

# MODERATING ROLE OF PERCEIVED BEHAVIORAL CONTROL IN THE RELATIONSHIP BETWEEN ENTREPRENEURIAL ALERTNESS AND ENTREPRENEURIAL INTENTIONS AMONG STUDENTS IN SOUTHEAST NIGERIA

Obichukwu, U. P.,<sup>1</sup> Ibezim, N. E.,<sup>1</sup> Eyisi, D. C.,<sup>2\*</sup> Olelewe, C. J.,<sup>1</sup> Ohanu, B. I.,<sup>3</sup> & Orji, T. C.<sup>3</sup>

1. *Department of Computer and Robotics Education, University of Nigeria, Nsukka.*

2. *Department of Psychology, University of Nigeria, Nsukka.*

3. *Department of Industrial Technical Education, University of Nigeria, Nsukka*

## ABSTRACT

This study investigated the moderating role of perceived behavioral control (PBC) in the relationship between entrepreneurial alertness and entrepreneurial intention. Using a purposive sampling technique, 108 final-year students (58 males, 50 females) from three federal universities in southeast Nigeria were recruited for the study. Their ages ranged between 21 and 26 years ( $M = 23.07$ ,  $SD = 1.48$ ). Data was collected using three instruments. The HAYES process macro was used for the data analysis. Findings showed a positive relationship between the dimensions of entrepreneurial alertness (scanning and searching, association and connection, and evaluation and judgement), PBC, and entrepreneurial intention. Also, PBC significantly moderated the relationship between association and connection, evaluation and judgement, and entrepreneurial intention. These findings have implications for theory and future research. This study provides inspiration for additional research on moderation while also offering valuable insights for policymakers in designing and implementing effective entrepreneurship education programmes.

**Keywords:** Entrepreneurship, Entrepreneurial alertness, Entrepreneurial education, Entrepreneurial intention, Perceived behavioral control

## Introduction

Nigeria, like other developing nations that belong to the developing world, is beginning to stir up its economic drive towards entrepreneurship. Literature has shown that developing countries like Nigeria have a growing interest in entrepreneurship education (Abdullahi et al., 2021; Lv et al., 2021; Wu et al., 2021). Due to persistent and worsening economic issues, particularly unemployment, entrepreneurship has been essential in recent years (García-Rodríguez et al., 2017). This development will not only effectively tackle the issue of unemployment and underemployment, but it will also foster a robust entrepreneurial human capital that contributes to the overall progress of the nation. The objective of this initiative is to create within young individuals the spirit of self-

sufficiency. Countries also gear towards entrepreneurship to help promote economic and social well-being (Benghalem & Fettane, 2021).

Entrepreneurial intention is an indication that an individual would want to choose to be an entrepreneur in any particular field (Karabulut, 2016). Individuals with entrepreneurial aspirations are prepared to take risks, obtain necessary resources, and launch their businesses into reality. This means that entrepreneurial intention initiates entrepreneurial action. Saptono (2017) asserts that entrepreneurial intention is a person's choice that can go along with a commitment to entrepreneurship, which is shown by the desire, need, effort, preparations, and goals to start a business. The theory of planned behavior is frequently used to examine the idea of entrepreneurial intention (Ajzen, 1991). According to the commonly researched paradigm, individual attitudes, societal norms, and perceived behavioral control are the main antecedents of a person's propensity to act in a specific way.

According to Kirzner (1979), entrepreneurial alertness may be defined as a discrete collection of perceptual and cognitive processing skills that determines the recognition of opportunities. Entrepreneurial individuals possess the ability to recognize and capitalize on opportunities that have been disregarded by others, thereby generating supplementary value or financial gain. According to Gaglio and Katz (2001), an attentive individual proactively seeks novel information to detect alterations in the environment that may give rise to opportunities for value creation.

