Responding to social change: innovativeness, entrepreneurial alertness, and entrepreneurial intention in Nigeria: the role of family support

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Abstract
Presently, entrepreneurship has become one of the adequate remedies to ameliorate various economic and social problems. Thus, to boost entrepreneurship, the Nigerian government has opted to include entrepreneurial studies in tertiary institutions; to increase students’ entrepreneurial prowess and intentions. Understanding the factors inherent in the entrepreneurial process is imperative for entrepreneurial development. This present study addresses university students and entrepreneurial intention: the moderating role of family support in the relationships between innovativeness and entrepreneurial alertness on students’ entrepreneurial intention. The researchers adopted an exploratory quantitative approach using a purposive sampling technique. A total of 1383 students participated in the study across the federal universities in the southeast geopolitical zone in Nigeria. The findings showed that innovativeness, entrepreneurial alertness, and family support are positively associated with entrepreneurial intention. In addition, family support moderated the relationship between entrepreneurial alertness and entrepreneurial intention among undergraduate students but did not affect innovativeness. Our findings suggest that educators and policymakers need to consider the role of exogenous factors (e.g., family support) when seeking to promote entrepreneurial actions of college students through policies or educational programs and to rethink the current models of entrepreneurial education that are prevalent in our educational system to imbibe inclusiveness of both exogenous and endogenous factors that influence entrepreneurship.

Keywords Innovativeness · Entrepreneurial alertness · Moderation · Entrepreneurial intention · Undergraduate student · Family support

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Abbreviations

UNN  University of Nigeria Nsukka, Enugu state
NAU  Nnamdi Azikiwe University Akwa, Anambra state
MOUAU  Michael Okpara University of Agriculture Umudike, Abia state
FUTO  Federal University of Science and Technology Owerri, Imo state
AE-FUNAI  Alex Ekwueme Federal University Ndufu, Alike Ikwo, Ebonyi state

Introduction

One pathway to making people survive and earn a living is through entrepreneurship (Botsaris & Vamvaka, 2016). As entrepreneurship is synonymous with self-employment, it is believed to be an effective strategy in handling the issue of employability, particularly among youths (Bako et al., 2017). It is against this background that Akpan et al. (2012) noted that adopting entrepreneurship education aims to equip individuals to be self-reliant and achieve faster economic development. This is pertinent because one of the most significant challenges facing developing countries such as Nigeria is how to stimulate economic growth and lift a more substantial percentage of the population out of the doldrums of poverty. Encouraging and supporting entrepreneurship has become a central element of economic development in countries worldwide (Engle et al., 2011).

Thus, entrepreneurial intention is a process of value creation consisting of committing time and effort, considering financial, social, and other risks resulting in monetary gain (Izlem and Nurdam, 2016). It involves creating something new with value by devoting the necessary time and effort, assuming the accompanying financial, psychic, and social risks are commensurate with the resulting rewards of monetary and personal satisfaction (Hisrich et al., 2005). Entrepreneurial intention is the self-belief of individuals who intend to start a new business and plan to do it in the future (Dung & Tu, 2021). Entrepreneurial intention is a behavioral process that involves searching, evaluating, and exploiting business opportunities to make new business activities (Dao et al., 2021).

