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## Article

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Entrepreneurial Business and Economics Review (EBER)

## Provided in Cooperation with:

Centre for Strategic and International Entrepreneurship, Krakow University of Economics

*Suggested Citation:* Edigbo, Anthony Ogbuinya; Ogbo, Anastasia; Onwe, Chukwuemeka Christain; Igwe, Anthony; Okafor, Lawrence Chima (2021) : Mediating role of entrepreneurial alertness between prior entrepreneurial exposures and entrepreneurial intentions, Entrepreneurial Business and Economics Review (EBER), ISSN 2353-8821, Krakow University of Economics, Centre for Strategic and International Entrepreneurship, Krakow, Vol. 9, Iss. 4, pp. 67-84, <https://doi.org/10.15678/EBER.2021.090405>

This Version is available at:

<https://hdl.handle.net/10419/335323>

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# Mediating role of entrepreneurial alertness between prior entrepreneurial exposures and entrepreneurial intentions

Anthony Ogbuinya Edigbo, Anastasia Ogbo, Chukwuemeka Christain Onwe,  
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## ABSTRACT

**Objective:** The objective of the study is to ascertain the mediating role of entrepreneurial alertness (EA) on the prior entrepreneurial exposures (PEE) and entrepreneurial intentions (EI) relationship of fresh graduates in Nigeria.

**Research Design & Methods:** We conducted a survey on fresh graduates in Nigeria (n = 387). The data gathered were analysed using Hayes' simultaneous entry on SPSS 23.0 and PROCESS 3.

**Findings:** We found that PEE leads to an entrepreneurship career intention. We concluded that EA improves the PEE–EI relationship amongst fresh graduates in an emerging economy.

**Implications & Recommendations:** The theory of EA is a good predictor of EI and a good mediator in the PEE–EI relationships, therefore further studies should consider EI models, especially those that involve EA and fresh graduates instead of students.

**Contribution & Value Added:** We advance the understanding of PEE–EI relationship by utilizing the EA theory as a mediator while also testing this on a fresh graduate population in an emerging economy.

**Article type:** research article

**Keywords:** prior entrepreneurial exposures; entrepreneurial intention; entrepreneurial alertness; fresh graduates, Nigeria

**JEL codes:** M10, M19

Received: 18 February 2021

Revised: 29 May 2021

Accepted: 1 June 2021

## Suggested citation:

Edigbo, A.O., Ogbo, A., Onwe, C.C., Igwe, A., & Okafor, L.C. (2021). Mediating role of entrepreneurial alertness between prior entrepreneurial exposures and entrepreneurial intentions. *Entrepreneurial Business and Economics Review*, 9(4), 67-84. <https://doi.org/10.15678/EBER.2021.090405>

## INTRODUCTION

Entrepreneurial intention (EI) involves the initial steps towards entrepreneurship (Zapkau, Schwens, Steinmetz, & Kabst, 2014; Nowiński *et al.*, 2020). It is the desires and commitments of individuals to starting up new businesses (Miralles, Giones, & Riverola, 2015; Soria-Barreto, Honores-Marin, & Gutierrez-Zepeda, 2017), and it has been identified to be crucial to economies as well because new businesses foster growth, innovation, stability, and job creation (Maresch, Harms, Kailer, & Wimmer-Wurm, 2016). What stands out amongst the factors that influence EI is Prior Entrepreneurial Exposures (PEE). Entrepreneurship is a planned and purposeful act (Li & Wu, 2019), and PEE involves various activities like entrepreneurial parents or prior work experience in a small or newly founded firm (Austin & Nauta, 2015; Zapkau *et al.*, 2014), along with entrepreneurship education that prepares individuals for entrepreneurship (Chukwu, Olaitan, & Omeje 2018; Li & Wu, 2019). The importance of PEE in entrepreneurship has been adequately identified and discussed (Krueger, 1993; Zapkau *et al.*, 2014; Uchenna, Olawale, & Omeje, 2018). Individuals with PEE are more likely to have the desire and commitment towards entrepreneurship than individuals without it (Chlosta *et al.*, 2012; Uchenna *et al.*, 2018).

There is no lack of empirical studies that examine the effects of PEE on EI (e.g. Malebana, & Swanepoel, 2014; Mueller, Zapkau & Schwens, 2014; Nowinski & Haddoud, 2019). The findings so

far show that PEE majorly affects EI in a positive way (e.g. Malebana & Swanepoel, 2014), and that these effects are usually higher when mediated by attitudinal variables such as attitude, subjective norms, and perceived behavioural control as presented in Ajzien's (1991) theory of planned behaviour (TPB) or perceived feasibility, perceived desirability, and propensity to act as suggested by Shapero's and Sokol's (1982) entrepreneurial event model (EEM). Despite these discoveries, some knowledge concerning the PEE–EI effects is yet to be uncovered.

It appears that there is no agreement between researchers on what constitutes PEE. Whereas some studies like Austin and Nauta (2015) suggest that PEE only involves parental role modelling; other studies (e.g. Mueller *et al.*, 2014; Zapkau *et al.*, 2016) believe that it also involves prior work experiences in newly founded firms. Entrialgo and Iglesias (2017) and Soria-Barreto *et al.* (2017) in their studies tip entrepreneurship studies to be part of such constructs. We subscribe to these different schools of thought because they all bear tenets of the social cognitive career theory (SCCT) as propounded by Lent, Brown, and Hackett, (1994). This theory suggests that the various exposures that individuals receive as a result of their interactions within their social environments would model their intentions towards a career that is in line with the exposures (Liguori, Winkler, Vanevenhoven, Winkel, & James, 2019). Accordingly, exposures to entrepreneurial activities are either through observation or direct experience. In this case, exposure to entrepreneurial role models and entrepreneurship education represents observational learning, whereas prior work experience represents direct experiences. We believe that PEE should comprise of these three dimensions, as they should provide a more comprehensive result of the effect of PEE on EI; but no study as we know it has combined these three dimensions in a single research. Similarly, the quality of exposures is bound to affect an individual's EI positively or negatively (Krueger, 1993; Zapkau *et al.*, 2014), but most studies have not captured these aspects in their measures of PEE (Chlosto *et al.*, 2012; Entrialgo & Iglesias, 2017).