According to the findings of their research, Tang et al. (2012) determined that entrepreneurial alertness may be broken down into three primary components: scanning and searching, association and connection, and evaluation and judgement. Scanning and searching pertain to the process by which an individual gathers information in order to identify potential opportunities within the market. Association and connection refer to the transformation of the information received and using such information to form new substitutes. Lastly, evaluation and judgement refer to the selection of information received so as to decide whether there is a potentially profitable opportunity (Tang et al., 2012). According to Delač et al. (2018), the manifestation of entrepreneurial alertness is contingent upon entrepreneurs' perception of possessing the necessary capabilities to capitalize on the identified opportunity. Multiple studies in the field of entrepreneurship research (Sharma, 2019; Jiao et al., 2014) have identified various models that demonstrate the correlation or mediating role of entrepreneurial alertness in relation to other

characteristics associated with entrepreneurship. Prior research has indicated a favorable correlation between entrepreneurial alertness and intention (Arnaut et al., 2022; Neneh, 2019; Urban, 2020).

The theory of planned behavior suggests that individuals may possess entrepreneurial intentions, but the absence of internal motivation could hinder the realization of their aspirations to become business owners. According to Ajzen's (1991) theory of planned behavior, perceived behavioral control, in conjunction with attitude and subjective norms, serves as a substantial determinant of behavioral intention. However, in comparison to the other two predictive variables, perceived behavioral control appears to have received less attention in academic research.

Perceived behavioral control refers to an individual's level of confidence in their ability to effectively carry out a particular behavior (Ajzen, 1991). It is the level of readiness, comprehension of business principles, and proficiency in managing a particular activity. The perceptions of individuals can vary in terms of their level of knowledge and their understanding of the entire business process. It is possible to draw similarities between the idea of perceived behavioral control and Bandura's (1997) notion of self-efficacy. According to Bandura (1997), self-efficacy is defined as an individual's level of confidence in their potential to successfully complete a specific task. Ajzen (2002, 2005) posits that the construct of perceived behavioral control has a broader range of influence compared to self-efficacy, as it encompasses an evaluation of the degree of controllability. There exists a positive correlation between perceived behavioral control and the perceived feasibility of participating in a specific behavior. According to Fayolle (2006), individuals have a tendency to embrace behaviors that they perceive as within their control and capable of successful execution.

Previous research (Alogwuja et al., 2020; Otchengco & Akiate, 2021) has shown that there is a clear connection between the feeling of being in control of one's actions and the intention to engage in that behavior. According to Luszczynska et al. (2011), it is indicated that perceived behavioral control may function as a moderator owing to the fact that persons with higher levels of perceived behavioral control tend to possess greater confidence in their capacity to participate in certain conduct. Consequently, these individuals are more inclined to effectively translate their behavioral intentions into actual behavioral actions. Numerous studies have provided evidence supporting the notion that perceived behavioral control has an indirect impact on behavioral intentions (Liu et al., 2021; Oh et al., 2020; Rosenthal, 2018).

Previous research has attempted to demonstrate a direct relationship between entrepreneurial awareness and entrepreneurial intent (Samo & Hashim, 2016; Ugwueze et al., 2022). However, there has only been a limited amount of study carried out on the role of perceived behavioral control on the association between entrepreneurial awareness and entrepreneurial intention. Therefore, the present study examined the moderating influence of perceived behavioral control on the association between entrepreneurial alertness (and its dimensions) and entrepreneurial intention. In line with previous studies, the present study hypothesized that:

*H<sub>1</sub>*: Entrepreneurial alertness (scanning and searching, association and connection, and evaluation and judgement) will be significantly associated with entrepreneurial intentions.

*H<sub>2</sub>*: Perceived behavioral control will be significantly associated with entrepreneurial intentions.

*H<sub>3</sub>*: Perceived behavioral control will significantly moderate the relationship between entrepreneurial alertness (scanning and searching, association and connection, and evaluation and judgement) and entrepreneurial intentions.

## Methods

### *Participants and Procedure*

This is a descriptive study, and a cross-sectional design was used. Participants were 108 (58 males and 50 females) final-year students from three federal universities in south-eastern Nigeria that offer computer education or computer science education. They include the University of Nigeria, Nsukka (48), Nnamdi Azikiwe University, Awka (39), and Michael Okpara University of Agriculture, Umudike (21). Their age ranged from 21 to 26 years ( $M = 23.07$ ,  $SD = 1.48$ ). Participants were selected using a purposive sampling method. Permission to carry out this research was obtained from the ethical review board at the Department of Computer and Robotics Education, University of Nigeria, Nsukka. The researcher engaged the services of three research assistants, who were properly guided. Those who consented were given the questionnaires to fill out. The researcher distributed the questionnaire among the students in their lecture halls. They were also urged to be as genuine as they could in their responses. All of the participants gave their consent voluntarily, and they received no compensation for taking part in the study. Due to concerns expressed by respondents during the study, it was determined that the length of the questionnaire items was somewhat of a problem for them in the current research.