A deeper understanding of the factors that encourage students to participate in entrepreneurial activity is necessary (O’Kane et al., 2020; Wang et al., 2021). It is not every intention that is eventually transformed into actual behavior; instead, there is a high level of intention-behavior connection and entrepreneurial intentions at the foundation of the entrepreneurial process (starting and operating a new venture) (Kautonen et al., 2015; Shirokova et al., 2016), thus signifying entrepreneurship as an intentional behavior. However, studies (e.g., Botsaris & Vamvaka, 2016) have emphasized that the stronger entrepreneurial intentions are, the higher the possibilities that new business activities are created and developed by the individual. Invariably, the mechanism that propels young undergraduates into entrepreneurial intention is less researched in developing countries, including Nigeria (Amazue et al., 2015). Nigeria’s unemployment rate has more than quadrupled over the last five years as the economy has gone through two recessions, casting a shadow on efforts to implement policies to drive growth and create jobs by the government (Olurounbi, 2021). The number of unemployed Nigerians rose to 23.19 million in the fourth quarter.
(Q4) of 2020 on the back of job losses occasioned by the outbreak of the COVID-19 pandemic and its stifling impact on businesses during the period (National Bureau of Statistics, 2020). The unemployment rate in Nigeria also rose from 27.1 percent to 33.3 percent from December to March 2021 (Egwuatu, 2021). By implication, one-third of the 69.7 million-strong labor force in Africa’s most-populous nation either did nothing or worked for less than 20 h a week (Olurounbi, 2021). Thus, due to the high unemployment rate, coupled with a dwindling economy, entrepreneurship is sine-qua-non for individual survival and the sustainability of economic development (Anjum et al., 2021). Furthermore, entrepreneurial intentions signal how intensely one is prepared and how much effort one plans to commit to carrying out entrepreneurial behavior (Schlaegel et al., 2021). Understanding the factors that predict entrepreneurial intention is crucial because entrepreneurial intention is a result of the interaction of some factors, which include cognition and psychological factors (Isiwu & Onwuka, 2017; Rokhman & Ahmed, 2015), education (Belas et al., 2017), social or informal support (Engle et al., 2011), entrepreneurial ecosystems such as informative and formal networks, physical infrastructure, available talent and public policy (Sperber & Linder, 2018). Thus, the pertinent question is, what contingent variables can influence entrepreneurial intention? However, extant studies (e.g., Shan et al., 2017) have raised concerns about why specific individuals can sense new opportunities, whereas others engage in behaviors toward such opportunities. This brings into focus endogenous variables such as innovativeness and entrepreneurial alertness, which play a vital role in undergraduate entrepreneurial intentions (Ahmed et al., 2020; Al-Mamary et al., 2020; Gill et al., 2021; Jiatong et al., 2021; Palladan & Ahmed, 2021; Puapradit & Supan, 2021; Turulja et al., 2020).

Innovativeness is the predisposition to creativity and experimentation in producing new products, services, and technology through the research and development of new processes (Erden & Erden, 2020), thus extending the process of ideas to implementation and execution. On the other hand, entrepreneurial alertness refers to the discovery of business opportunities and the utilization of resources to make use of these opportunities to create value (Puapradit & Supan, 2021). It is a psychological schema and cognitive framework portrayed by individuals to discover opportunity identification processes and environmental changes.

Studies (e.g., Gill et al., 2021; Schlaegel et al., 2021; Urban, 2020; Wathanakom et al., 2020) have shown that these variables (innovativeness and entrepreneurial alertness) are successful in carrying out entrepreneurial events. In emerging economies, researchers have suggested that entrepreneurship is the springboard toward economic development, job creation, and sustainability (Alvarez & Barney, 2010).

However, extant studies on the endogenous factor that precipitates entrepreneurial intentions (e.g., innovativeness and entrepreneurial alertness) have revealed different results from different contextual and cultural perspectives (Al-Mamary et al., 2020; Biswas & Verma, 2021; Colman et al., 2019; Erden & Erden, 2020; Jiatong et al., 2021; Li et al., 2020; Odebunmi et al., 2020; Sharaf et al., 2018). However, there is a paucity of research on the interacting and moderating effects of the exogenous factors (e.g., family support) simultaneously on these variables of interest which can strengthen or weaken the relationship. Family support has been seen as a recipe that can act as a boundary condition in such an association because of its interactive
effects on entrepreneurial events. Family support refers to informal assistance for a family member or the provision of care to support a family member, which involves activities that strengthen informal social links. Invariably, high levels of family support favor conditions for effective resource coordination (Annisa et al., 2021), ensuring that assets derived from the combination of family and non-family members are employed to sustain innovation and trans-generational wealth creation as a unifying family business goal.

Thus, extant studies (e.g., Bako et al., 2017; Fayolle & Linan, 2013) have called for studies on the impact of exogenous factors such family support on entrepreneurial intention among undergraduates. Hence, the present study responds to that call and posits that family support as a boundary condition in the relationships between innovativeness and entrepreneurial alertness is imperative in achieving entrepreneurial intention, especially in a dynamic and evolving business environment.

This study extends the knowledge of entrepreneurial intention in three ways. First, it demonstrates the direct effects of innovativeness and entrepreneurial alertness on entrepreneurial intention. Second, it investigates the role of family support as a direct determinant of students’ entrepreneurial intention. Third, it examines family support’s interaction or moderating effect on such relationships.