Another concern is that virtually every prior study in this area has been conducted on student populations (Li & Wu, 2019; Nowinski & Haddoud, 2019). We argue that such populations may not be the best suited for a study that has to do with EI because intentions are not stable and are subject to changes that may occur as a result of the experiences that individuals face. Student populations are not necessarily facing immediate career issues; moreover, they are engaged in specific courses of studies that reflect their career paths already. It is most likely that the EI of students may not give a clearer picture like the intentions of fresh graduates. Fresh graduate populations are individuals that face either pursuing paid employment or self-employment, and whose exposures to entrepreneurial activities are most likely to affect their intentions toward starting up businesses.

Accordingly, attitudes may not be the best predictors of EI as have been identified in prior studies (e.g. Zapkau *et al.*, 2014; Lu & Wang, 2018), rather dispositions like one's ability to identify and recognize opportunities as indicated in Krizner's 1992 alertness theory of entrepreneurship may fair better (Krizner, 1997). This argument is predicated upon assertions that entrepreneurial processes are acts of alertness and do not involve the processes of forming behaviour as suggested by the TPB. As such, we posit that intentions are a function of opportunities recognized from alertness as a result of exposures (Ma & Huang, 2019; Chavoushi *et al.*, 2020). In other words, the PEE–EI relationship may be better predicted by entrepreneurial alertness; i.e. the ability of an individual to scan and search for opportunities; associations and connections; evaluation and judgment.

Moreover, understandings about the effects of PEE on EI appear to be incomplete because only a few studies have investigated how qualitative PEE impacts EI (Krueger & Carsrud, 1993; Zapkau *et al.*, 2014). Nevertheless, there is a dearth of such studies from a developing economy like Nigeria, and the results of prior studies are often different from reality. Various studies have indicated a germane existence of PEE with positive effects on EI (Li & Wu, 2019; Nowinski & Haddoud, 2019), but increased cases of business failures and decreased in business start-ups as recorded by SMEDAN and NBS (2017) indicate that current PEE may not be qualitative enough to drive intentions or sustain them to fruition. Therefore, against this backdrop we posed the following questions. To what extent does quality in various dimensions of PEE (parental role model, prior work experience, and entrepreneurship studies) affect the EI of fresh graduates in Nigeria? What mediating roles does EA play on the PEE–EI relationship of fresh graduates in Nigeria?

This study is significant, firstly, for it hopes to extend the understanding of the PEE-EI effects by adopting a comprehensive scale that comprises parental role model, work experience, and entrepreneurship education. These dimensions are used separately in different scales in previous studies as measures of PEE (Mueller *et al.*, 2014; Zapkau *et al.*, 2014; Soria-Barreto *et al.*, 2017; Chukwu *et al.*, 2018; Li & Wu, 2019). We argue in line with Lent *et al.*'s (1994) social cognitive career theory that knowledge – both formal and informal – is acquired through the observation of other peoples' behaviour, attitudes, and the outcomes of those behaviours. These are the tenets of these various dimensions of PEE, therefore we believe that PEE must comprise of all three elements: parental role model, work experience, and entrepreneurship education respectively.

Secondly, this study contributes the perspective of fresh graduates to the EI discourse. Studies in this area tend to study student populations. We argue that intentions are susceptible to changes, particularly for students whose academic performance may drive them to pursue other intentions outside entrepreneurship. By examining the EI of fresh graduates, this study's contribution would help policymakers determine the quality of PEE and in making effective policies that would enhance the quality of PEE which would influence graduates' EI.

Finally, this study extends the discourse in the field by including the effects of mediating roles of EA in the PEE–EI relationship. By doing so, this study extends existing knowledge centred on the mediating roles of attitudinal variables to include dispositional variables (scanning and search; association and connections; evaluation and judgment). By this, we hope to present a much clearer effect, whereby the previously well-established relationship between PEE and EI may be enhanced with the inclusion of alertness into the model. If supported, this would suggest that at least one of the reasons PEE drives intentions stems from the fact that PEE makes budding entrepreneurs more alert about entrepreneurial opportunities.

## LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

### Theoretical framework

The arguments in this study hinge on two basic theories that form the theoretical framework of this study. The first theory laid the theoretical foundation of the predictor variable – PEE – while the second theory explains the foundation for the mediators: EA. The former refers to the SCCT of Lent *et al.* (1994), which argues that there is interrelatedness between individuals, contexts, and experiences and that these factors combined would shape an individual's career-related intentions (Liguori *et al.*, 2019). By implication, the entire gamut of exposure to entrepreneurship – either directly or through observations – is a cognitive process that can be learned just as EA can be learned as well (Krueger *et al.*, 2000; Wang *et al.*, 2017). In perspective to our study, we view PEE as a social cognitive processes that involves the individuals garnering experiences related to entrepreneurial activities within their environments that will shape their EI.

The second theory draws from Krizner 1992 alertness theory of entrepreneurship. The theory is of the view that entrepreneurs strike a balance by detecting and exploiting imperfections caused by information asymmetry and bounded rationality in markets (Krizner, 1997). Varying information about the state of business environment requires alert individuals to discover and exploit such opportunities. This theory is a diversion from the TPB, which asserts that certain behavioural dispositions are required to discover opportunities; rather opportunities are stumbled on as a result of an individual's ability of scanning and search, associating and connections and evaluation and judgments.