## *Instruments*

### *Entrepreneur Intention Questionnaire (EIQ)*

The EIQ (Linan & Chen, 2009) uses a cognitive approach to seek information on the likelihood of students starting a firm. The scale consists of six items, which are rated on a 7-point Likert scale ranging from 1 (completely disagree) to 7 (completely agree). Higher scores indicate higher entrepreneurial intentions. A sample of items on the scale is: "I'm determined to create a firm in hardware maintenance and management in the future." Farrukh et al. (2018) reported a reliability of .84 for the EIQ. The present study yielded a Cronbach's alpha of .80.

### *Entrepreneurial Alertness Scale (EAS)*

Tang et al. (2012) study utilized the EAS, a scale consisting of 13 items, to evaluate the participants' capacity in recognizing opportunities. The scale comprises three dimensions: scanning and search, association and connection, and evaluation and judgement. The process of actively seeking novel information is referred to as scanning or searching. Association and connection refer to the capacity to detect links between different categories of information that were not previously associated with one another. Evaluation and judgement involve the capacity to discern and select favorable opportunities when faced with multiple options. The instrument utilized in this study is based on a 5-point Likert scale, encompassing a range of responses from 1 (strongly disagree) to 5 (strongly agree). Scores higher on the entrepreneurial alertness scale imply greater levels of alertness. In their study, Tang et al. (2012) documented internal reliability coefficients of .91, .94, and .90 for the scanning and search, association and connection, and evaluation and judgement dimensions, respectively. The present study yielded a Cronbach's alpha of .83, .87 and .91 for each of the dimensions, respectively, and a Cronbach's alpha of .84 for the total scale.

### *Perceived Behavioral Control Scale (PBCS)*

The PBCS is a 4-item scale that was equally adopted by Autio et al. (2001) to assess participants' expectations of having control over their behavior as well as their confidence in performing a specific behavior. The items were scored on a 5-point Likert scale, with responses ranging from strongly disagree (1) to strongly agree (5). An example of one of its items is "I am confident that I would succeed if I started my own business in software development and applications." In their study, Autio and colleagues reported a Cronbach's alpha of 0.75, while the present study yielded a Cronbach's alpha of .71 for the scale.

**Data Analysis**

The Hayes PROCESS macro in SPSS was used to investigate the moderating influence of perceived behavioral control on the connection between entrepreneurial alertness and entrepreneurial ambitions. Specifically, this was done using Model 1 of the Hayes PROCESS macro.

**Result**

**Table 1: Correlation of demographic variables, predictors and dependent variable**

Variables	Mean	SD	1	2	3	4	5	6	7
1 Gender	1.46	.50	-						
2 Age	23.07	1.48	.18	-					
3 Scanning and search	13.10	3.32	.64*	.31**	-				
4 Association and connection	7.27	1.97	.05	.11	.30**	-			
5 Evaluation and judgement	9.63	2.94	.02	.08	.52**	.37*	-		
6 Perceived behavioural control	6.34	1.95	.52*	.05	.86**	.69*	.38**	-	
7 Entrepreneurial intention	25.74	3.98	.72*	-.49*	.74**	.83**	.46*	.52*	-

Note: N = 108, \* = p ≤ .05 (two-tailed), \*\* = p < .01 (two-tailed), \*\*\* = p < .001 (two-tailed). Gender was coded 1 = male, 2 = female.

Table 1 shows that gender was positively correlated with scanning and searching (r = .64, p < .05), perceived behavioural control (r = .52, p < .05), and entrepreneurial intention (r = .72, p < .05). Age was positively correlated with scanning and searching (r = .31, p < .01) and negatively correlated with entrepreneurial intention (r = -.49, p < .05). All dimensions of entrepreneurial intention were positively correlated with themselves and entrepreneurial intention.