**Theoretical model and hypotheses development**

Leveraging on the extant literature on intention-behavior theoretical framework that is grounded in entrepreneurial event theory (Shapero & Sokol, 1982) and the theory of planned behavior (Ajzen, 2001, 2005), the present study anchors on the tenets of these theories in explaining entrepreneurial events that transcend entrepreneurial intention. These theories’ tenets emphasize the perception of desirability and feasibility, propensity to act on potential opportunities, the perception of available knowledge (Shapero, 1982), personal attitudes (the intention or preponderant to behave in a particular way), subjective norms (exogenous/social factors), and perceived behavioral control (ease of enacting a behavior and controllability) (Ajzen 2001, 2005); thus suggesting that the entrepreneurial intentions of undergraduate students are better understood by examining the relationships among these tenets. Thus, undergraduate students tend to engage in the entrepreneurial event (starting a new business venture) when there is synergy in the perception of desirability and feasibility of the entrepreneurial event/activity (innovativeness) and the propensity to act on the potential opportunities in a such entrepreneurial event, based on the available knowledge (entrepreneurial alertness) and subjective norm/social factors (family support). These theories were adopted to explain the endogenous and exogenous factor influencing students’ entrepreneurial intention as well as explaining the conditions of the conceptual model inherent in analysis based on direct and indirect/moderation relationship among the study variables (Hayes, 2018). Thus, these theories explain the direct association between innovativeness, entrepreneurial alertness and entrepreneurial intention as well as the buffering role of family support as a boundary condition among the study variables (independent and dependent variables). Our adopted model functions on the premise that family support moderates
the direct relationship between innovativeness, entrepreneurial alertness (IVs) and entrepreneurial intention (DV) of undergraduate students (Fig. 1).

**Literature review and hypothesis**

**Innovativeness and entrepreneurial intention**

Innovativeness is the predisposition to creativity and experimentation in producing new products, services, and technology through the research and development of new processes (Law & Breznik, 2017). It connotes an essential strategy for the survival, success, and renewal of business organizations (Nambisan & Baron, 2013), leading to an individual’s propensity to engage in creativity resulting in the development of new products, services, or production methods (Schlaegel et al., 2021). Innovativeness is the most crucial component in a business strategy through which an individual can gain an advantage over competitors (Mirjana et al., 2018); it is the driving force that mobilizes internal and external resources (Al-Mamary et al., 2020).

Studies have shown that innovativeness exerts several positive effects, such as entrepreneurial intention (Erden & Erden, 2020), entrepreneurial willingness (Dung & Tu, 2021), and entrepreneurial role models (Efrata et al., 2021). Innovativeness is indicated as a vital psychological trait that drives entrepreneurial intention. Thus, individuals with personality traits akin to entrepreneurship intentions are more innovative and have a greater propensity to take risks than those who do not have such intentions (Colakoglu & Gozukara, 2016). This finding shows that students with a high penchant for innovation are likelier to exert tremendous effort and perseverance in engaging in entrepreneurship. In contrast, students with a low penchant for innovation are more likely to doubt their abilities and worry more when encountering failures and setbacks, thus having less thought of entrepreneurial intention. Thus, innovativeness has become an essential avenue to promote the incline of an entrepreneurial event among students (Colman et al., 2019). This is imperative since the

![Conceptual model of the study variables](image-url)
span of a college education is a sensitive period for young adults’ psychological and economic development, during which they develop coping strategies and a sense of skill mastery (Karimi et al., 2012). Thus, it could be argued that innovativeness is the mechanism that facilitates entrepreneurial intentions among undergraduate students. We, therefore, hypothesize that:

**Hypothesis 1** Innovativeness will positively correlate with undergraduate students’ entrepreneurial intention.

**Entrepreneurial alertness and entrepreneurial intention**

Entrepreneurial alertness implies identifying new business opportunities and utilizing the available resources to make use of such opportunities to create value (Pua-pradit & Supan, 2021). Entrepreneurial alertness is an attitude that is significant in the propensity to act on potential opportunities in an entrepreneurial event based on the available knowledge for such entrepreneurial intentions (Izlem & Nurdan, 2016). It is considered a reliable mechanism for effective communication and transition of entrepreneurial intention because it is the cognitive engine driving the opportunity identification process in entrepreneurship (Gill et al., 2021).

However, studies (e.g., Alvi & Sharma, 2017; Biswas & Verma, 2021; Gill et al., 2021; Jiatong et al., 2021; Odebonmi et al., 2020; Urban, 2020) have revealed that entrepreneurial alertness provides an effective mechanism for the propensity to act on potential opportunities based on the perception of available knowledge as a result of the perception of desirability and feasibility in the entrepreneurial event.

Thus, it could be contended that individuals with great entrepreneurial alertness have the disposition to seek and recognize environmental changes and modify their intellectual structure in line with the available knowledge (Gaglio & Katz, 2001). Thus, entrepreneurial alertness propels the ability of individuals to identify opportunities ignored by others. This is pertinent since it causes individuals to identify new solutions to market and customer needs in existing information and to imagine new products and services that do not currently exist, thereby facilitating the thought of entrepreneurship (Baron, 2006). Thus, the researchers, hypothesized based on the literature review that:

**Hypothesis 2** Entrepreneurial alertness will be positively associate with the entrepreneurial intention of undergraduate students.