### Hypotheses development: Prior entrepreneurial exposure and entrepreneurial intention (PEE & EI)

PEE is seen as prior entrepreneurial knowledge garnered through the influence of role models, prior work experience in a small or new firm, and entrepreneurship education that influenced one's interest entrepreneurially (Liguori *et al.*, 2019; Zapkau *et al.*, 2016; Zapkau *et al.*, 2014). Role models in entrepreneurship discourse according to Choukir *et al.* (2019); Nowinski and Haddoud (2019) could be parents, relatives, friends, or individuals who are or have been entrepreneurs. Evident in SCCT,

knowledge, and skills acquired by observing role models influence self-efficacy, outcome expectation, and intention of an individual (Liguori *et al.*, 2019); as such, it is decisive in career choice into self-employment (Schere *et al.*, 1989).

Chlosta *et al.* (2012) found that parental role models directly influence the decision of an individual to seek self-employment. Zapkau *et al.* (2014) discovered a positive and significant relationship existing between parental role models and student's EI, though mediated through the attitudinal variable of the subjective norm.

Work experience received in a small or new firm equally helps in forming the behaviour of an individual towards entrepreneurship (Patricia & Silangrn, 2016). In line with SCCT, having the opportunity to work in a small or new created firm would provide direct knowledge that would help fresh graduates to perceive entrepreneurship as advantageous or otherwise. Long-term survival issues could deter interest in business amongst fresh graduates in developing economies owing to associated economic, social, and personal costs of business failures (Wyrwich *et al.*, 2015; Eid *et al.*, 2019; Okwo, Ezenwakwelu, Igwe & Imhanrenialena, 2019). However, by working in a small or newly created firm, an individual could acquire the basic skills on how to leverage inherent challenges of business (Cacciotti *et al.*, 2016; Paunescu, Popescu & Duennweber, 2018; Vallaster, Kraus, Lindahl & Nielsen, 2019) to ones' advantage. This is pivotal towards considering new venture creation, which is in turn vital to a nation's economic growth (Krueger, 1993; Shava & Chinyamurindi, 2019).

Sorensen (2007) found that work experience in a small or new firm significantly affects the proclivity of an individual towards being an entrepreneur. Monsen *et al.* (2012) found that work experience in a small or new firm significantly influences the EI formation of an individual. However, Kautonen, Luoto, and Tomikoski (2010) found that prior work experience does not significantly affect the EI of an individual. We argue that by working in a small or new firm an individual would garner knowledge that would be instrumental towards entrepreneurship instead of paid employment.

Entrepreneurship education is a process designed to instil an entrepreneurship attitude and skills in participants (Maresch *et al.*, 2016; Boldureanu, Inoescu, Bedrule-Griguruta, & Boldureanu, 2020). According to Bae *et al.* (2014) entrepreneurship education is another form of PEE for developing entrepreneurship consciousness, which is to instil self-efficacy in students towards entrepreneurship activities. Gerba (2012) – in a study of Ethiopian students – found a positive and significant effect of entrepreneurship education on the EA of students. Boldureanu *et al.* (2020) found a positive and significant effect of entrepreneurship education exposure on the EI of students. Bae *et al.* (2014) in their meta-analytical review found that entrepreneurship education positively and significantly influences EI. Lim *et al.* (2014) found that the relationship between entrepreneurship education and EI is partially mediated by EA. In line with SCCT, entrepreneurship education is capable of widening fresh graduate youth's horizons with greater cognitive ability and entrepreneurial skills leading to positive self-efficacy, outcome expectation, and meaningful goal-directed activities (Liguori *et al.*, 2017). Otache (2019) posits that entrepreneurship education plays an influential role in career choice towards self-employment over paid employment.

Thus, EI is the willingness or desire to make a career choice in new venture creation instead of seeking paid employment (Entrialgo & Iglesias, 2017; Bogatyrewa *et al.*, 2019; Zaremohzzabieh *et al.*, 2019). Such a desire is inspired in an individual through PEE (Zapkau *et al.*, 2014). We posit that the PEE as a cognitive process is a precursor that would influence the career choice of fresh graduates' EI formation (Ma & Huang, 2019). Therefore, we formulate the following sets of hypotheses:

- H1:** Prior entrepreneurial exposure (PRM, WEX, and ENT.Edu) has a direct significant effect on fresh graduates' entrepreneurial intentions.

### **Hypotheses development: The mediating role of entrepreneurial alertness (EA)**

Kirzner's EA theory (Kirzner, 1997) has been pivotal in recognizing opportunities in an environment and EA in that regard has been considered a central element of all entrepreneurship process (Chavoushi *et al.* 2020; Machado *et al.*, 2016). As a decisive driver of entrepreneurship processes, EA enables one to