**Table 2: Perceived behavioural control moderating the relationship between scanning and searching and entrepreneurial intention**

Variables	B	SE	t	P	95%CI
Scanning and Searching (SS)	.05	.06	.74	.458	-.07, .17
Perceived Behavioural Control (PBC)	.17	.29	.59	.559	-.40, .73
SS X PBC	.00	.00	.71	.476	-.01, .01

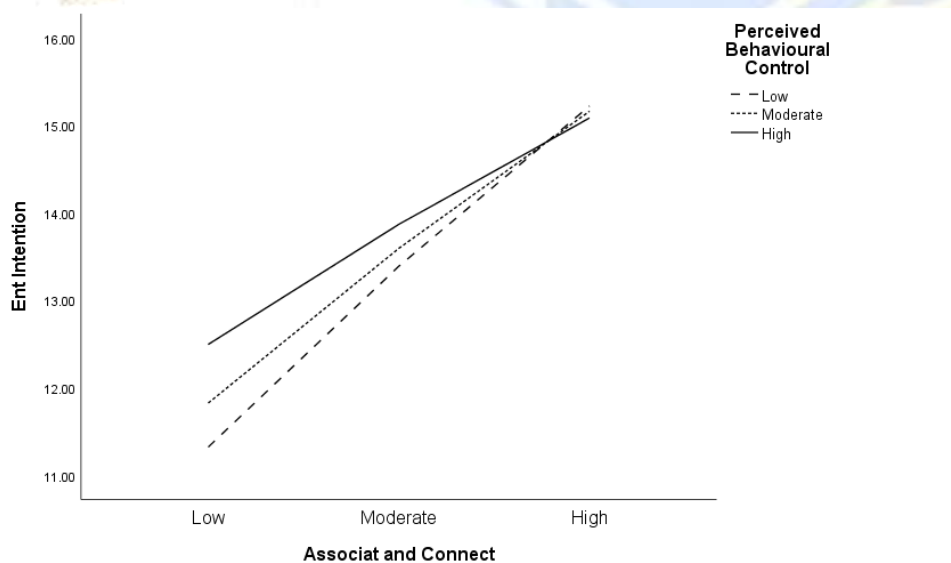
In Table 2, it is shown that scanning and searching was not significantly associated with entrepreneurial intention (B = .05, p = .458). Perceived behavioral control was not significantly associated with entrepreneurial intention (B = .17, p = .559). The interaction of scanning and searching and perceived behavioral control was not

significant ( $B = .00, p = .476$ ), indicating that perceived behavioral control did not significantly moderate the relationship between scanning and searching and entrepreneurial intention.

**Table 3: Perceived behavioural control moderating the relationship between association and connection and entrepreneurial intention**

Variables	B	SE	t	P	95%CI
Association and connection (AC)	.26	.05	5.51	.000	.17, .36
Perceived Behavioural Control (PBC)	.74	.32	2.30	.022	.11, 1.38
AC X PBC	-.01	.01	-2.08	.038	-.02, -.00

Table 3 shows that association and connection was significantly associated with entrepreneurial intention ( $B = .26, p < .001$ ). For every one unit increase in association and connection, entrepreneurial intention increases by .26 units. Perceived behavioral control was significantly associated with entrepreneurial intention ( $B = .74, p < .05$ ). For every one unit increase in association and connection, entrepreneurial intention increases by .74 units. The interaction of association and connection with perceived behavioral control was significant ( $B = -.01, p < .05$ ), indicating that perceived behavioral control significantly moderated the relationship between association and connection and entrepreneurial intention. The slope of the interaction (Figure 1) indicates that for those with low ( $B = .20, t = 8.82, p < .001$ ), moderate ( $B = .17, t = 10.76, p < .001$ ) and high perceived behavioral control ( $B = .14, t = 5.95, p < .001$ ), association and connection was associated with increased entrepreneurial intention.