**Family support, innovativeness, entrepreneurial alertness, and entrepreneurial intention**

Family support refers to informal assistance for a family member or the provision of care to support a family member to strengthen informal social links through integrated programs, including community and private services. (Devaney, 2015). This is achieved by providing family members with emotional, physical, financial, and
material resources to help promote family values and accomplish family needs and goals (Aldersey et al., 2016).

Studies (e.g., Grave & Salaff, 2003; Laspita et al., 2012; Murphy & Lambrechs, 2015) have shown the impact of close relatives on entrepreneurial events and entrepreneurial role models. In addition, extant studies (e.g., Annisa et al., 2021; Budyono & Setyawasih, 2020; Lingappa et al., 2020; Rani, 2012) have revealed a significant positive relationship between family support and entrepreneurial intention. Thus, high levels of family support favor effective resource coordination by ensuring that assets from the combination of family members are employed to sustain innovation and trans-generational wealth creation (Shen et al., 2017). However, the support facilitated by family members has a range of beneficial adaptive behaviors for gaining coping strategies, skills, and self-confidence (Devaney, 2015). This is imperative because the family is a significant institution that people rely on to make start-up decisions and achieve entrepreneurial success (Powell & Eddleston, 2013). Thus, one could contend that family support has a direct and buffering effect on entrepreneurial intention because entrepreneurial intentions rely on the vital role of resources (e.g., knowledge, capital, materials, and expertise) needed in the establishment and development of such entrepreneurial events (Bako et al., 2017).

Thus, the researchers hypothesized the following:

**Hypothesis 3a** Family support will positively influence undergraduate students’ entrepreneurial intention.

**Hypothesis 3b** Family support will moderate the relationship between innovativeness and entrepreneurial intention among undergraduate students such that the relationship is stronger when family support is high rather than low.

**Hypothesis 3c** Family support will moderate the relationship between entrepreneurial alertness and entrepreneurial intention among undergraduate students such that the relationship is stronger when family support is high rather than low.

**Materials and methods**

**Research design, population, and sampling procedure**

The present study applied cross-sectional exploratory research approach to examine the research problem at a particular point in time (Setia, 2016), based on the premise of positivist methodological view. Our sample is drawn from the final-year undergraduate students in Nigeria. Our focus on such a population fostered awareness of wealth creation and self-employment to readdress Nigeria’s unemployment rate, which quadrupled over the last five years as the economy went through two recessions. The participants for this study comprised 1383 final year students selected from federal universities in southeast Nigeria. To avoid common bias errors associated with self-measures (Podsakoff et al., 2003), the sample size was estimated
using the test’s power and the population’s corresponding size in the range of the corresponding sample size (Bukhari, 2021). A total sample size of 1383 participants is necessary to show middle-size effects since the sampling population is \((n = 7127)\) enlisted as undergraduate final-year students from the faculties used in this study. The eligible participants were randomly selected after given their informed consent to participate in the study. The participants were assured that their responses to the questionnaire would remain confidential. This was ensured by the non-inclusion of any means of identification in the questionnaire. The inclusion criteria for the study were final-year student who do not own or start any business and had studied an entrepreneurial related course in the enlisted university. However, the exclusion criteria are students outside the enlisted universities studied; those who have not studied any related entrepreneurial course; students who have started business and students of other group’s not final year. The researcher distributed 1432 copies of the questionnaire, but only 1402 were returned. Out of the 1402 copies of the questionnaire returned, 19 copies were discarded for improper completion, while 1383 valid copies of the questionnaire were used for data analysis yielding a valid response rate of 98.64%. There were male \((n=576, 41.6\%)\) and female \((n = 807, 58.4\%)\) students in the sample. The age range was 20–38 years \((M=24.54, SD=3.17)\). Final-year students in their fourth year numbered 796 (57.6%), while those in their fifth year numbered 587 (42.4%) (Table 1).