utilize information in an environment through abilities of scanning and searching, association and connection, evaluation and judgment to reveal entrepreneurial opportunities (Campos, 2017; Tang *et al.*, 2012). Langowitz and Minniti (2007) posit that alertness to entrepreneurial opportunities has a positive relationship with an individuals' proclivity to seek self-employment like starting a new business. Social networks maintained by parental role models would give individual access to networking resources. Such access would be a reliable source of getting vital market information such as technological change, government policies, and their implications, consumer preference, supply needs, or market demand, which would be instrumental in revealing opportunities unnoticed by others within an environment (Ma & Huang, 2019; Adamako, Danso, & Narteh, 2018; Turkina, 2018). In emerging economies characterized by weak institutions, having networking ties has been identified as a major source of information sharing and aiding opportunity identification (Turkina, 2018; Xie & Lv, 2016). This helps an individual to gain proclivity to scan and search for opportunities, which agrees with SCCT. In line with this reasoning, Tang (2010) found a significant effect of role models on the ability to scan and search for valuable information leading to opportunity identification in an environment for entrepreneurship. Armed with information from social networks, one could readily probe information (i.e. alertness association and connection) emanating from the dynamics of the environment to build coherent information alternatives leading to entrepreneurial opportunity (Ozgen & Baron, 2007). Urban (2017) maintains that changes in the environment present varying information hints which require an individual to cognitively harmonize in a logical sequence. Without prior knowledge, one could be bereft of requisite insights on what represents valuable information and how to utilize it for opportunity identification (Webb, Irel, Hitt, Kistruck, & Tihanyi, 2011). The ability to reveal opportunities unnoticed by others would drive an individual towards EI (Liguori *et al.*, 2019; Hosseini, 2016). Yu (2001) posits that an individual would only decipher opportunity in areas where they have an apparent knowledge of what represents an opportunity.

Prior work experience has been found to positively influence the EI of individuals (Zapkau *et al.*, 2014). This influence would be boosted through the intervening variable of EA. Work experience in small and related firms helps an individual garner related to market information (Amato, Baron, Barbieri, Belanger, & Pierro, 2016). Hadjizadeh and Zali (2015) maintained that knowledge of market trends or industry dynamics would support an individual with the zeal to scan and search for apt information that would lead to opportunities. By working in a small or related firm, an individual would interact with varying industry players (Amato *et al.*, 2016). This interaction could develop into a network of social ties that would provide additional information cues that would help to appraise information with utmost exactitude to lead to entrepreneurial opportunity (Xie & Lv, 2016; Ozge & Baron, 2007). In line with the views of Amato *et al.* (2016), prior work experience in a small or related firm would lead to an individual inclination to associate and connect diverse market information within an environment to identify opportunities that would lead to EI. Hajizadeh and Zali (2015) found a positive relationship between prior knowledge and individual ability to recognize an entrepreneurial opportunity.

Entrepreneurship education has been highlighted by Liguori *et al.* (2019), Ma and Huang (2019), and Sang and Lin (2019) as a source of acquiring skills and knowledge that could spur fresh graduates into making career choices towards entrepreneurship. Entrepreneurship education both in theory and practical (internship and excursion visits) would build an individuals' cognitive ability to scan and search for opportunities in the environment (Ho, Uy, Kang, & Chan, 2018). Such an exposure can influence an individuals' instinct in association and connection of otherwise dissimilar information in an environment into opportunity cues (Shane, 2000). Ho *et al.* (2018) posit that entrepreneurship education positively enhances the evaluation and judgment skills of young people towards new venture creation. Sang and Lin (2019) found that EA mediates the relationship between entrepreneurship education and EI of college students.

On this premise, we form the following hypotheses:

- H2:** Scanning and search play a significant mediating role in the dimensions of PEE effects on entrepreneurial intentions of fresh graduates.
- H3:** Association and connection play a significant mediating role in the dimensions of PEE effects on the EI of fresh graduates.

- H4:** Evaluation and judgment play a significant mediating role in the dimensions of PEE effects on the EI of fresh graduates.

## RESEARCH METHODOLOGY

### Survey sample

The population of this study was fresh graduates (i.e. corps members) who were engaged in their compulsory National Youth Service Corps (NYSC) program in Nigeria. They were fresh university graduates under the age of 30 from different parts of the country. The reason for selecting this population was because they faced career decisions to either seek employment or to start up their businesses. Moreover, we believed that most have been exposed to different forms of entrepreneurship, i.e. some of them have parents involved in starting or running businesses that may still be running, and they could have been groomed in the rudiments of business. Many believe that such exposures would tilt their intentions towards business (i.e. entrepreneurship). Furthermore, we believed that some of these graduates would have garnered work experiences during their school days (holiday jobs), plus at the moment of this study, they were earning basic wages for their services from the Federal Government of Nigeria (FGN), coupled with the fact that they also earned from their places of primary assignment. It is most likely that this exposure would have an impact on their orientations towards starting up their businesses. Finally, entrepreneurship courses have been offered by some of these corps members during their studies at universities, so we believed that before reaching this stage, some of the graduates would have been exposed to one form of entrepreneurship exposure or another (i.e. through theory or training).

The sampling frame was taken from the population of Batch B NYSC Corps Members permanent Register (2018), comprising all serving youth corps members in Nigeria between June 2018 to May 2019. This amounted to a total of 11,500 corps members, and with the aid of a simple random sample, we obtained a sample of 387, which we used for this study. To determine the number of questionnaires to be distributed per state, we adopted a proportionate sampling technique. The distribution process of research instruments was done towards the last two months preceding their passing out parade (POP) when they were receiving pre-passing out orientation courses. We addressed the corps members concerning the purpose of the study and how they were selected. We also did not fail to highlight to them that the study was strictly an academic exercise, and that no response was wrong, plus that we retained the anonymity of every respondent.

Given the peculiar nature of the PEE scale and the fact that we had a specific number of questionnaires to distribute per state as informed by the proportionate sample, we asked those not interested in partaking in the survey to step aside. Furthermore, we asked those interested in the survey to indicate if they had either parental role models or had worked before or have taken entrepreneurship courses. This further reduced the number and brought us closer to accessing corps members with quality entrepreneurial exposure. At this point, we asked those with role models that had negative experiences in businesses, those that had negative experiences in their jobs, and those that received entrepreneurship education that they believe is not good enough to make them want to start a business to respond to the questionnaires alongside those who did not have such negative experiences at all. A total of 354 (92.2 percent) of the distributed questionnaires were returned, the remaining 33 (7.8 percent) questionnaires were not properly completed, so the final sample utilized in this study was 354.