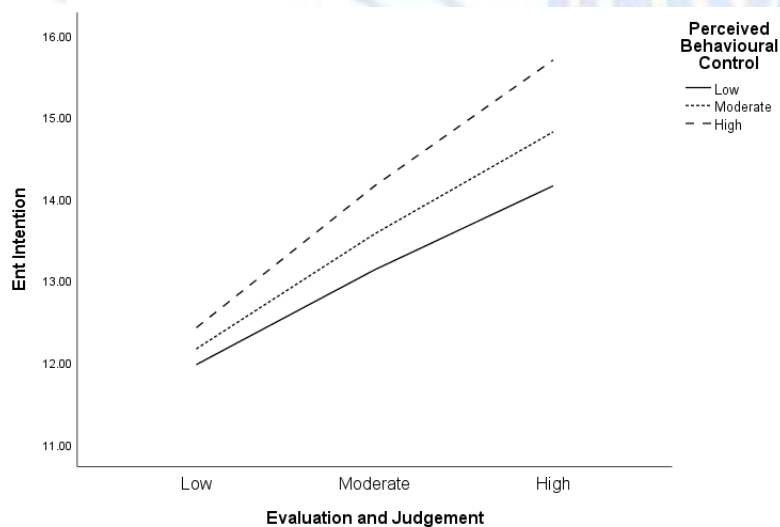


**Figure 1: Slope of the moderating role of perceived behavioural control on the relationship between association and connection and entrepreneurial intention**

**Table 4: Hayes PROCESS results of perceived behavioural control moderating the relationship between evaluation and judgement and entrepreneurial intention**

Variables	B	SE	t	P	95%CI
Evaluation and judgement (EJ)	.03	.06	.54	.591	-.09, .15
Perceived Behavioural Control (PBC)	.41	.32	1.28	.203	-1.05, .22
EJ X PBC	.01	.01	1.79	.074	.00, .02

Table 4 shows that evaluation and judgement was not significantly associated with entrepreneurial intention ( $B = .03, p = .591$ ). Perceived behavioral control was not significantly associated with entrepreneurial intention ( $B = .41, p = .203$ ). The interaction of evaluation and judgement with entrepreneurial intention was significant ( $B = .01, p < .05$ ), indicating that perceived behavioral control significantly moderated the relationship between evaluation and judgement and entrepreneurial intention. The slope of the interaction (Figure 2) indicates that for those with low ( $B = .11, t = 5.18, p < .001$ ), moderate ( $B = .14, t = 8.05, p < .001$ ) and high P ( $B = .17, t = 6.89, p < .001$ ) perceived behavioral control, evaluation and judgement was associated with increase entrepreneurial intention.



**Figure 2: Slope of the moderating role of perceived behavioural control on the relationship between evaluation and judgement and entrepreneurial intention**



## Discussion

This study examined the moderating influence of perceived behavioral control on the association between entrepreneurial alertness and entrepreneurial intention. In accordance with the first hypothesis, there was a significant correlation observed between all dimensions of entrepreneurial alertness and entrepreneurial intention. The findings of this study indicate that the presence of entrepreneurial alertness may be advantageous in facilitating the development of an in-depth understanding of the field of entrepreneurship. Additionally, entrepreneurial alertness aids people in assessing their values, reasons for engaging in business, and attitude towards it (Langowitz & Minniti, 2007). Therefore, there is a bigger chance that students will adopt a mindset for pursuing entrepreneurship when their degree of entrepreneurial alertness is higher. A previous study found a positive association between entrepreneurial alertness and other entrepreneurial concepts such as entrepreneurial opportunity recognition (Li et al., 2022). In addition to this, previous research has concentrated on the unidimensional influence that entrepreneurial alertness has on entrepreneurial intentions (Dheer & Lenartowicz, 2019; Gill et al., 2021), while this research, on the other hand, investigated the several dimensions of entrepreneurial alertness.

Furthermore, perceived behavioral control, in line with the second hypothesis, was significantly associated with entrepreneurial alertness. This finding did not come as a surprise due to the fact that the theory of planned behavior has been widely involved in a range of circumstances, most notably behavioral intentions (Ajzen, 2020). In addition to this, the findings of the present study are consistent with those of prior research (Aga, 2023; Aga & Singh, 2022), which found that there was a significant positive link between perceived behavioral control and entrepreneurial intention across a variety of study groups.