| Table 1  | Demographics of respondents \((n = 1383)\) |
|---------|------------------------------------------|
| Age     | 20–38 years                               |
| Mean age| 24.54 years                                |
| SD      | 3.17                                      |
| Gender  |                                          |
| Male    | 576 (41.6%)                               |
| Female  | 807 (58.4%)                               |
| University |                                                |
| UNN     | 350 (25.31%)                              |
| NAU     | 290 (20.97%)                              |
| MOUAU   | 267 (19.30%)                              |
| AE-FUNAI| 230 (16.63%)                              |
| FUTO    | 246 (17.79%)                              |
| Faculty of study |                                                |
| Engineering | 247 (17.86%)          |
| Social sciences | 232 (16.78%)             |
| Agriculture | 179 (12.94%)           |
| Management sciences | 190 (13.73%)          |
| Education | 172 (12.44%)               |
| Physical sciences/applied sciences | 209 (15.11%)          |
| Pharmaceutical sciences | 154 (11.14%)     |
| Year of study |                                                |
| Fourth-year final year | 796 (57.6%)         |
| Fifth-year final year | 587 (42.4%)          |
Instrument/measures

Innovativeness

Innovativeness was measured by the Individual innovativeness scale developed by Hurt et al. (1977). It is a 20-item scale that measures individuals’ orientation toward developing and implementing new ideas. It is a widely known and adopted measure of individual innovativeness to date and has been used in recent research (e.g., Bautista et al., 2018; Colman et al., 2019). The response format is structured in a 5-point Likert format of strongly disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, strongly Agree = 5. Sample items include: “I enjoy trying new ideas”, and “I frequently improvise methods for solving a problem when the answer is not apparent.” Higher scores indicate that the respondent shows more innovativeness characteristics. Hurt et al. (1977) reported a Cronbach’s alpha coefficient of 0.89. The current study reported a Cronbach alpha of 0.78.

Entrepreneurial alertness

Entrepreneurial alertness was measured by the Entrepreneurial Alertness Scale developed by Tang et al. (2012). It is a 13-item scale designed to measure the recognition and development of new opportunities. All items are on a five-point Likert scale ranging from (1) “Strongly disagree to (5) "Strongly agree." Sample items include: “I am always looking for new information”; “I see links between seemingly unrelated pieces of information”; and “I have an extraordinary ability to smell profitable opportunities." A higher score indicates a greater propensity for the alertness of novel business ideas. Tang et al. (2012) reported a Cronbach’s alpha coefficient of 0.87. The current study reported a reliability coefficient of 0.89.

Family support

The 13-item family support scale developed by Uddin and Bhuiyan (2019) was used to assess perceived support received from families in different areas, such as emotional support, personal needs, money or financial help, essential decisions, health care, and social events. Sample items include, "My family helps me with daily activities," "My family helps me solve my problems," and "I am satisfied with my family support." Items are rated on a 4-point Likert scale ranging from (1) “None of the time” to (4) “Much of the time.” A higher score reflects greater perceived family support. Uddin and Bhuiyan (2019) reported a Cronbach’s alpha coefficient of 0.94. The present study reported an α coefficient of 0.92.

Entrepreneurial intention

A 6-item Entrepreneurial Intention Questionnaire developed by Linan and Chen (2006) was used to measure an individual’s intention to become an entrepreneur by capturing personal attitude, subjective norms, and perceived behavioral control. The items on the scale are scored on a 5-point Likert format ranging from (1)
“Strongly Disagree” to (5) “Strongly agree.” Sample items include, “I am ready to make anything to become an entrepreneur,” "My professional goal is becoming an entrepreneur," and "I am determined to create a firm in the future." Linan and Chen (2006) reported a Cronbach’s alpha reliability coefficient of 0.95. The current study reported an α coefficient of 0.88.

**Control variables**

Extant studies on entrepreneurship have advocated that demographic factors such as gender, educational level, year of study and age could be viewed as a control variable (Hung, 2017). Thus, the researchers included gender, age and year of study as the control variables. Age was measured by objective data; gender was a dummy variable, while educational level ranged from 4th to 5th year, representing fourth-year final year students and fifth-year final year students, signifying four-year and five-year courses, coded 0 and 1, respectively.

**Ethical consideration**

The study was approved by the Ethical Committee, Department of Psychology, University of Nigeria, Nsukka (D.PSY.UNN/REC/2021–11-IRB000010). Informed consent was obtained from the participants. All the ethical standards according to the Helsinki Declaration of 1975, as revised in 2000 concerning human experimentation (institutional and national), were followed.

**Data analysis**

Pearson’s correlation (r) was conducted among the study’s demographic variables, predictors, and dependent variables. This was done to ascertain whether entrepreneurial intention correlated with the predictors and the demographic variables.