### Measurements and scale development

#### Control variable (gender)

Corps members of different gender may have different exposures or may display different attitudinal dispositions that would influence their EI. Studies by Gerba (2012) and Vaillant and Lafuente (2018) indicate that both males and females partake significantly in entrepreneurial activities, so gender could help in isolating the different effects that the types of exposures and attitudinal dispositions have on EI. Gender was used as a control variable of this study, the respondents were asked to indicate their gender by ticking either female or male (Female =1, Male =2).

### **Prior entrepreneurial exposure (PEE)**

Entrepreneurial exposure as investigated in this study comprised of three different dimensions: PEE with regards to observations, i.e. parental role models, and PEE with regards to direct exposure, i.e. work experience and entrepreneurial studies would affect the EI of corps members. The third dimension was added because we consider entrepreneurial studies to be a great form of exposure, given this study population. We assume that since entrepreneurship courses are offered by some students in all Nigerian universities, some corps members would receive exposure in this regard even if they missed the other two. We measured these dimensions by asking respondents to indicate “Yes” or “No” to questions such as: Have your parents been involved in business activities? Have you been involved in any form of employment before? Did you take any entrepreneurship courses before you graduated? However, in line with the Zapkau *et al.*'s (2014) measure – which suggests that the best approach to access entrepreneurial exposure is to access the levels of quality of the exposure – we adopted the perceived quality of the PEE scale. Respondents that indicated that they have prior exposure in a specific area (i.e. parental role model, work experience, and entrepreneurship education) were asked to rate their perception about their exposure as either negative (coded “-1”), neither/nor (coded “0”), or positive (coded “1”).

### **Scanning and search**

Scanning and search comprise the extent to which individuals are willing to interact with others to gain information about economic opportunities. In other words, we measured this variable as the extent to which corps members consider the intentions of starting their businesses to be a function of their abilities to “interact with others to acquire new information,” the extent of their agreement that they “regularly read news, magazines or publications to get new information,” and the extent to which they “surf the internet every day looking for information.” This scale was in line with the alertness scale proposed by Tang *et al.* (2012), and we organized the responses of this scale on a five-point Likert scale. We obtained internal reliability above 0.7 for this scale (Cronbach's alpha = 0.865).

### **Association and connection**

Associations and connections comprise an individual's disposition towards finding relationships between events and recognizing opportunities amongst them. We also adopted Tang *et al.*'s (2012) scale in this study. The original scale comprised three items, i.e. the extent to which corps members agree that they “see associations between seemingly unrelated information,” the extent to which they agree that they “usually see a connection between information from various seemingly unconnected fields of knowledge.” We organized the responses of our scale on a five-point Likert scale. We obtained internal reliability above 0.7 for this scale (Cronbach's alpha = 0.833).

### **Evaluation and judgment**

Evaluation and judgment include the levels of an individual's instincts towards recognizing and exploiting opportunities. We adapted the scale for this variable from Tang *et al.*'s (2012) scale. The scale comprised four items that asked the respondents to indicate the extent to which they agree that they “have the instinct to find opportunities with potential,” the extent to which they agree they “have a talent for separating high-value opportunities from low-value opportunities,” and the extent to which they can select good opportunities when they come across several opportunities. The measures were organized on a five-point Likert scale, and internal reliability was above 0.7 for this scale (Cronbach's alpha = 0.957).

### **Entrepreneurial intentions (EI)**

EI includes the individuals' desires to delve into entrepreneurship in the nearest future. We adapted the pure intention scale by Linan and Chen (2009) to measure the EI of fresh graduates. The scale comprises of five items, and it measures the extent to which these fresh graduates agree that they are “ready to do anything to be entrepreneurs,” the extent to which they agree that they are “determined to create a firm in the future,” and the extent to which they agreed that they are willing to make every

effort to start and run their firms. The measures were organized on a five-point Likert scale, and internal reliability was above 0.7 for this scale (Cronbach's alpha = 0.863).

## RESULTS

We analysed this study's data in four different statistical packages: the Statistical Package for Social Sciences 23.0 (SPSS) to run the principal factor analysis (PCA); the confirmatory factor analysis (CFA) using the Analysis of Moment Structures 18 (AMOS); and the James Gaskin macro plugin used to estimate the composite reliability scores. The test of hypotheses was done with the SPSS macro PROCESS 3. PROCESS is a new software advanced by Andrew Hayes (2018) to test the mediation effect with a new approach, i.e. through multiple entries. The advantage of this approach against Baron and Kenny's approach of mediation is that whereas Baron and Kenny categorize mediation as either partial or full, Hayes insists that mediation is either attained or not and there is no such thing as a partial mediation. We subscribe to the latter view, so we adopt Hayes' approach in testing the direct and mediation effects in this study.

Preliminary diagnostics like the PCA performed on the data showed that the four items measuring EI loaded together under a single construct, four items loaded together under the scanning and search construct, three items loaded under the association, connection, evaluation, and judgment. The CFA of the four constructs – i.e. EI, scanning and search, association and connection, and evaluation and judgment – showed loadings with standardized estimates above the base value of 0.5 (Schreiber *et al.*, 2006). Average variance extracted (AVE) for these constructs was: EI (0.612), scanning and search (0.616), association and connection (0.629), and evaluation and judgment (0.884); all of which exceeded the threshold of 0.5 forwarded by Bagozzi and Yi (1988), Hu and Bentler (1999), and Schreiber *et al.* (2006). Composite reliability (CR) scores were: EI (0.863), scanning and search (0.865), association and connection (0.835), and evaluation and judgment (0.958); all of which exceeded the 0.7 threshold. The model fit indices – i.e. the  $\chi^2/df$ , = 1.32 goodness of fit (GIF), = 0.963 the adjusted goodness of fit index (AGFI), = 0.946 the incremental fit index (IFI), = 0.992 the comparative fit index (CFI), = 0.992 and root mean square error of approximation (RMSEA) = 0.030 – were way above the thresholds indicated by Poon *et al.* (2006); Bagozzi and Yi (1998). Factors loadings also showed that the items in the research instruments were recognizable to the study respondents. Discriminant and convergent validity also loaded well.