The primary contribution of this study lies in its findings, which indicate that perceived behavioral control plays a significant moderating role in the relationship between association and connection, evaluation and judgement, and entrepreneurial alertness. A similar finding was reported by Aga (2023) and Wu et al. (2022), in which they identified a significant mediating influence of perceived behavioral control on the connection between entrepreneurial education and entrepreneurial intention. This finding was supported by the fact that entrepreneurial education was shown to be positively associated with entrepreneurial intention. It is clearly obvious that an individual's impression of the degree to which they are able to regulate their conduct has an influence on whether

or not the individual is likely to engage in entrepreneurial activities or take risks in business. Because perceived behavioral control encompasses numerous degrees of perceived potential that might contribute to an individual's aims of becoming an entrepreneur, it is essential that the degree of perceived behavioral control that individual has an influence on their level of alertness. The development of entrepreneurial alertness and intentions is significantly impacted by the function that behavioral control plays in the process. People who have a heightened sense of entrepreneurial awareness are more likely to have stronger entrepreneurial intents when they perceive a larger amount of control over their own behavior as individuals with a heightened sense of entrepreneurial awareness are more willing to take risks. Hence, our findings are consistent with the established theoretical framework and anticipated outcomes.

Implications for the function of perceived behavioral control in behavioral intentions may be drawn from these findings. The results of this research offer some recommendations that may be used for formulating educational guidelines and government regulations. As a means of enhancing an individual's entrepreneurial intention, there is a need to facilitate their perceived behavioral control. According to Bandura (2010), an individual's perceived behavioral control may be enhanced through enactive mastery experiences, vicarious experiences, verbal persuasion, and physiological states. The enactment of policy-making and academic administrative decisions should not only target enhancing entrepreneurial alertness among students but also establish their perceived behavioral control by creating opportunities to engage in successful experiences.

Alongside the strong features of the present study, certain limitations must be acknowledged. The cross-sectional nature of our study may have limited the views of the study participants towards the topic of study. It would therefore be valuable to confirm the current findings with a longitudinal or qualitative study so as to explore the in-depth views of the participants over a given period of time. Secondly, the sample of the study consisted of only undergraduate students. Yortkoru et al. (2014) argued that undergraduate students may not have had entrepreneurial experience; hence, when they progress with life after school, their views might differ. Thus, future studies could replicate the findings of the present study among individuals who are already in the workforce.

## Conclusion

Within the context of the link between entrepreneurial alertness and entrepreneurial intentions, the purpose of this study was to evaluate the moderating influence that perceived behavioral control might have. The findings demonstrated that entrepreneurial alertness, perceived behavioral control, and entrepreneurial intention all have significant positive relationships with each other. More interestingly, the findings demonstrated that perceived behavioral control plays a significant moderating role in the relationship between the dimensions of entrepreneurial alertness and entrepreneurial intentions. Discovering an opportunity, gathering the necessary resources, organizing them, and deciding on an appropriate course of action are all part of the entrepreneurial process. This study's findings suggest that the individual's intention to exploit opportunities can be influenced by their level of alertness and their perception of their own behavioral control during the decision-making process. This leads to the formation of convictions and intentions, which in turn shape the character of one's own goals and methods of getting there. Therefore, it may be reasonable to consider perceived behavioral control a crucial component in expanding the availability of entrepreneurial capital in the economy. This study provides inspiration for additional research on moderation while also offering valuable insights for policymakers in designing and implementing effective entrepreneurship education programmes. The findings of this study also contribute to the development of university graduates who possess an entrepreneurial mindset.

**Compliance with Ethical Standards:** All procedures performed in studies involving human participants were in accordance with the ethical standards of the Ethics Review Committee of the Department of Psychology, University of Nigeria, Nsukka.

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**Data availability:** The data that support the findings of this study are available upon request.