The obtained data were analyzed using Hayes’ regression-based PROCESS macro for SPSS. The PROCESS Macro version 3.1 (Hayes, 2018) was applied for hypothesis testing. The robust PROCESS macro for SPSS is suitable for measuring the moderation or interactive effects, and it is preferable to the normal regression analysis in moderation research. PROCESS conducts regression-based path analysis and creates product terms to analyze interaction effects, automatically centering the predictor variables before analysis. The Hayes PROCESS is currently the most acceptable method in tests of moderation in psychological research and management sciences research (see Jyoti & Kour, 2017; Onyedire et al., 2019). If a product term were significant, it would mean that the association between the relationship variables (e.g., innovativeness and entrepreneurial alertness) and the criterion variable (entrepreneurial intentions) was either stronger or weaker in the presence of the moderator (family support). As PROCESS allows for a single predictor variable, two analyses were conducted. In the first test, innovativeness was entered as the predictor variable, family support as the moderator variable, and entrepreneurial intention
as the outcome. In the second analysis, the predictor variable was entrepreneurial alertness, while the moderator and the outcome variable were constant.

Results

Descriptive statistics

Table 2 shows that age was negatively associated with entrepreneurial intention among undergraduate students ($r = -0.14, p < 0.01$) but was not significantly associated with any other variable in the study. Being female was positively correlated with family support ($r = 0.17, p < 0.001$), and entrepreneurial intention among undergraduate students, ($r = 0.13, p < 0.01$). Year of study was positively related to innovativeness, ($r = 0.15, p < 0.01$). Innovativeness was positively related to entrepreneurial alertness, ($r = 0.48, p < 0.001$), family support, ($r = 0.43, p < 0.001$), and a high level of entrepreneurial intention among undergraduate students ($r = 0.42, p < 0.001$). Entrepreneurial alertness was positively associated with family support, ($r = 0.45, p < 0.001$), and a high level of entrepreneurial intention among undergraduate students, ($r = 0.59, p < 0.001$). Family support was positively related to a high level of entrepreneurial intention among undergraduate students ($r = 0.53, p < 0.001$).

In Table 3, we report that innovativeness positively associated with entrepreneurial intention among undergraduate students ($B = 0.08, p < 0.001$). The $B$ showed that each unit’s rise in innovativeness was associated with 0.08 increase in entrepreneurial intention among undergraduate students. The result provides support to our Hypothesis 1.

The interaction between innovativeness and family support was not significant ($B = -0.01, 95\% CI [1.06, -0.00], p < 0.093$), indicating that family support did not moderate the relationship between innovativeness and entrepreneurial intention among undergraduate students. Therefore, Hypothesis 3b was not supported.

In Table 4, we report that entrepreneurial alertness was positively associated with entrepreneurial intention among undergraduate students ($B = 0.18, p < 0.001$). The $B$

| Variables | Mean | $SD$ | 1     | 2     | 3     | 4     | 5     | 6     |
|-----------|------|------|-------|-------|-------|-------|-------|-------|
| 1 Age     | 24.54| 3.17 | –     |       |       |       |       |       |
| 2 Gender  | 0.02 |       |       |       |       |       |       |       |
| 3 Year of study | 4.44 | 0.50 | 0.06  | 0.07  | –     |       |       |       |
| 4 Innovativeness | 70.38 | 10.14 | – .02 | .02   | .15** | –     |       |       |
| 5 EA      | 49.17| 8.34 | – .08 | – .02 | .01   | .48***| –     |       |
| 6 Family support | 53.38 | 9.51 | – .04 | .17***| .06   | .43***| .45***| –     |
| 7 EI      | 24.11| 3.77 | – .14**| .13** | .09   | .42***| .59***| .53***|

EA entrepreneurial alertness; EI entrepreneurial intention

***$p < .001$; *$p < .05$; gender (0 = male, 1 = female)
showed that each unit’s rise in entrepreneurial alertness was associated with a 0.18 increase in entrepreneurial intention among undergraduate students. Thus, the result provides support for Hypothesis 2.

Family support was positively related to undergraduate students’ entrepreneurial intention ($B=0.10$, $p<0.001$). The $B$ showed that each unit rise in family support was associated with 0.10 increase in entrepreneurial intention among undergraduate students. Therefore, Hypothesis 3a was supported.

The interaction between entrepreneurial alertness and family support was significant ($B=-0.01$, 95% CI [-0.01, -0.00] $p<0.001$), indicating that family support moderated the relationship between entrepreneurial alertness and entrepreneurial intention among undergraduate students. Therefore, Hypothesis 3c was supported and is also visualized in Fig. 2. The slope of the interaction (Fig. 2) indicated that although entrepreneurial alertness was significantly associated with an increase in entrepreneurial intention, this positive association was strongest among undergraduate students with high family support ($B=0.23$, $t=12.33$, $p<0.001$) compared to
those with low family support ($B=0.12$, $t=4.87$, $p<0.001$) and moderate family support ($B=0.17$, $t=9.10$, $p<0.001$). The $R^2$ of 47 for the model indicated that 47% of the variance in entrepreneurial intention among undergraduate students was explained on account of all the variables, $F (6, 454)=67.34$. The $R^2$ change associated with the interaction term was 2%.