**Table 1. Descriptive statistics and correlations**

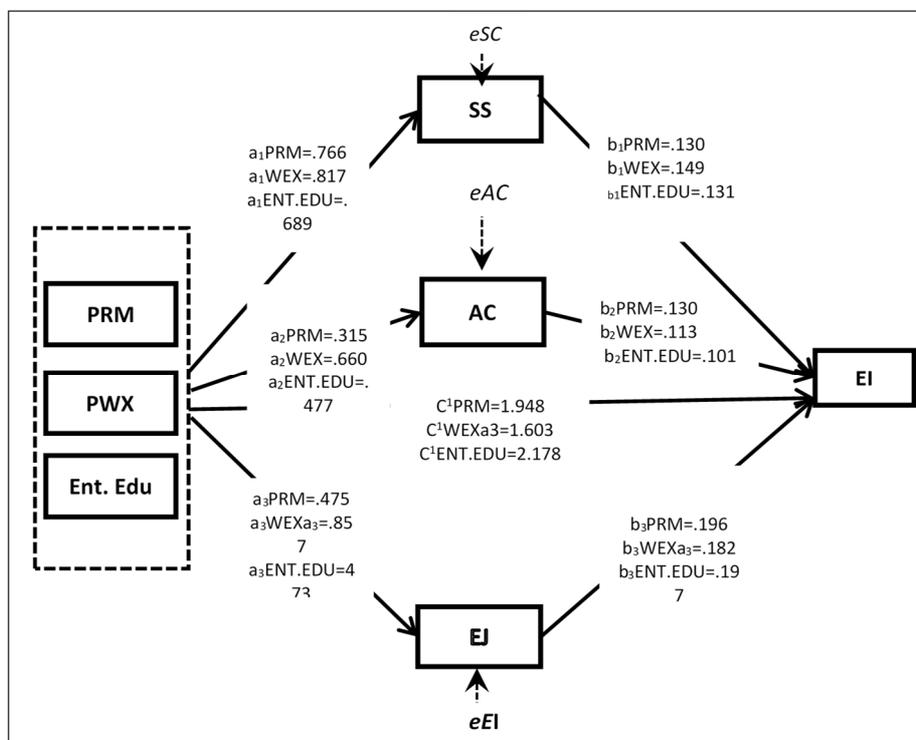
Variables	Mean	SD	1	2	3	4	5	6	7	8
Gender	1.55	0.49	1							
PRM	0.14	0.88	0.39**	1						
WEX	0.18	0.85	0.47**	0.37**	1					
Ent. Edu	0.19	0.83	0.15**	0.29**	0.26**	1				
SS	12.6	4.37	0.11*	0.18**	0.18**	0.15**	<b>(0.87)</b>			
AC	10.9	3.29	0.06	0.095	0.16**	0.13*	0.15**	<b>(0.83)</b>		
EJ	11.2	3.74	0.08	0.13*	0.19*	0.12*	0.32**	0.31**	<b>(0.96)</b>	
EI	13.9	4.52	0.35**	0.49**	0.45**	0.49**	0.28**	0.21**	0.29**	<b>(0.86)</b>

Note: PRM = parental role model; PWX = work experience; Ent.Edu = entrepreneurial education; SS = searching and scanning; AC = association and connection; EJ = evaluation and judgment; EI = entrepreneurial intentions.

Source: own elaboration in SPSS 23.0.

Table 1 presents the means, standard deviations, and correlations between the variables of this study (gender, PEE, EA, and EI). Table 1 reveals that the relationship between gender and EI is a significant one ( $r = 0.351$ ,  $p < .01$ ), meaning that gender accounts for fresh graduates' EI. Similarly, the relationship between a parental role model and EI is significant ( $r = 0.498$ ,  $p < .01$ ), meaning that the amount of mentorship fresh graduates receive from their parents would translate to higher EI. The relationship between work experience and EI was significant also ( $r = 0.454$ ,  $p < .01$ ); implying that the experiences

that fresh graduates must have garnered from working increases their EI as well. The relationship between entrepreneurship education exposure with EI also turned out significant ( $r = 0.486, <p.01$ ), meaning that the extent of exposure that fresh graduates get concerning entrepreneurship education increases their EI. The table also shows that other variables like scanning and search, association and connection, and evaluation and judgment have significant relationships with EI.



**Figure 1. A statistical model of the hypothesized effects**

Note: PRM = parental role model; PWX = work experience; Ent.Edu = entrepreneurial education; SS = searching and scanning; AC = association and connection; EJ = evaluation and judgment; EI = entrepreneurial intentions.

Source: own elaboration.