**Declarations of Interest:** none

## References

- Abdullahi, M. S., Khalid, N., Ahmed, U., Ahmed, E. M., & Gumawa, A. M. (2021). Effect of entrepreneurship education on entrepreneurial intention among university students. *Journal of Technical Education and Training*, 13(3), 40-53.
- Aga, M. K. (2023). The mediating role of perceived behavioral control on the relationship between entrepreneurship education and entrepreneurial intentions of university students in Ethiopia. *Journal of Innovation and Entrepreneurship*, 12(32), 1-18.
- Ajzen, I. (2002). Perceived behavioral control, self-efficacy, locus of control, and the theory of planned behavior. *Journal of Applied Social Psychology*, 32(4), 665-683
- Ajzen, I. (2005). *Attitudes, personality and behavior*. 2nd Edition. Open University Press (McGraw-Hill), England.
- Ajzen, I. (2020). The theory of planned behavior: Frequently asked questions. *Human Behavior and Emerging Technologies*, 2(4), 314-324.
- Ajzen, I., (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211.
- Alogwuja, U. C., Ameh, A. A., & Alabi, J. O. (2020). Perceived behavioral control and entrepreneurial intention: Empirical evidence from selected tertiary institutions in Kogi State. *Ilorin Journal of Human Resource Management*, 4(2), 66-77.
- Arnaut, D., Stanić, M., & Bećirović, D. (2022). Exploring entrepreneurial alertness and entrepreneurial intention in times of the COVID-19 pandemic. *Management: Journal of Contemporary Management Issues*, 27(1), 237-249.
- Autio, E., Keeley, R. H., Flofsten, M., Parkr, G. G. C., & Hay, M. (2001) Entrepreneurial intent among students in Scandinavia and in the USA. *Enterprise and Innovation Management Studies*, 2, 145-160. <https://doi.org/10.1080/14632440110094632>
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. Freeman.
- Bandura, A. (2020). *Self-efficacy*. In The Corsini Encycl. Psychol; Weiner, I.B., Craighead, W.E., Eds.; John Wiley & Sons.
- Benghalem, A., & Fettane, T. (2021). Does entrepreneurship really enhance economic and human development in the Mena region? *Les Cahiers du Cread*, 37(04), 5-27
- Delač, S., Stanić, M., & Koprivnjak, T. (2018). Determinants of entrepreneurial alertness: the effect of demographic and metacognitive variables. *Education for Entrepreneurship: Internal Journal of Education for Entrepreneurship*, 8(2), 27-38.

- Dheer, R. J. S., & Lenartowicz, T. (2019). Cognitive flexibility: impact on entrepreneurial intentions. *Journal of Vocational Behavior*, 115, 103339. doi: 10.1016/j.jvb.2019.103339
- Farrukh, M., Alzubi, Y., Shahzad, I. A., Waheed, A., & Kanwal, N. (2018). Entrepreneurial intentions: The role of personality traits in perspective of theory of planned behavior. *Asia Pacific Journal of Innovation and Entrepreneurship*, 12(3), 399-414. <https://doi.org/10.1108/APJIE-01-2018-0004>
- Fayolle, A., Gailly, B., & Lassas-Clerc, N. (2006). Assessing the impact of entrepreneurship education programmes: a new methodology. *Journal of European Industrial Training*, 30(9), 701-720.
- Gaglio, C. M., Katz, J. A. (2001). The psychological basis of opportunity identification: Entrepreneurial alertness. *Small Business Economics*, 16(2), 95-111.
- García-Rodríguez, F. J., Gil-Soto, E., Ruiz-Rosa, I., & Gutiérrez-Taño, D. (2017). Entrepreneurial potential in less innovative regions: the impact of social and cultural environment. *European Journal of Management and Business Economics*, 26(2), 163-179. <https://doi.org/10.1108/EJMBE-07-2017-010>
- Gill, S. A., Bencheva, N., Karayel, S., & Usman, M. (2021). Does entrepreneurial self-efficacy moderate effects of cognitive flexibility and entrepreneurial alertness on entrepreneurial intentions? *Entrepreneurial Business and Economic Review*, 9, 25–41. doi: 10.15678/EBER.2021.090302
- Jiao, H., Cui, Y., Zhu, Y., & Chen, J. (2014). Building entrepreneurs' innovativeness through knowledge management: the mediating effect of entrepreneurial alertness. *Technology Analysis & Strategic Management*, 26(5), 501-516.
- Karabulut, A. T. (2016). Personality traits on entrepreneurial intention. *Procedia-Social and Behavioral Sciences*, 229, 12-21.
- Kirzner, I. M. (1979). *Perception, opportunity, and profit*. Chicago University Press
- Langowitz, N., & Minniti, M. (2007). The entrepreneurial propensity of women. *Entrepreneurship theory and practice*, 31(3), 341-364.
- Li, Z., Jiang, B., Bi, S., Feng, J., & Cui, Q. (2022). Impact of different types of entrepreneurial alertness on entrepreneurial opportunities identification. *Frontiers in Psychology*, 13, 888756.
- Linan, F., & Chen, Y. W. (2009). Development and cross-cultural application of a specific instrument to measure entrepreneurial intentions. *Entrepreneurship Theory and Practice*, 33 (3), 593-617.
- Liu, Z., Yang, J. Z., Clark, S. S., & Shelly, M. A. (2021). Recycling as a planned behavior: the moderating role of perceived behavioral control. *Environment, Development and Sustainability*, 6, 1-16.