**Discussion**

To the best of our informed knowledge, this present study is the first to explore the moderating role of family support in the relationship between innovativeness, entrepreneurial alertness and entrepreneurial intentions among students simultaneously. Leveraging on the result findings, the researchers believe that this current study adds to the knowledge on the interplay between endogenous factors (innovativeness and entrepreneurial alertness), by first allowing us to extend the knowledge of entrepreneurial intention from the explicit influence of exogenous factors such as family support.

Furthermore, results showed that innovativeness positively correlated with undergraduate students’ entrepreneurial intention. Thus, an increase in innovativeness was associated with increased entrepreneurial intention. This finding is consistent with previous studies which showed comparable concurrence with our study findings on a positive link between innovativeness and entrepreneurial intentions (e.g., Biswas
& Verma, 2021; Erden & Erden, 2020; Mirjana et al., 2018; Palladan & Ahmad, 2021). Wathanakom et al. (2020) asserted that innovativeness is the catalyst that ignites entrepreneurial intentions. This implies that innovativeness is an essential factor in entrepreneurial intention that facilitates the learning capacity and basic skills of individuals with the ability to recognize and exploit opportunities and learn new business development and management (Law & Breznik, 2017). The result is in consonance with hypothesis 1 which predicted a positive correlation between innovativeness and entrepreneurial intentions.

As expected, entrepreneurial alertness was positively associated with entrepreneurial intention, thereby confirming hypothesis 2. The findings implied that an increase in entrepreneurial alertness was associated with an increase in entrepreneurial intention among undergraduate students. This result agrees with previous studies that showed a significant positive association between entrepreneurial alertness and entrepreneurial intention (e.g., Alvi & Sharma, 2017; Gill et al., 2021; Jiattong et al., 2021; Li et al., 2020; Odebunmi et al., 2020; Urban, 2020). Applying entrepreneurial alert theory, it is evident that individuals engage in entrepreneurial events when there is pre-existing knowledge of new opportunities and the readiness to stand for the uncertainties to decide whether or not to exploit the opportunity by taking entrepreneurial action (Mcmullen & Shepherded, 2006). Thus, students’ recognition of the inherent benefits in the possibility that presents itself increases the tendency of such students to have the intention of exploring the business opportunity (Alvi & Sharma, 2017).

Furthermore, family support was positively associated with entrepreneurial intention among undergraduate students, and thus, hypothesis 3a was supported. This coincides with previous studies that reported a significant positive relationship between family support and entrepreneurial intention (e.g., Annisa et al., 2021; Budiyono & Setyawasih, 2020; Lingappa et al., 2020; Rani, 2012). This implies that the family is a significant institution that people rely on to make start-up decisions and achieve entrepreneurial success (Powell & Eddleston, 2013). This finding is also in tandem with the postulations of resource-based theory (Wade & Hulland, 2004) which shows that the exogenous assets (e.g., social support) that are available to and useful for entrepreneurs to detect and respond to market opportunities increase entrepreneurial intention and the family embeddedness perspective of family systems theory (Bowen, 1966), which suggests that the family is an essential factor influencing the entrepreneurial process, including starting a business (Aldrich & Cliff, 2003), since human intention is guided by subjective norms, personal attitudes and perceived behavioral control.

Contrary to expectation, family support did not moderate the relationship between innovativeness and entrepreneurial intention, and thus, hypothesis 3b was not supported. The result is at variance with previous studies (e.g., Georgescu & Herman, 2020; Shen et al., 2017; Wang et al., 2018), which revealed an indirect association with exogenous factors (e.g., family support) on entrepreneurial intentions among individuals. However, there is scarce literature on the moderating role of social support in the associations between innovativeness and entrepreneurial intention. The present finding may be explained on the basis that the conditional effect of family support is more potent in some environmental contexts than in others (Schlaegel
et al., 2021) as observed in Nigeria due to dearth of novel business ideology caused by poor economy and government obnoxious business policies (Akpan et al., 2012; Egwuatu, 2021).