Figure 1 shows that there is a direct effect between PEE and EI as proposed in the first sets of hypotheses: parental role model exposure, work experience, and entrepreneurship education significantly affect the EI of fresh graduates. In model 1, parental role model exposure has a direct effect on the EI of fresh graduates ( $C^1 = 1.948, t(348) = 8.025; p < 0.001$ ) and work experience has a direct effect on the EI of fresh graduates ( $C^1 = 1.603, t(348) = 5.824; p < 0.001$ ) as well. The hypothesis that entrepreneurship education has a direct effect on the EI of graduates was also supported ( $C^1 = 2.178, t(348) = 9.308; p < 0.001$ ). The second set of hypotheses that scanning and search, association and connection, and evaluation and judgment mediate the PEE-EI relationship of fresh graduates varied slightly in contrary to our prior expectations. To be specific, the hypothesis that scanning and searching improve the parental role model-EI relationship of fresh graduates was supported ( $a = 0.0135 \leq a_1 \leq 0.2292$ ). Association and connection influence on parental role model exposure-EI relationship was not supported ( $a = 0.0196 \leq s_1 \leq 0.1422$ ), and lastly, the influence of evaluation and judgment on parental role model exposure-EI relationship ( $a = -0.0013 \leq p_1 \leq 0.2385$ ) was equally not supported.

Hypothesis 2, which stated that scanning and search improve the work experience-EI relationship of fresh graduates was supported ( $a = 0.0183 \leq a_2 \leq 0.2744$ ), while hypothesis 3, which stated that association and connection improve the effect of work experience on EI of fresh graduates was not supported ( $a = 0.0171 \leq s_{21} \leq 0.2187$ ). However, the influence of evaluation and judgment on the work experience-EI effect i.e. hypothesis 4, was supported ( $a = 0.0228 \leq p_{21} \leq 0.3484$ ). Regarding the entrepreneurship education-EI relationship, only one of the proposed hypotheses was supported. Specifically, scanning and search as a mediator in entrepreneurship education-EI effect was supported ( $s = 0.0084 \leq a_3 \leq 0.2084$ ). The

hypothesis that association and connection mediate the influence of entrepreneurship education–EI effect was not supported ( $s=-0.0228 \leq s_3 \leq 0.1495$ ). The influence of evaluation and judgment as a mediator in entrepreneurship education effect on EI was also not supported ( $p = -0.0031 \leq p_3 \leq 0.2369$ ).

On the total effect as highlighted in our last sets of hypotheses, parental role model exposure when combined with the sum of the mediators indicated a positive and significant total effect ( $C_1=2.1817, 1.6866 \leq c \leq 2.6768, p < 0.001$ ), the total effect of work experience when combined with the sum of the mediators indicated a significant positive total effect ( $C_2=1.9546, 1.4132, \leq c \leq 2.5060, p < 0.001$ ). We equally confirmed the positive significant total effect of entrepreneurship education on EI when combined with the sum of the mediators ( $C_3=1.4100, 1.9341 \leq c \leq 2.8860, p < 0.001$ ). Thus, all the various PEE variables when combined with the sum of the mediators (scanning and search; association and connection, and evaluation and judgment) produced positive and significant total effects.

**Table 2. Summary of effects**

Variables				$\beta$	Finding	
PRM	—————>	EI		1.948	Supported	
WEX	—————>	EI		1.603	Supported	
ENT.EDU	—————>	EI		2.178	Supported	
PRM	—————>	SC	—————>	EI	0.010	Supported
PRM	—————>	AC	—————>	EI	0.041	Not supported
PRM	—————>	EVJ.	—————>	EI	0.093	Not supported
WEX	—————>	SC	—————>	EI	0.122	Supported
WEX	—————>	AC	—————>	EI	0.074	Not supported
WEX	—————>	EVJ.	—————>	EI	0.156	Supported
ENT.EDU	—————>	SC	—————>	EI	0.091	Supported
ENT.EDU	—————>	AC	—————>	EI	0.048	Not supported
ENT.EDU	—————>	EVJ.	—————>	EI	0.093	Not supported

Note: PRM = parental role model; PWX = work experience; Ent.Edu = entrepreneurial education; SS = searching and scanning; AC = association and connection; EJ = evaluation and judgment; EI = entrepreneurial intentions.

Source: own elaboration in PROCESS V3.

## RESULTS AND DISCUSSION

Our findings indicated a significant direct effect of all the PEE variables on the EI of fresh graduates. This direct effect clearly supports prior findings of Chlosta *et al.* (2012), Monsen *et al.* (2012), and Bae *et al.* (2014) who found a significant influence of PEE on individual EI. We garnered support for our first hypothesis, which implies that PEE is a means of endowing an individual with a cognitive ability that would motivate fresh graduates towards new venture creation instead of seeking paid employment. However, our findings contradict the positions of Gird and Bagram (2008) and Kautonen *et al.* (2010) in their respective studies of PEE variables, which revealed no significant effect of PEE on EI. This difference in findings could well be explained on the premise that we examined the quality of PEE as suggested by Krueger (1993) and Zapkau *et al.* (2014), while the previous studies failed to reveal the quality of PEE in their studies. We posit that PEE would only influence an individual towards entrepreneurship when considered positive by the individual. The positive influence of PEE refers to the extent to which an individual considered knowledge acquired through exposures (be it positive or negative) as motivating to make a career towards self-employment.

We considered the mediating role of EA to further knowledge in the EI discourse. Our findings make a modest contribution as scanning and search appeared to significantly mediate in all the various dimensions of the PEE–EI relationship. This finding is well supported in the views of Machado *et al.* (2016) who posit that EI is dependent on the ability to utilize valuable information to identify opportunities overlooked by others or the ability to adapt to environmental changes to create opportunities to one's advantage. Having parents that are or have been in business creates a social pressure on an individual to go into business (Zapkau *et al.*, 2014). This would drive one to make career choices towards self-employment given the ability to scan and search for opportunities or

create opportunities within the environment. What additionally supports our findings are Sang and Lin's (2019) findings that EA mediates the effect of entrepreneurship education on the EI of students. Scanning and search ability would motivate one towards utilizing the excess of knowledge acquired in a small or new firm to leverage information about an environment and thus identify viable entrepreneurship opportunities. Entrepreneurship courses at school undoubtedly arm people with the necessary skills to identify opportunities (Otache, 2019; Sang & Lin, 2019).

