6, it revealed that the moderator significantly improved the relationship between entrepreneurship education and business startup performance among surveyed respondents in Lagos State, Nigeria as the $R$ value improved from 0.384 to 0.8229.

The coefficient of determination also improved from 0.1447 to 0.6771 (See Table 6 and Table 7) with a high level of statistical significance ($R^2 = 0.6771$, $p<0.05$) which implies that entrepreneurship education and personal characteristics explained about 67.7% of the variation in business startup performance in Lagos State, Nigeria as against the 14.47% variation explained by entrepreneurial education alone. Furthermore, the $F$-value in Table 6 was statistically significant $F(3,387) = 270.499$, $p=0.000$ which revealed that the influence of the independent variable and the moderator were significant in the model.

The results of the analysis in Table 7 which forms the baseline model showing the joint effect of entrepreneurship education on business startup performance revealed a statistically significant coefficient for entrepreneurship education ($\beta = 0.4256$, $t= 4.2788$, $p<0.05$) indicating that there is a linear dependence of entrepreneurship education on business startup performance in Lagos state, Nigeria. This result implies that for every unit increase in entrepreneurship education, business startup performance would increase by 0.4256 units in Lagos state Nigeria. Furthermore, personal characteristics ($\beta = 0.7220$, $t= 8.5996$, $p<0.05$) was statistically significant. The result rated that personal characteristics have a positive and significant effect on business startup performance in Lagos State Nigeria. This shows that for every single improvement in personal characteristics, business startup performance would increase by 0.7220 units in Lagos state Nigeria.

The introduction of the interaction term (entrepreneurship education*personal characteristics) revealed a negative and significant effect ($\beta = -0.0423$, $t= -2.1250$, $p<0.05$). This implies that for every unit change in interaction term, business startup performance would be negatively affected by a reduction of 0.0423 units in Lagos state Nigeria. In addition, the effect column shows the parallel of interaction between the various slopes and there was a good relative difference between the slopes, buttressing the existence of an interaction effect. On the interaction term, Table 7 revealed the absence of “0” between
the lower-level confidence interval (LLCI) and upper-level confidence interval (ULCI) (-0.0815 to -0.0032), which confirms the presence of a moderation effect of personal characteristics on the interaction between entrepreneurial education and business startup performance. The result of the analysis revealed that personal characteristics had a negative and statistically significant moderating effect on the relationship between entrepreneurship education and business startup performance in Lagos State Nigeria.

Also, the R square change in Table 8 shows that as a result of the introduction of the interaction term, the coefficient of determination changed by 0.038 at \( p = 0.0342 \) (\( p<0.05 \)) which indicates that the interaction term (entrepreneurship education*personal characteristics) accounts for about 3.8% variation in business startup performance and was statistically significant. The established regression equation from the results is stated as follows:

![Figure 2: Regression Model](source: Researcher's field survey report (2021))

\[
BSP = -0.1277 + 0.4256EE + 0.7220PC - 0.0423EE*PC \quad \text{eq. 2}
\]

Where:
- BSP = Business Startup Performance
- EE = Entrepreneurship Education
- PC = Personal Characteristics
- EE*PC = Interaction of Entrepreneurship Education and Personal Characteristics

Based on these findings, the null hypothesis for this paper which states that personal characteristics does not moderate the relationship between entrepreneurship education and business startup performance in Lagos state, Nigeria, was not accepted.

**Discussion of Findings**

The objective in this paper was to determine whether the effect of entrepreneurship education on business startup performance in Lagos state, Nigeria was moderated by personal characteristics. The study revealed that personal characteristics have a negative and statistically significant moderating effect on the relationship between entrepreneurship education and business startup performance in Lagos State Nigeria. Conceptually, in discussing the findings under this hypothesis, it is important to note that according to Colquitt et al. (2017), personal characteristics are referred to as personality traits which are characterized by an individual’s feelings, thoughts, and behavioural patterns. Zhao and Seibert (2006) claimed that the role of personality traits in entrepreneurship over the last four
over the past decades have experienced inconsistencies between theory and results stemming from the inappropriate use of personality variables. Nevertheless, understanding personality traits helps to measure and predict performance.

The divergent results of this study corroborate previous studies as Montiel (2018) reported a positive and significant relationship between creative personality and entrepreneurial alertness while an earlier work by Rauch (2007) postulated that personality traits on business creation and on business success were significant. More so, Zhao et al (2010) found that a relationship existed between the aggregated personality traits and two distinct phases of the entrepreneurial process: entrepreneurial intentions and entrepreneurial performance. Also, Ciavarella et al (2004) reported that personality traits on long term were significantly associated with entrepreneurial activity survival. Additionally, the findings of this study are in tandem with the empirical results of Franco and Prata (2019) which concluded that personality traits like a founder’s socio-demographic characteristics do not influence the general performance of a business. Another study by Ayoade et al (2018) revealed that all personality dimensions apart from neuroticism and openness to experience have positive effect on the entrepreneurs’ commitment to their entrepreneurial performance. The above convergent and divergent empirical results could have differed along the lines of context, scope, geographical locations.

On the other hand, the study is in line with Theory of Planned Behavior (Ajzen, 1985). The theory underscores that only attitude, subjective norms and perceived behavioural controls have a direct effect on intention. Thus, entrepreneurship like most forms of human behavior is assumed intentional (Ajzen, 1985, 1991). The Theory of Planned Behavior shows the various factors that can influence an entrepreneur’s behavior with respect to business startup performance by integrating the moderating and mediating variables (Personal, cognitive and psychology characteristics), and lays a foundation for entrepreneurial attitude. Therefore, the researcher concluded that based on the overall responses and analysis from the study, the hypothesis for this paper which states that personal characteristics does not moderate the relationship between entrepreneurship education and business startup performance in Lagos State Nigeria was not accepted.

**Conclusion**

Based on the interaction results in this paper, personal characteristics had a negative and statistically significant moderating effect on the relationship between entrepreneurship education and business startup performance in Lagos State Nigeria. Summarily put, Model 1 on SPSS process analysis was carried out and showed the interaction term ($\beta = -0.0423$, $t = -2.1250$, $p=0.0342$, $p<0.05$). While the personal characteristics of entrepreneurs statistically have moderating significant effect on the relationship between entrepreneurship education and business startup performance, it is important to note that not all personal characteristics possessed by an entrepreneur affect business startup performance positively. As such, white-collar jobs will always be limited while the number of graduates yearly will continue to increase, therefore there is a need to strategically introduce, sustain, and encourage business startup programs through entrepreneurship education with the infusion of personal characteristics as a growth-catalyst.
Contribution to Knowledge
This study contributed empirically by adding to the body of knowledge on the positive and significant role personal characteristics plays as a growth-catalyst on entrepreneurship education and business startup performance. Thus, it provided other researchers with veritable source of data, which can be utilized for further study and theoretical implications. Additional, the critical examination of entrepreneurship education and business startup performance, and its relations to Ajzen theory of planned behaviour provided theoretical relevance to academic literature. This is because the Ajzen theory of planned behaviour was conceptualized to be an adhesive in combining unique individual factors (personal characteristics) towards business startup performance.

Recommendation for Further Studies
In order to ensure growth, sustainability and survival of business startup, the personal, cognitive, and psychological characteristics of each entrepreneur (students, graduates, and other individuals) should be given adequate attention through experiential learning and mentorships before and during the business. This is important since the mental skills, language skills to discerning skills, creative and innovative skills are core components in entrepreneurship program which could enhance business startup performance. Hence, this study should be extended to other states in Nigeria and other developing countries.

References