In contrast, family support moderated the relationship between entrepreneurial alertness and entrepreneurial intention among undergraduate students; thus, hypothesis 3c was supported. This finding has been exemplified and reported in previous studies (e.g., Annisa et al., 2021; Budiyono & Setyawaish, 2020), which revealed a significant relationship in such an association, even though there is limited literature in this context. However, taking cognizance of the subjective norm in the theory of planned behavior, it is evident that exogenous factors (family support) are imperative in entrepreneurial intention. However, the intention to start a new business depends on the individual’s perception of desirability and feasibility concerning that activity and the propensity to act on opportunities (entrepreneurial alertness). This is dependent on available knowledge of opportunity based on the perception of the desirability of an entrepreneurial event influenced by exogenous factors such as family support. Thus, the perception of the feasibility of a new venture is subject to an individual’s perception of the available knowledge and support from family. According to Annisa et al. (2021), Biswas & Verman (2021) and Georgescu and Herman (2020) propositions, the conception of entrepreneurial events is contingent on the level of support received from significant others.

There are some notable limitations in the present study. First, the study was performed among undergraduate students in Southeast Nigeria. Thus, the findings could not be extrapolated to other undergraduate students from different regions of the country. Further studies should consider expanding the study to incorporate undergraduate students from other areas of the country and beyond for proper generalization of the findings. Second, self-reporting measures for assessing all the variables may introduce bias in response desirability; further studies should consider using a mixed-method approach. Third, future studies should consider longitudinal designs where the students can be assessed and followed up at certain intervals during their study program at the university. Although it will be more expensive and time-consuming, longitudinal studies are better at establishing the exact sequence of events, detecting changes over time, and providing insight into cause-and-effect linkages than other studies.

**Conclusion and implications**

Our research made several valuable contributions theoretically, empirically, and practically to entrepreneurial literature. First, this present study has advanced the tenets of Shapero’s entrepreneurial event theory and theory of planned behavior in explaining family support as an exogenous factor that influence entrepreneurial intentions. This was achieved by the significant moderation of family support in the relationship between entrepreneurial alertness and entrepreneurial intention among undergraduate students, whereby entrepreneurial alertness was most strongly associated with an increase in entrepreneurial intention among undergraduate students with high family support compared to those with low and
moderate family support. This research contributes to the literature on the entrepreneurial intention from a theoretical standpoint by analyzing integrated support variables and their function in shaping entrepreneurial attitudes and intentions.

Empirically, this research has added to the entrepreneurial alertness research field by identifying a potent moderator variable—family support. Based on the review of literature, this study appears to be one of the first attempts to empirically test the moderating influence of family support on entrepreneurial intentions vis-à-vis innovativeness and entrepreneurial alertness. The present study has opened up future research areas, thus filling that gap that is scarce in the literature by illustrating the imperativeness of these two-fold factors of entrepreneurial intention (endogenous and exogenous), toward a more balanced perspective and understanding of the entrepreneurial processes.

Practically, the findings of this study should act as a springboard for society and, specifically, the educational system in developing programs that encourage students to develop assertiveness and self-efficacy to become an entrepreneur. Entrepreneurship courses in higher institutions (e.g., Nigeria universities) should be made to be more practical and result oriented. In addition, higher education institutions may provide or increase case and project studies and even internship opportunities to help students experience the actual process of entrepreneurship. Such programs, such as establishing business incubators in universities, should be encouraged to support students with entrepreneurial intentions by providing support resources and services (e.g., guidance, funding, technical expertise, and equipment), which would encourage students to be more actively involved in entrepreneurial activities. Courses on creativity and innovation may be included in the curriculum starting from the first year to sensitize students to entrepreneurship careers. Although the formulators of education policy recognize the importance of entrepreneurship education to national development, they should be more proactive in making the educational system a primary facilitator and supplier of entrepreneurial knowledge and skill development for young people. Moreover, the entrepreneurial education system (e.g., Nigeria) should be designed to provide relevant information and practical experience that can aid in the development of not only individual knowledge and skills but also personal feelings of self-confidence in engaging in entrepreneurial activities, as well as broader social awareness and approval of such activities. This will facilitate a paradigm shift in Nigeria educational teaching methods from a theoretical approach to a practical result oriented approach which will help in forming a more dynamic entrepreneur profile.

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Author contribution  AUU involved in conceptualization, resources, methodology and writing of original draft, OOF involved in original draft, formal analysis, review and editing. LU involved in conceptualization, methodology, review and editing.

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Data Availability and materials  The datasets generated and analyzed during the current study will be available from the corresponding author upon request.
Declarations

Conflict of Interest We have no known conflicts of interest to disclose.

Ethics approval and informed consent All procedures followed were under the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2000.

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