We found that evaluation and judgment alertness significantly mediate the effect of work experience on fresh graduates' EI. Our findings agree with the findings of Gozukara and Colakoglu (2016) who posit that prior work experience increases EI when an individual can decipher whether an opportunity is worth leveraging on. The import of this result is that exposures to entrepreneurial activities (be it through observational or direct learning) apparently increase an individual's inclination to start a new venture when he or she can evaluate and judge information within the environment accurately as to represent a viable opportunity. However, we did not find any support of the mediating roles of evaluation and judgment on the PRM–EI relationship. This finding could be attributed to the peculiarity of our clime of study, in which businesses face long-term survival issues (Okwo *et al.*, 2019; SMEDAN & NBS, 2017). Having a PRM who lost business would cast doubt in an individual that the identified entrepreneurship opportunity would be sustained in an environment posed with business long-term survival issues (SMEDAN & NBS, 2017). We also found no support for evaluation and judgment mediating role in the EE–EI relationship. However, this finding is not surprising as Hajizadeh and Zali (2015) opine that entrepreneurship education would lead to opportunity recognition when an individual has been properly exposed to varying knowledge in terms of industry, technology changes, and information on market dictates. In an emerging market like Nigeria – where entrepreneurship education curriculum relies more on theory with a lack of internship programs that would expose students to practical requisite entrepreneurship knowledge – it would be difficult to evaluate information and judge whether such information represent a viable entrepreneurship opportunity (Agbonlahor, 2016).

Contrary to our expectation, we did not find any support of the mediating role of association and connection dimension of alertness in any of the PEE–EI relationships, although Neneh (2019) found that alertness positively predicts intention. This finding is similar to the earlier findings of Lu and Wang (2018) who posit that association and connection are more of a psychological model of an individual which shows the internal cognitive ability of an individual to unravel opportunity from varying information sources. The cognitive ability is built over time by factors such as training and exposure (Lu & Wang, 2018), which we infer is linked with the quality of PEE. The import of this is that exposures to entrepreneurial activities would only influence fresh graduates to develop career choices towards entrepreneurship – given the quality of exposures (Krueger *et al.*, 2000) – and that ability to identify business opportunity given asymmetric information within the environment would depend on the quality of association and connection ability but is outside the scope of this study. This finding is somewhat attributable to our topic, whereby the entrepreneurship exposure patterns may not be considered qualitative enough (Agbonlahor, 2016).

## CONCLUSIONS

Scholars identified EI to be crucial to economies, so investigating how EI are developed through prior exposures to entrepreneurial activities amongst fresh graduates is a worthwhile course of research. Previous studies showed that PEE predict the EI of fresh graduates, but our findings revealed that PEE predicts intentions better when fresh graduates are entrepreneurially alert. Although the TPB also revealed an increasing effect of PEE on intentions, the EA theory tends to show a better impact. More studies need to be directed into the EI models, especially those that involve EA and fresh graduates instead of students.

The mediating role of EA discovered in the effects of PEE–EI of fresh graduates in this study confirms that the awareness of entrepreneurial opportunities is crucial for entrepreneurship. Such discovery can assist managers, teachers, and policymakers in designing and implementing interventions that will enhance graduates' entrepreneurial intentions. This study emphasizes the contributions of each

dimension of EA, which implies that alertness could be cultivated through exposures to entrepreneurial activities, and this would enhance graduates' intentions towards venturing into entrepreneurship after schooling. However, EA may not be completely beneficial because it could become irrational to the point where individuals sacrifice subjectivity over objectivity. The implication of this is that individuals may delve into ventures whose intentions were not adequately developed. Therefore, it behoves managers and teachers to ensure that graduates are groomed adequately in the art of alertness (searching and scanning; association and connection; evaluation and judgment), such that they will be able to sieve out feasible opportunities from non-feasible ones.

Policy-wise, the results of this study underscore the importance of entrepreneurial exposures on fresh graduates in a developing economy like Nigeria, such that it could be a leeway for policymakers to tackle the ever-rising unemployment problems in the country. Therefore, the emphasis should be on enhancing the quality of entrepreneurial exposures and the EA of fresh graduates, as this will increase their intentions towards entrepreneurship. By implication, this will assist policymakers in developing quality curricula and policies that will in turn ensure quality entrepreneurial education to foster proper exposure and alertness.

Our study has two major limitations. One limitation is that we only studied corps members that served in the NYSC Scheme in one batch out of the three. The implication of this is that general assertion cannot be made easily with regards to the findings as they represent the findings from one batch of the other two. This does not imply that our findings are faulty because the preliminary diagnostics indicated no concerns with our sample and model fitness. However, the above suggests that other findings may arise from these other batches that will be different from our study. Therefore, we suggest that further studies of this nature should be conducted on all batches of the NYSC. Another major limitation of this study is the unavailability of an entrepreneurial intentions scale for the fresh graduate population. Previous studies utilized entrepreneurial intention scales designed for student populations, which made it difficult to adapt the same for a different population of fresh graduates. Therefore, we adapted the more comprehensive scale by Linan and Chen (2000) with slight modifications to suit our population. We suggest that future studies in this area should consider developing a scale that captures the EI of other populations outside the students' population.

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**Acknowledgements and Financial Disclosure**

We acknowledge the reviewers and the editorial team for their meticulousness and speed. We also acknowledge state coordinators of the National Youth Service Corps (NYSC) for granting us access to relevant information that assisted us to complete this study. We received no financial support for this study.

**Conflict of Interest**

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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