- Lv, Y., Chen, Y., Sha, Y., Wang, J., An, L., Chen, T., Huang, X., Huang, Y., & Huang, L. (2021). How entrepreneurship education at universities influences entrepreneurial intention: mediating effect based on entrepreneurial competence. *Frontiers in Psychology, 12*, 655868. doi: 10.3389/fpsyg.2021.655868
- Neneh, B. N. (2019). From entrepreneurial alertness to entrepreneurial behavior: The role of trait competitiveness and proactive personality. *Personality and Individual Differences, 138*, 273-279.
- Oh, J., Sudarshan, S., Jin, E., Nah, S., & Yu, N. (2020). How 360-degree video influences content perceptions and environmental behavior: The moderating effect of environmental self-efficacy. *Science Communication, 42*(4), 423–453. <https://doi.org/10.1177/1075547019874361>
- Otchengco Jr, A. M., & Akiate, Y. W. D. (2021). Entrepreneurial intentions on perceived behavioral control and personal attitude: moderated by structural support. *Asia Pacific Journal of Innovation and Entrepreneurship, 15*(1), 14-25.
- Rosenthal, S. (2018). Procedural information and behavioral control: Longitudinal analysis of the intention behavior gap in the context of recycling. *Recycling, 3*(1), 5. <https://doi.org/10.3390/recycling3010005>
- Samo, A. H., & Hashim, N. (2016). The impact of entrepreneurial alertness on entrepreneurial intentions. *Journal of International Business Research and Marketing, 1*(6), 7-11.
- Saptono, A. (2017). Development instruments through confirmatory factor analysis (CFA) in appropriate intensity assessment. *Dinamika Pendidikan, 12*(1), 14-20.
- Sharma, L. (2019). A systematic review of the concept of entrepreneurial alertness. *Journal of Entrepreneurship in Emerging Economies, 11*(2), 17-233.
- Tang, J., Kacmar, K. M. M., & Busenitz, L. (2012). Entrepreneurial alertness in the pursuit of new opportunities. *Journal of Business Venturing, 27*(1), 77-94. doi:10.1016/j.jbusvent.2010.07.001
- Ugwueze, A. U., Ike, O. O., & Ugwu, L. (2022). Responding to social change: innovativeness, entrepreneurial alertness, and entrepreneurial intention in Nigeria: the role of family support. *Entrepreneurship Education, 1*-21.
- Urban, B. (2020). Entrepreneurial alertness, self-efficacy and social entrepreneurship intentions. *Journal of Small Business and Enterprise Development, 27*(3), 489-507.
- Wu, L., Jiang, S., Wang, X., Yu, L., Wang, Y., & Pan, H. (2022). Entrepreneurship education and entrepreneurial intentions of college students: the mediating role of entrepreneurial self-efficacy and the moderating role of entrepreneurial competition experience. *Frontiers in Psychology, 12*, 727826. doi: 10.3389/fpsyg.2021.727826
- Yurtkoru, E. S., Kuşcu, Z. K., & Doğanay, A. (2014). Exploring the antecedents of entrepreneurial intention on Turkish university students. *Procedia-Social and Behavioral Sciences, 150*, 841-850.